| DOCKETED | | | | | |
|---|------------------------|--|--|--|--|
| Docket Number: | 13-AFC-01 | | | | |
| Project Title: | Alamitos Energy Center | | | | |
| TN #: | 201620-45 | | | | |
| Document Title: AEC AFC Appendix 5.1E SCAQMD Forms | | | | | |
| Description: Previously TN# 201493-18 | | | | | |
| Filer: | Tiffani Winter | | | | |
| Organization: | CH2M Hill | | | | |
| Submitter Role: | Applicant Consultant | | | | |
| Submission Date: | 2/3/2014 12:47:11 PM | | | | |
| Docketed Date: | 2/3/2014 | | | | |

Appendix 5.1E SCAQMD Permit Application Forms



AES Alamitos 690 North Studebaker Road Long Beach, CA 90803 *tel* 562 493 7736 *fax* 562 493 7320

December 20, 2013

Mr. Mohsen Nazemi, P.E. Deputy Executive Officer, Engineering & Compliance South Coast Air Quality Management District 21865 E. Copley Drive Diamond Bar, California 91765-4178

Subject: AES Alamitos, LLC (Facility ID 115394) Application for South Coast Air Quality Management District Permit to Construct and Modification to the Title V Permit to Operate

Dear Mr. Nazemi:

AES Alamitos, LLC (AES), a wholly-owned subsidiary of the AES Corporation, is submitting five copies of the application materials for a South Coast Air Quality Management District (SCAQMD) Permit to Construct for the Alamitos Energy Center (AEC) and a modification to the existing Title V Permit to Operate for Facility 115394.

AEC is a 1,936 megawatt (MW)¹ natural-gas-fired, air-cooled, combined-cycle electrical generating facility which will replace and be constructed on the site of the AES Alamitos Generating Station located in the City of Long Beach, California. AEC will consist of twelve natural gas combustion turbine generators with heat recovery steam generators, four steam turbine generators, four air-cooled condensers, three oil/water separators, 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 during the week of December 23, 2013.

The AEC application relies on the provisions contained in SCAQMD 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 SCAQMD Rule 1304(b)(2) offset exemption will be met by permanently retiring AES's Alamitos Generating Station Units 1 and 2 (175 MW each), Units 3 and 4 (320 MW each), and Units 5 and 6 (480 MW each) and using 45 MW from the retirement of Huntington Beach Generating Station Units 1 and 2.² All units proposed for retirement are owned by wholly-owned subsidiaries of the AES Corporation. The attached organizational chart illustrates

¹ Net generating capacity, referenced to site ambient average temperature conditions of 65.3 degrees Fahrenheit (°F) dry bulb and 62.7°F wet bulb temperature without evaporative cooler operation.

² The Huntington Beach Energy Project (12-AFC-02) AFC noted the retirement of 1,085 MW of generating capacity from Redondo Beach Generating Station Units 6 and 8 and Huntington Beach Generating Station Units 1 and 2 to mitigate the Huntington Beach Energy Project's 939 MW of new generation. This results in 146 MW of generating capacity not needed at Huntington Beach Energy Project, 50 MW of which were applied towards the Redondo Beach Energy Project.

the corporate structure of the subject limited liability corporations and demonstrates the common ownership of AES Redondo Beach, LLC; AES Huntington Beach, LLC; and AES Alamitos, LLC, per the requirements of SCAQMD Rule 1304(a)(2).

The contents of this application package include the required SCAQMD forms,³ the manufacturers' emissions guarantees for the proposed oxidation catalyst and selective catalytic reduction systems, 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 5.1G)
- 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 SCAQMD's current practice of estimating toxic emissions from gas turbines using emission factors listed in Table 3.1-3 of the EPA's AP-42 *Compilation of Air Pollutant Emission Factors*. However, formaldehyde emissions were estimated using the SCAQMD formaldehyde emission factor of 3.6×10^{-4} pound(s) per million British thermal units (Ib/MMBtu), 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 SCAQMD 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 1 in one million and the predicted chronic and acute indices are also below the SCAQMD individual source significance threshold of 1.0. Furthermore, the AEC design includes the use of an oxidation catalyst to reduce carbon monoxide (CO) and volatile organic compounds (VOC) emissions to the best available control levels of 2 parts per million (ppm) and 1 ppm, respectively. Therefore, it is expected that the actual hazardous air pollutant (HAP) emissions, and resulting predicted health risk impacts, would be significantly less than the potential risk presented in this analysis.⁴

Report files from the California Air Resources Board (ARB) Hotspots Analysis Reporting Program (HARP), which was used to conduct the HRA, have also been included on the dispersion modeling file DVD.

³ Per discussion with SCAQMD staff (Andrew Lee and John Yee) during the pre-application meeting for Redondo Beach Energy Project on April 19, 2012, Form 500-C1 has not been included in the application package.

⁴ 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 1AEC Health Risk Assessment Summary: Individual Units (BASIS: AP-42 Emission Factors)

| Turbine Number | | | | | | | | | | | | |
|---|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Risk | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| MICR at the PMI ^c (per million) | 0.36 | 0.36 | 0.36 | 0.36 | 0.36 | 0.36 | 0.36 | 0.36 | 0.35 | 0.36 | 0.36 | 0.36 |
| Chronic Hazard Index at the PMI | 0.00043 | 0.00043 | 0.00043 | 0.00042 | 0.00043 | 0.00043 | 0.00043 | 0.00043 | 0.00042 | 0.00043 | 0.00043 | 0.00042 |
| Acute Hazard Index at the PMI | 0.0079 | 0.014 | 0.014 | 0.024 | 0.0074 | 0.0098 | 0.013 | 0.012 | 0.0094 | 0.018 | 0.0087 | 0.0102 |

^a The results represent the predicted risk for each individual emission unit in accordance with SCAQMD Rule 1401.

^b A source with a MICR less than 1 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 Office of Environmental Health Hazard Assessment (OEHHA) Derived Methodology.

Also attached to this application are the dispersion modeling files and a check in the amount of \$138,505.05 for the requisite permit application filing fee.

AES looks forward to working with the SCAQMD during the review of the AEC application materials and the issuance of the SCAQMD Permit to Construct and modified Title V operating permit.

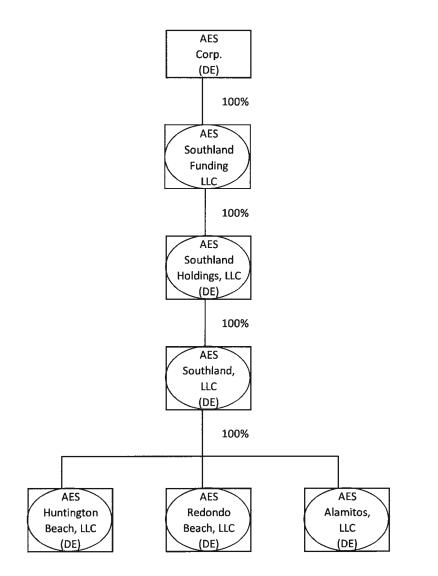
Sincerely,

Stephen O'Kane Manager AES Alamitos, LLC

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

cc: Keith Winstead/CEC (cover letter only) Jerry Salamy/CH2M HILL (cover letter only) Stephen O'Kane/AES (cover letter only) Jennifer Didlo/AES (cover letter only) Jeff Harris/ESH (cover letter only)

AES Southand Legal Ownership Structure



| AQMD List only one piece of equipment or process per form. List only one piece of equipment or process per form. Section A - Operator Information List only one piece of equipment or process per form. List only one piece of equipment or process per form. | Diamond Bar, CA 91765-0944 | | |
|---|--|--|--|
| Section A - Operator Information | Tel: (909) 396-3385 www.aqmd.gov | | |
| | | | |
| 1. Facility Name (Business Name of Operator to Appear on the Permit): 2. Valid AC | QMD Facility ID (Available On | | |
| AES Alamitos, LLC | Or Invoice Issued By AQMD): | | |
| 3. Owner's Business Name (If different from Business Name of Operator): | 115394 | | |
| Section B - Equipment Location Address Section C - Permit Mailing Address | IT MERSENAL THE Y | | |
| Equipment Location Is: Fixed Location Various Location (For equipment operated at various locations, provide address of initial site.) Solution Sol | 3 | | |
| Street Address Address Address . CA 90803 Long Beach . CA | 00903 | | |
| Long Beach , CA 90803 , CA City , CA City , CA City , CA | 90803 Zip | | |
| Stephen O'Kane Manager Stephen O'Kane Mana | ager | | |
| | Title | | |
| (562) 493-7840 (562) 493-7737 (562) 493-7840 (562) Phone # Ext. Fax # Phone # Ext. Fax # | <u>(562) 493-7737</u> | | |
| E-Mail: stephen.okane@AES.com | | | |
| Section D - Application Type | and the state of the state of the state | | |
| 5. The Facility Is: O Not In RECLAIM or Title V O In RECLAIM O In Title V O In RECLAIM & Title V Prog | grams | | |
| 7. Reason for Submitting Application (Select only ONE): | 3 | | |
| 7a. New Equipment or Process Application: 7c. Equipment or Process with an Existing/Previous Application or Permit: | | | |
| New Construction (Permit to Construct) O Administrative Change | | | |
| | Existing or Previous | | |
| Equipment Operating Without A Permit * Alteration/Modification without Prior Approval * | Permit/Application | | |
| Compliance Plan Chapter of Condition | checked any of the items in DU MUST provide an existing | | |
| | mit or Application Number: | | |
| Streamlined Standard Permit | | | |
| 7b. Facility Permits: O Change of Location without Prior Approval * | | | |
| Title V Application or Amendment (Also submit Form 500-A1) Equipment Operating with an Expired/Inactive Permit * | | | |
| RECLAIM Facility Permit Amendment * A Higher Permit Processing Fee and additional Annual Operating Fees (up to 3 full years) | may apply (Rule 301(c)(1)(D)(i)). | | |
| Ba. Estimated Start Date of Construction (mm/dd/yyyy): 8b. Estimated End Date of Construction (mm/dd/yyyy): 8c. Estimated Start Date of Construction (mm/dd/yyyy): | of Operation (mm/dd/yyyy): 80/2019 | | |
| Description of Equipment or Reason for Compliance Plan (list applicable rule): 10. For Identical equipment, how many additional | | | |
| Title V Revision applications are being submitted with this applications (Form 400-A required for each equipment / process) | tion?0 | | |
| 11. Are you a Small Business as per AQMD's Rule 102 definition? 12. Has a Notice of Violation (NOV) or a Notice to Comply (NC) been issued for this equipment? (10 employees or less and total gross receipts are \$500,000 or less <u>OR</u> a not-for-profit training center) Image: No image | | | |
| Section E - Facility Business Information | | | |
| 13. What type of business is being conducted at this equipment location? Electrical Power Generation (North American Industrial Classification System) | 221112 | | |

15. Are there other facilities in the SCAQMD 16. Are there any schools (K-12) within O No Yes O No • Yes jurisdiction operated by the same operator? 1000 feet of the facility property line? Section F - Authorization/Signature I hereby certify that all information contained herein and information submitted with this application are true and correct. 19. I wish to review the permit prior to issuance. 17. Signature of Responsible Official: 18. Title of Responsible Official: O No (This may cause a delay in the Manager Yes anc application process.) 20. Print Name: 21. Date: 22. Do you claim confidentiality of 12/20/2013 • No ○ Yes Stephen O'Kane data? (If Yes, see instructions.) X Authorized Signature/Date 23. Check List: X Form 400-CEQA Supplemental Form(s) (ie., Form 400-E-xx) X Fees Enclosed **APPLICATION TRACKING #** CHECK# AMOUNT RECEIVED **PAYMENT TRACKING#** VALIDATION AOMD \$ USE ONLY BASIC DATE APP DATE CLASS APP EQUIPMENT CATEGORY CODE TEAM ENGINEER REASON/ACTION TAKEN REJ REJ 1 11 CONTROL

| - | South Coast Air Quality Management District |
|---------------|---|
| | Form 400-A |
| \mathcal{O} | South Coast Air Quality Management District Form 400-A Application Form for Permit or Plan Approval |

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

List only one piece of equipment or process per form.

| Tel: | (909) | 396-3385 |
|------|-------|----------|
| | www. | aamd.gov |

| Section A - Operator Information | | | | | NEW C | | | |
|--|--|---|--|--|--|---|--|--|
| 1. Facility Name (Business Name of Operator to Appear on the Pen | | 2. Valid AC | MD Facility ID (Av | ailable On | | | | |
| AES Alamitos, LLC | | | | | Permit Or Invoice Issued By AQMD): | | | |
| 3. Owner's Business Name (If different from Business Name of Operator): | | | | | - | 115394 | | |
| Section B - Equipment Location Address | | Section C - | Permit Mai | ling Address | C. C | E and the A | | |
| 4. Equipment Location Is: | Various Location ss of initial site.) | 5. Permit and Correspondence Information: Check here if same as equipment location address | | | | | | |
| 690 N. Studebaker Road Street Address | | 690 N. Stu Address | debaker l | Road | | | | |
| Long Beach , CA 9080 | 3 | Long Beac | h | | , CA | 90803 | | |
| City Zip | | City | | | State | Zip | | |
| Stephen O'Kane Manager Contact Name Title | | Stephen O Contact Name | 'Kane | | Mana Title | ager | | |
| (562) 493-7840 (562) 493-77 | 737 | (562) 493- | 7840 | | | 493-7737 | | |
| Phone # Ext. Fax # | | Phone # | | Ext. | Fax # | | | |
| E-Mail: stephen.okane@AES.com | | E-Mail: steph | en.okane | @AES.com | | | | |
| Section D - Application Type | | T to March | | | | | | |
| 6. The Facility Is: O Not In RECLAIM or Title V | | O In Title | eV (| In RECLAIM & 1 | Title V Prog | grams | | |
| 7. Reason for Submitting Application (Select only ONE): | | Charles and some | | | | | | |
| 7a. New Equipment or Process Application: | 7c. Equipment or P | Process with an | Existing/Pre | evious Application | or Permit: | | | |
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| C Equipment On-Site But Not Constructed or Operational | Alteration/Modified | | | | Existing or Previous Permit/Application If you checked any of the items in | | | |
| C Equipment Operating Without A Permit * | Ŭ, | fication without P | rior Approval | * | | | | |
| Compliance Plan | Change of Con | - | | | | 7c., you MUST provide an existing | | |
| Registration/Certification | | Condition without Prior Approval * Permit or Application Number: | | | | | imber: | |
| Streamlined Standard Permit | Change of Loca | | | | | | | |
| 7b. Facility Permits: | - | Location without Prior Approval * | | | | | | |
| O Title V Application or Amendment (Also submit Form 500-A1) | | Processing Fee and additional Annual Operating Fees (up to 3 full years) may apply (Rule 301(c)(1)(D)(i)). | | | | | | |
| O RECLAIM Facility Permit Amendment | | | Contraction of the local division of the loc | | | the second se | | |
| 01/01/2016 | | Construction (mr 1/2027 | n/dd/yyyy): — | 8c. Estimated S | | of Operation (mm/de 0/2019 | d/yyyy): | |
| 9. Description of Equipment or Reason for Compliance Plan (in Combined Cycle Combustion Turbines | ist applicable rule): | 10. For Identical equipment, how many additional applications are being submitted with this application? (Form 400-A required for each equipment / process) 11 | | | | | l | |
| In the second | n?)No OYes | 12. Has a No Comply | (NC) been is | ation (NOV) or a No ssued for this equi | pment? | • No | O Yes | |
| Section E - Facility Business Information | | | | If Yes, provide NO | */////#1 | | | |
| 13. What type of business is being conducted at this equipmen | t location? | 14. What is yo | our business | s primary NAICS C | ode? | | NAMES OF A DESCRIPTION OF A DESCRIPTIONO | |
| Electrical Power Generation 15. Are there other facilities in the SCAQMD | | | erican Indust | rial Classification Sy | | 2211 | 12 | |
| jurisdiction operated by the same operator? | No • Yes | | | y property line? | | O No | Yes | |
| | that all information con | tained herein and | A REAL PROPERTY AND A REAL | | | | t. 1995 - 1997 | |
| 17. Signature of Responsible Official: | 18. Title of Responsib | le Official: | 19. | I wish to review th | | | O No | |
| Charle | Manager | | | (This may cause a application proces | | e | Yes | |
| | 21. Date: 12/20/20 | 13 | 22. | Do you claim cor data? (If Yes, see | fidentialit | | O Yes | |
| 23. Check List: X Authorized Signature/Date | X Form 400-CEQA | X Suppl | emental For | rm(s) (ie., Form 40 | 0-E-xx) | × Fees Enclo | sed | |
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| - | South Coast Air Quality Management District |
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| | Form 400-A |
| \mathcal{O} | South Coast Air Quality Management District Form 400-A Application Form for Permit or Plan Approval |

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

List only one piece of equipment or process per form.

| Tel: | (909) | 396-3385 |
|------|-------|----------|
| | www. | aamd.gov |

| Section A - Operator Information | | | | | NEW C | | | |
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| 1. Facility Name (Business Name of Operator to Appear on the Pen | | 2. Valid AC | MD Facility ID (Av | ailable On | | | | |
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| Phone # Ext. Fax # | | Phone # | | Ext. | Fax # | | | |
| E-Mail: stephen.okane@AES.com | | E-Mail: steph | en.okane | @AES.com | | | | |
| Section D - Application Type | | T to March | | | | | | |
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| Compliance Plan | Change of Con | - | | | | 7c., you MUST provide an existing | | |
| Registration/Certification | | Condition without Prior Approval * Permit or Application Number: | | | | | imber: | |
| Streamlined Standard Permit | Change of Loca | | | | | | | |
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| In the second | n?)No OYes | 12. Has a No Comply | (NC) been is | ation (NOV) or a No ssued for this equi | pment? | • No | O Yes | |
| Section E - Facility Business Information | | | | If Yes, provide NO | */////#1 | | | |
| 13. What type of business is being conducted at this equipmen | t location? | 14. What is yo | our business | s primary NAICS C | ode? | | NAMES OF A DESCRIPTION OF A DESCRIPTIONO | |
| Electrical Power Generation 15. Are there other facilities in the SCAQMD | | | erican Indust | rial Classification Sy | | 2211 | 12 | |
| jurisdiction operated by the same operator? | No • Yes | | | y property line? | | O No | Yes | |
| | that all information con | tained herein and | A REAL PROPERTY AND A REAL | | | | t. 1995 - 1997 | |
| 17. Signature of Responsible Official: | 18. Title of Responsib | le Official: | 19. | I wish to review th | | | O No | |
| Charle | Manager | | | (This may cause a application proces | | e | Yes | |
| | 21. Date: 12/20/20 | 13 | 22. | Do you claim cor data? (If Yes, see | fidentialit | | O Yes | |
| 23. Check List: X Authorized Signature/Date | X Form 400-CEQA | X Suppl | emental For | rm(s) (ie., Form 40 | 0-E-xx) | × Fees Enclo | sed | |
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| - | South Coast Air Quality Management District |
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| | Form 400-A |
| \mathcal{O} | South Coast Air Quality Management District Form 400-A Application Form for Permit or Plan Approval |

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

List only one piece of equipment or process per form.

| Tel: | (909) | 396-3385 |
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| | www. | aamd.gov |

| Section A - Operator Information | | | | | NEW C | | | |
|--|--|---|--|--|--|---|--|--|
| 1. Facility Name (Business Name of Operator to Appear on the Pen | | 2. Valid AC | MD Facility ID (Av | ailable On | | | | |
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| 4. Equipment Location Is: | Various Location ss of initial site.) | 5. Permit and Correspondence Information: Check here if same as equipment location address | | | | | | |
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| Long Beach , CA 9080 | 3 | Long Beac | h | | , CA | 90803 | | |
| City Zip | | City | | | State | Zip | | |
| Stephen O'Kane Manager Contact Name Title | | Stephen O Contact Name | 'Kane | | Mana Title | ager | | |
| (562) 493-7840 (562) 493-77 | 737 | (562) 493- | 7840 | | | 493-7737 | | |
| Phone # Ext. Fax # | | Phone # | | Ext. | Fax # | | | |
| E-Mail: stephen.okane@AES.com | | E-Mail: steph | en.okane | @AES.com | | | | |
| Section D - Application Type | | T to March | | | | | | |
| 6. The Facility Is: O Not In RECLAIM or Title V | | O In Title | eV (| In RECLAIM & 1 | Title V Prog | grams | | |
| 7. Reason for Submitting Application (Select only ONE): | | Charles and some | | | | | | |
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| New Construction (Permit to Construct) | O Administrative (| 0 | | | | Evicting of Presiden | | |
| C Equipment On-Site But Not Constructed or Operational | Alteration/Modified | | | | Existing or Previous Permit/Application If you checked any of the items in | | | |
| C Equipment Operating Without A Permit * | Ŭ, | fication without P | rior Approval | * | | | | |
| Compliance Plan | Change of Con | - | | | | 7c., you MUST provide an existing | | |
| Registration/Certification | | Condition without Prior Approval * Permit or Application Number: | | | | | imber: | |
| Streamlined Standard Permit | Change of Loca | | | | | | | |
| 7b. Facility Permits: | - | Location without Prior Approval * | | | | | | |
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| 01/01/2016 | | Construction (mr 1/2027 | n/dd/yyyy): — | 8c. Estimated S | | of Operation (mm/de 0/2019 | d/yyyy): | |
| 9. Description of Equipment or Reason for Compliance Plan (in Combined Cycle Combustion Turbines | ist applicable rule): | 10. For Identical equipment, how many additional applications are being submitted with this application? (Form 400-A required for each equipment / process) 11 | | | | | l | |
| In the second | n?)No OYes | 12. Has a No Comply | (NC) been is | ation (NOV) or a No ssued for this equi | pment? | • No | O Yes | |
| Section E - Facility Business Information | | | | If Yes, provide NO | */////#1 | | | |
| 13. What type of business is being conducted at this equipmen | t location? | 14. What is yo | our business | s primary NAICS C | ode? | | NAMES OF A DESCRIPTION OF A DESCRIPTIONO | |
| Electrical Power Generation 15. Are there other facilities in the SCAQMD | | | erican Indust | rial Classification Sy | | 2211 | 12 | |
| jurisdiction operated by the same operator? | No • Yes | | | y property line? | | O No | Yes | |
| | that all information con | tained herein and | A REAL PROPERTY AND A REAL | | | | t. 1995 - 1997 | |
| 17. Signature of Responsible Official: | 18. Title of Responsib | le Official: | 19. | I wish to review th | | | O No | |
| Charle | Manager | | | (This may cause a application proces | | e | Yes | |
| | 21. Date: 12/20/20 | 13 | 22. | Do you claim cor data? (If Yes, see | fidentialit | | O Yes | |
| 23. Check List: X Authorized Signature/Date | X Form 400-CEQA | X Suppl | emental For | rm(s) (ie., Form 40 | 0-E-xx) | × Fees Enclo | sed | |
| | UNT RECEIVED | | NT TRACKING | | | VALIDATION | | |
| | EQUIPMENT CATEGORY | CODE TEAM | ENGINEER | REASON/ACTION TA | AKEN | | | |
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| - | South Coast Air Quality Management District |
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| | Form 400-A |
| \mathcal{O} | South Coast Air Quality Management District Form 400-A Application Form for Permit or Plan Approval |

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

List only one piece of equipment or process per form.

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| Long Beach , CA 9080 | 3 | Long Beac | h | | , CA | 90803 | |
| City Zip | | City | | | State | Zip | |
| Stephen O'Kane Manager Contact Name Title | | Stephen O Contact Name | 'Kane | | Mana Title | ager | |
| (562) 493-7840 (562) 493-77 | 737 | (562) 493- | 7840 | | | 493-7737 | |
| Phone # Ext. Fax # | | Phone # | | Ext. | Fax # | | |
| E-Mail: stephen.okane@AES.com | | E-Mail: steph | en.okane | @AES.com | | | |
| Section D - Application Type | | T to March | | | | | |
| 6. The Facility Is: O Not In RECLAIM or Title V | | O In Title | eV (| In RECLAIM & 1 | Title V Prog | grams | |
| 7. Reason for Submitting Application (Select only ONE): | | Charles and some | | | | | |
| 7a. New Equipment or Process Application: | 7c. Equipment or P | Process with an | Existing/Pre | evious Application | or Permit: | | |
| New Construction (Permit to Construct) | O Administrative (| 0 | | | | Evicting of Presiden | |
| C Equipment On-Site But Not Constructed or Operational | Alteration/Modified | | | | | Existing or Previou Permit/Application | |
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| Compliance Plan | Change of Con | condition 7c., you MUST provide an existing | | | | existing | |
| Registration/Certification | | Condition without Prior Approval * Permit or Application Number: | | | | imber: | |
| Streamlined Standard Permit | Change of Loca | | | | | | |
| 7b. Facility Permits: | - | ocation without Prior Approval * Deperating with an Expired/Inactive Permit * | | | | | |
| O Title V Application or Amendment (Also submit Form 500-A1) | | Processing Fee and additional Annual Operating Fees (up to 3 full years) may apply (Rule 301(c)(1)(D)(i)). | | | | | |
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| 9. Description of Equipment or Reason for Compliance Plan (in Combined Cycle Combustion Turbines | ist applicable rule): | application | ns are being | nt, how many addi submitted with th or each equipment / | is applicat | tion? | l |
| In the second | n?)No OYes | 12. Has a No Comply | (NC) been is | ation (NOV) or a No ssued for this equi | pment? | • No | O Yes |
| Section E - Facility Business Information | | | | If Yes, provide NO | */////#1 | | |
| 13. What type of business is being conducted at this equipmen | t location? | 14. What is yo | our business | s primary NAICS C | ode? | | NAMES OF A DESCRIPTION OF A DESCRIPTIONO |
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| 17. Signature of Responsible Official: | 18. Title of Responsib | le Official: | 19. | I wish to review th | | | O No |
| Charle | Manager | | | (This may cause a application proces | | e | Yes |
| | 21. Date: 12/20/20 | 13 | 22. | Do you claim cor data? (If Yes, see | fidentialit | | O Yes |
| 23. Check List: X Authorized Signature/Date | X Form 400-CEQA | X Suppl | emental For | rm(s) (ie., Form 40 | 0-E-xx) | × Fees Enclo | sed |
| | UNT RECEIVED | | NT TRACKING | | | VALIDATION | |
| | EQUIPMENT CATEGORY | CODE TEAM | ENGINEER | REASON/ACTION TA | AKEN | | |
| | all and a second | | | | | | |

| - | South Coast Air Quality Management District |
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| | Form 400-A |
| \mathcal{O} | South Coast Air Quality Management District Form 400-A Application Form for Permit or Plan Approval |

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

List only one piece of equipment or process per form.

| Tel: | (909) | 396-3385 |
|------|-------|----------|
| | www. | aamd.gov |

| Section A - Operator Information | | | | | NEW C | | |
|--|--|--|--|---|---|---|--|
| 1. Facility Name (Business Name of Operator to Appear on the Permit): | | | | | 2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): | | |
| AES Alamitos, LLC | | | | | reman | | (AQIMD): |
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| Section B - Equipment Location Address | | Section C - | Permit Mai | ling Address | C. C | E and the A | |
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| Section E - Facility Business Information | | | | If Yes, provide NO | */////#1 | | |
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| | EQUIPMENT CATEGORY | CODE TEAM | ENGINEER | REASON/ACTION TA | AKEN | | |
| | all and a second | | | | | | |

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

List only one piece of equipment or process per form.

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|------|-------|----------|
| | www. | aamd.gov |

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| E-Mail: stephen.okane@AES.com | | E-Mail: steph | en.okane | @AES.com | | | |
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| Charle | Manager | | | (This may cause a application proces | | e | Yes |
| | 21. Date: 12/20/20 | 13 | 22. | Do you claim cor data? (If Yes, see | fidentialit | | O Yes |
| 23. Check List: X Authorized Signature/Date | X Form 400-CEQA | X Suppl | emental For | rm(s) (ie., Form 40 | 0-E-xx) | × Fees Enclo | sed |
| | UNT RECEIVED | | NT TRACKING | | | VALIDATION | |
| | EQUIPMENT CATEGORY | CODE TEAM | ENGINEER | REASON/ACTION TA | AKEN | | |
| | all and a second | | | | | | |

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

List only one piece of equipment or process per form.

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| Long Beach , CA 9080 | 3 | Long Beac | h | | , CA | 90803 | | | | | |
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| Stephen O'Kane Manager Contact Name Title | | Stephen O Contact Name | 'Kane | | Mana Title | ager | | | | | |
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| 7b. Facility Permits: | - | | •• | o Dormit t | | | _ | | | | |
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| 17. Signature of Responsible Official: | 18. Title of Responsib | le Official: | 19. | I wish to review th | | | O No | | | | |
| Charle | Manager | | | (This may cause a application proces | | e | Yes | | | | |
| | 21. Date: 12/20/20 | 13 | 22. | Do you claim cor data? (If Yes, see | fidentialit | | O Yes | | | | |
| 23. Check List: X Authorized Signature/Date | X Form 400-CEQA | | | | | sed | | | | | |
| | UNT RECEIVED | PAYMENT TRACKING # VALIDATION | | | | | | | | | |
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| | ditana a cara a | | | | | | | | | | |

| South Coast Air Quality Management District | | | | Mail To: | | | |
|--|--|---|--|---|--|--|--|
| Form 400-A | | | | P.O. Box 4944 | | | |
| Application Form for Peri | •• | oval | | Diamond Bar, CA 91765-0944 | | | |
| List only one piece of equipment or process pe | r form. | | | Tel: (909) 396-3385 | | | |
| Section A - Operator Information | | | | www.aqmd.gov | | | |
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| Section B - Equipment Location Address | ng Address | | | | | | |
| 4. Equipment Location Is: Fixed Location | | 5. Permit and Corresponden | | | | | |
| (For equipment operated at various locations, provide | e address of initial site.) | Check here if same as | equipment location addres | S | | | |
| 690 N. Studebaker Road Street Address | | 690 N. Studebaker Ro | bad | | | | |
| 1 | 90803 | | CA | 90803 | | | |
| City 2 | Zip | Long Beach City | , <u>CA</u> State | | | | |
| Stephen O'Kane Manag | • | Stephen O'Kane | | ager | | | |
| Contact Name Title | | Contact Name | Title | | | | |
| | 93-7737 | (562) 493-7840 | | .) 493-7737 | | | |
| Phone # Ext. Fax # Fax # E-Mail: stephen.okane@AES.com | | Phone # E-Mail: stephen.okane@ | Ext. Fax # | | | | |
| | | E-Mail: Stephen.okaneu | | | | | |
| Section D - Application Type | | | | | | | |
| 6. The Facility Is: O Not In RECLAIM or Title | V O In RECLAIM | O In Title V 💿 | In RECLAIM & Title V Pro | ograms | | | |
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| 8a. Estimated Start Date of Construction (mm/dd/yyyy): | 8b. Estimated End Date of (| and the second se | | of Operation (mm/dd/yyyy): | | | |
| 01/01/2016 | | 1/2027 | | 30/2019 | | | |
| 9. Description of Equipment or Reason for Compliance | Plan (list applicable rule): | 10. For Identical equipment | | | | | |
| SCR/Oxidation Catalyst | | | ubmitted with this applic each equipment / process) | ation? 11 | | | |
| | | | | ······································ | | | |
| 11. Are you a Small Business as per AQMD's Rule 102 de (10 employees or less and total gross receipts are | efinition? | | on (NOV) or a Notice to Jed for this equipment? | ● No ○ Yes | | | |
| \$500,000 or less <u>OR</u> a not-for-profit training center) | No O Yes | | Yes, provide NOV/NC#: | | | | |
| Section E - Facility Business Information | | | | | | | |
| 13. What type of business is being conducted at this equ | Ipment location? | 14. What is your business p | | 0011110 | | | |
| Electrical Power Generation | I Classification System) | 221112 | | | | | |
| 15. Are there other facilities in the SCAQMD jurisdiction operated by the same operator? | 15. Are there other facilities in the SCAQMD jurisdiction operated by the same operator? O No O Yes 16. Are there any school 1000 feet of the facilities 1000 feet of the | | | | | | |
| | | tained herein and information su | | No Yes | | | |
| 17. Signature of Responsible Official: | 18. Title of Responsit | and the second se | wish to review the permit | prior to issuance | | | |
| | | | This may cause a delay in t | he ONO | | | |
| <u>l rare</u> | Manager 21. Date: | | application process.) | Yes | | | |
| 20. Print Name: |)o you claim confidential | ity of | | | | | |

| | | | | | | Do you claim confidentia data? (If Yes, see instruct) | | () Yes | | | |
|------------------|------------|-------------|------------|--|-----------------|---|--------------------|----------|---------------------|------------|--|
| 23. Check Li | | | | rized Signature/Date IN Form 400-CEQA IN Supplemental Form(s) (ie., Form 400-E-xx) | | | | | 🗙 Fees Enc | losed | |
| AQMD USE ONLY | APPLI | CATION TRAC | CKING # | CHECK | # | AMOUNT RECEIVED \$ | PAYMENT TRACKING # | | | VALIDATION | |
| DATE | APP REJ | DATE | APP REJ | CLASS I III | BASIC CONTRO | EQUIPMENT CATEGORY CODE | TEAM | ENGINEER | REASON/ACTION TAKEN | | |

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| South Coast Air Quality Management District | | | | Mail To: | | | |
|--|--|---|--|---|--|--|--|
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| List only one piece of equipment or process pe | r form. | | | Tel: (909) 396-3385 | | | |
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| City 2 | Zip | Long Beach City | , <u>CA</u> State | | | | |
| Stephen O'Kane Manag | • | Stephen O'Kane | | ager | | | |
| Contact Name Title | | Contact Name | Title | | | | |
| | 93-7737 | (562) 493-7840 | | .) 493-7737 | | | |
| Phone # Ext. Fax # Fax # E-Mail: stephen.okane@AES.com | | Phone # E-Mail: stephen.okane@ | Ext. Fax # | | | | |
| | | E-Mail: Stephen.okaneu | | | | | |
| Section D - Application Type | | | | | | | |
| 6. The Facility Is: O Not In RECLAIM or Title | V O In RECLAIM | O In Title V 💿 | In RECLAIM & Title V Pro | ograms | | | |
| 7. Reason for Submitting Application (Select only ONE): | | | | | | | |
| 7a. New Equipment or Process Application: | 7c. Equipment or I | Process with an Existing/Previ | ous Application or Permi | | | | |
| New Construction (Permit to Construct) | O Administrative | Change | | | | | |
| O Equipment On-Site But Not Constructed or Operational | Alteration/Modi | fication | | Existing or Previous | | | |
| C Equipment Operating Without A Permit * | Alteration/Modi | fication without Prior Approval * | lf | Permit/Application | | | |
| O Compliance Plan | Change of Con | dition | | If you checked any of the items in 7c., you MUST provide an existing | | | |
| Registration/Certification | Change of Con | dition without Prior Approval * | | Permit or Application Number: | | | |
| Streamlined Standard Permit | O Change of Loca | ation | | | | | |
| 7b. Facility Permits: | Change of Loca | ation without Prior Approval * | | | | | |
| O Title V Application or Amendment (Also submit Form 500 | -A1) O Equipment Ope | erating with an Expired/Inactive I | Permit * | | | | |
| O RECLAIM Facility Permit Amendment | | essing Fee and additional Annual Op | perating Fees (up to 3 full years | s) may apply (Rule 301(c)(1)(D)(i)). | | | |
| 8a. Estimated Start Date of Construction (mm/dd/yyyy): | 8b. Estimated End Date of (| and the second se | | of Operation (mm/dd/yyyy): | | | |
| 01/01/2016 | | 1/2027 | | 30/2019 | | | |
| 9. Description of Equipment or Reason for Compliance | Plan (list applicable rule): | 10. For Identical equipment | | | | | |
| SCR/Oxidation Catalyst | | | ubmitted with this applic each equipment / process) | ation? 11 | | | |
| | | | | ······································ | | | |
| 11. Are you a Small Business as per AQMD's Rule 102 de (10 employees or less and total gross receipts are | efinition? | | on (NOV) or a Notice to Jed for this equipment? | ● No ○ Yes | | | |
| \$500,000 or less <u>OR</u> a not-for-profit training center) | No O Yes | | Yes, provide NOV/NC#: | | | | |
| Section E - Facility Business Information | | | | | | | |
| 13. What type of business is being conducted at this equ | Ipment location? | 14. What is your business p | | 0011110 | | | |
| Electrical Power Generation | I Classification System) | 221112 | | | | | |
| 15. Are there other facilities in the SCAQMD jurisdiction operated by the same operator? | 15. Are there other facilities in the SCAQMD jurisdiction operated by the same operator? O No O Yes 16. Are there any school 1000 feet of the facilities 1000 feet of the | | | | | | |
| | | tained herein and information su | | No Yes | | | |
| 17. Signature of Responsible Official: | 18. Title of Responsit | and the second se | wish to review the permit | prior to issuance | | | |
| | | | This may cause a delay in t | he ONO | | | |
| <u>l rare</u> | Manager 21. Date: | | application process.) | Yes | | | |
| 20. Print Name: |)o you claim confidential | ity of | | | | | |

| | | | | | | Do you claim confidentia data? (If Yes, see instruct) | | () Yes | | | |
|------------------|------------|-------------|------------|--|-----------------|---|--------------------|----------|---------------------|------------|--|
| 23. Check Li | | | | rized Signature/Date IN Form 400-CEQA IN Supplemental Form(s) (ie., Form 400-E-xx) | | | | | 🗙 Fees Enc | losed | |
| AQMD USE ONLY | APPLI | CATION TRAC | CKING # | CHECK | # | AMOUNT RECEIVED \$ | PAYMENT TRACKING # | | | VALIDATION | |
| DATE | APP REJ | DATE | APP REJ | CLASS I III | BASIC CONTRO | EQUIPMENT CATEGORY CODE | TEAM | ENGINEER | REASON/ACTION TAKEN | | |

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| South Coast Air Quality Management District | | | | Mail To: | | | |
|--|--|---|--|---|--|--|--|
| Form 400-A | | | | P.O. Box 4944 | | | |
| Application Form for Peri | •• | oval | | Diamond Bar, CA 91765-0944 | | | |
| List only one piece of equipment or process pe | r form. | | | Tel: (909) 396-3385 | | | |
| Section A - Operator Information | | | | www.aqmd.gov | | | |
| 1. Facility Name (Business Name of Operator to Appear on t | the Permit): | | 2 Valid A | QMD Facility ID (Available On | | | |
| | | t Or Invoice Issued By AQMD): | | | | | |
| AES Alamitos, LLC | | - , | | | | | |
| 3. Owner's Business Name (If different from Business Name | e of Operator): | | | 115394 | | | |
| Section B - Equipment Location Address | ng Address | | | | | | |
| 4. Equipment Location Is: Fixed Location | | 5. Permit and Corresponden | | | | | |
| (For equipment operated at various locations, provide | e address of initial site.) | Check here if same as | equipment location addres | S | | | |
| 690 N. Studebaker Road Street Address | | 690 N. Studebaker Ro | bad | | | | |
| 1 | 90803 | | CA | 90803 | | | |
| City 2 | Zip | Long Beach City | , <u>CA</u> State | | | | |
| Stephen O'Kane Manag | • | Stephen O'Kane | | ager | | | |
| Contact Name Title | | Contact Name | Title | | | | |
| | 93-7737 | (562) 493-7840 | | .) 493-7737 | | | |
| Phone # Ext. Fax # Fax # E-Mail: stephen.okane@AES.com | | Phone # E-Mail: stephen.okane@ | Ext. Fax # | | | | |
| | | E-Mail: Stephen.okaneu | | | | | |
| Section D - Application Type | | | | | | | |
| 6. The Facility Is: O Not In RECLAIM or Title | V O In RECLAIM | O In Title V 💿 | In RECLAIM & Title V Pro | ograms | | | |
| 7. Reason for Submitting Application (Select only ONE): | | | | | | | |
| 7a. New Equipment or Process Application: | 7c. Equipment or I | Process with an Existing/Previ | ous Application or Permi | | | | |
| New Construction (Permit to Construct) | O Administrative | Change | | | | | |
| O Equipment On-Site But Not Constructed or Operational | Alteration/Modi | fication | | Existing or Previous | | | |
| C Equipment Operating Without A Permit * | Alteration/Modi | fication without Prior Approval * | lf | Permit/Application | | | |
| O Compliance Plan | Change of Con | dition | | If you checked any of the items in 7c., you MUST provide an existing | | | |
| Registration/Certification | Change of Con | dition without Prior Approval * | | Permit or Application Number: | | | |
| Streamlined Standard Permit | O Change of Loca | ation | | | | | |
| 7b. Facility Permits: | Change of Loca | ation without Prior Approval * | | | | | |
| O Title V Application or Amendment (Also submit Form 500 | -A1) O Equipment Ope | erating with an Expired/Inactive I | Permit * | | | | |
| O RECLAIM Facility Permit Amendment | | essing Fee and additional Annual Op | perating Fees (up to 3 full years | s) may apply (Rule 301(c)(1)(D)(i)). | | | |
| 8a. Estimated Start Date of Construction (mm/dd/yyyy): | 8b. Estimated End Date of 0 | and the second se | | of Operation (mm/dd/yyyy): | | | |
| 01/01/2016 | | 1/2027 | | 30/2019 | | | |
| 9. Description of Equipment or Reason for Compliance | Plan (list applicable rule): | 10. For Identical equipment | | | | | |
| SCR/Oxidation Catalyst | | | ubmitted with this applic each equipment / process) | ation? 11 | | | |
| | | | | ······································ | | | |
| 11. Are you a Small Business as per AQMD's Rule 102 de (10 employees or less and total gross receipts are | efinition? | | on (NOV) or a Notice to Jed for this equipment? | ● No ○ Yes | | | |
| \$500,000 or less <u>OR</u> a not-for-profit training center) | No O Yes | | Yes, provide NOV/NC#: | | | | |
| Section E - Facility Business Information | | | | | | | |
| 13. What type of business is being conducted at this equ | Ipment location? | 14. What is your business p | | 0011110 | | | |
| Electrical Power Generation | I Classification System) | 221112 | | | | | |
| 15. Are there other facilities in the SCAQMD jurisdiction operated by the same operator? | 15. Are there other facilities in the SCAQMD jurisdiction operated by the same operator? O No O Yes 16. Are there any school 1000 feet of the facilities 1000 feet of the | | | | | | |
| | | tained herein and information su | | No Yes | | | |
| 17. Signature of Responsible Official: | 18. Title of Responsit | and the second se | wish to review the permit | prior to issuance | | | |
| | | | This may cause a delay in t | he ONO | | | |
| <u>l rare</u> | Manager 21. Date: | | application process.) | Yes | | | |
| 20. Print Name: |)o you claim confidential | ity of | | | | | |

| | | | | | | Do you claim confidentia data? (If Yes, see instruct) | | () Yes | | | |
|------------------|------------|-------------|------------|--|-----------------|---|--------------------|----------|---------------------|------------|--|
| 23. Check Li | | | | rized Signature/Date IN Form 400-CEQA IN Supplemental Form(s) (ie., Form 400-E-xx) | | | | | 🗙 Fees Enc | losed | |
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| South Coast Air Quality Management District | | | | Mail To: | | | |
|--|--|---|--|---|--|--|--|
| Form 400-A | | | | P.O. Box 4944 | | | |
| Application Form for Peri | •• | oval | | Diamond Bar, CA 91765-0944 | | | |
| List only one piece of equipment or process pe | r form. | | | Tel: (909) 396-3385 | | | |
| Section A - Operator Information | | | | www.aqmd.gov | | | |
| 1. Facility Name (Business Name of Operator to Appear on t | the Permit): | | 2 Valid A | QMD Facility ID (Available On | | | |
| | | t Or Invoice Issued By AQMD): | | | | | |
| AES Alamitos, LLC | | - , | | | | | |
| 3. Owner's Business Name (If different from Business Name | e of Operator): | | | 115394 | | | |
| Section B - Equipment Location Address | ng Address | | | | | | |
| 4. Equipment Location Is: Fixed Location | | 5. Permit and Corresponden | | | | | |
| (For equipment operated at various locations, provide | e address of initial site.) | Check here if same as | equipment location addres | S | | | |
| 690 N. Studebaker Road Street Address | | 690 N. Studebaker Ro | bad | | | | |
| 1 | 90803 | | CA | 90803 | | | |
| City 2 | Zip | Long Beach City | , <u>CA</u> State | | | | |
| Stephen O'Kane Manag | • | Stephen O'Kane | | ager | | | |
| Contact Name Title | | Contact Name | Title | | | | |
| | 93-7737 | (562) 493-7840 | | .) 493-7737 | | | |
| Phone # Ext. Fax # Fax # E-Mail: stephen.okane@AES.com | | Phone # E-Mail: stephen.okane@ | Ext. Fax # | | | | |
| | | E-Mail: Stephen.okaneu | | | | | |
| Section D - Application Type | | | | | | | |
| 6. The Facility Is: O Not In RECLAIM or Title | V O In RECLAIM | O In Title V 💿 | In RECLAIM & Title V Pro | ograms | | | |
| 7. Reason for Submitting Application (Select only ONE): | | | | | | | |
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| C Equipment Operating Without A Permit * | Alteration/Modi | fication without Prior Approval * | lf | Permit/Application | | | |
| O Compliance Plan | Change of Con | dition | | If you checked any of the items in 7c., you MUST provide an existing | | | |
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| Streamlined Standard Permit | O Change of Loca | ation | | | | | |
| 7b. Facility Permits: | Change of Loca | ation without Prior Approval * | | | | | |
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| SCR/Oxidation Catalyst | | | ubmitted with this applic each equipment / process) | ation? 11 | | | |
| | | | | ······································ | | | |
| 11. Are you a Small Business as per AQMD's Rule 102 de (10 employees or less and total gross receipts are | efinition? | | on (NOV) or a Notice to Jed for this equipment? | ● No ○ Yes | | | |
| \$500,000 or less <u>OR</u> a not-for-profit training center) | No O Yes | | Yes, provide NOV/NC#: | | | | |
| Section E - Facility Business Information | | | | | | | |
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| | | tained herein and information su | | No Yes | | | |
| 17. Signature of Responsible Official: | 18. Title of Responsit | and the second se | wish to review the permit | prior to issuance | | | |
| | | | This may cause a delay in t | he ONO | | | |
| <u>l rare</u> | Manager 21. Date: | | application process.) | Yes | | | |
| 20. Print Name: |)o you claim confidential | ity of | | | | | |

| | | | | | | Do you claim confidentia data? (If Yes, see instruct) | | () Yes | | | |
|------------------|------------|-------------|------------|--|-----------------|---|--------------------|----------|---------------------|------------|--|
| 23. Check Li | | | | rized Signature/Date IN Form 400-CEQA IN Supplemental Form(s) (ie., Form 400-E-xx) | | | | | 🗙 Fees Enc | losed | |
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| DATE | APP REJ | DATE | APP REJ | CLASS I III | BASIC CONTRO | EQUIPMENT CATEGORY CODE | TEAM | ENGINEER | REASON/ACTION TAKEN | | |

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| South Coast Air Quality Management District | | | | Mail To: | | | |
|--|--|---|--|---|--|--|--|
| Form 400-A | | | | P.O. Box 4944 | | | |
| Application Form for Peri | •• | oval | | Diamond Bar, CA 91765-0944 | | | |
| List only one piece of equipment or process pe | r form. | | | Tel: (909) 396-3385 | | | |
| Section A - Operator Information | | | | www.aqmd.gov | | | |
| 1. Facility Name (Business Name of Operator to Appear on t | the Permit): | | 2 Valid A | QMD Facility ID (Available On | | | |
| | | t Or Invoice Issued By AQMD): | | | | | |
| AES Alamitos, LLC | | - , | | | | | |
| 3. Owner's Business Name (If different from Business Name | e of Operator): | | | 115394 | | | |
| Section B - Equipment Location Address | ng Address | | | | | | |
| 4. Equipment Location Is: Fixed Location | | 5. Permit and Corresponden | | | | | |
| (For equipment operated at various locations, provide | e address of initial site.) | Check here if same as | equipment location addres | S | | | |
| 690 N. Studebaker Road Street Address | | 690 N. Studebaker Ro | bad | | | | |
| 1 | 90803 | | CA | 90803 | | | |
| City 2 | Zip | Long Beach City | , <u>CA</u> State | | | | |
| Stephen O'Kane Manag | • | Stephen O'Kane | | ager | | | |
| Contact Name Title | | Contact Name | Title | | | | |
| | 93-7737 | (562) 493-7840 | | .) 493-7737 | | | |
| Phone # Ext. Fax # Fax # E-Mail: stephen.okane@AES.com | | Phone # E-Mail: stephen.okane@ | Ext. Fax # | | | | |
| | | E-Mail: Stephen.okaneu | | | | | |
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| 6. The Facility Is: O Not In RECLAIM or Title | V O In RECLAIM | O In Title V 💿 | In RECLAIM & Title V Pro | ograms | | | |
| 7. Reason for Submitting Application (Select only ONE): | | | | | | | |
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| C Equipment Operating Without A Permit * | Alteration/Modi | fication without Prior Approval * | lf | Permit/Application | | | |
| O Compliance Plan | Change of Con | dition | | If you checked any of the items in 7c., you MUST provide an existing | | | |
| Registration/Certification | Change of Con | dition without Prior Approval * | | Permit or Application Number: | | | |
| Streamlined Standard Permit | O Change of Loca | ation | | | | | |
| 7b. Facility Permits: | and a second | ation without Prior Approval * | | | | | |
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| \$500,000 or less <u>OR</u> a not-for-profit training center) | No O Yes | | Yes, provide NOV/NC#: | | | | |
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| | | | This may cause a delay in t | he ONO | | | |
| <u>l rare</u> | Manager 21. Date: | | application process.) | Yes | | | |
| 20. Print Name: |)o you claim confidential | ity of | | | | | |

| 20. Print Name: Stephen O'Kane | | | | | | | | | Do you claim confidentia data? (If Yes, see instruct) | | () Yes |
|---|--|-------------|---------|-------|-------------------------|-----------------------|---|---------------------|---|------------|--------|
| 23. Check List: X Authorized Signature/Date | | | | | Date | Form 400-CEQA | Supplemental Form(s) (ie., Form 400-E-xx) | | | 🗙 Fees Enc | losed |
| AQMD USE ONLY | APPLI | CATION TRAC | CKING # | CHECK | # | AMOUNT RECEIVED \$ | PAYMENT TRACKING # | | | VALIDATION | |
| DATE | DATE APP DATE APP CLASS BASIC REJ REJ I III CONTROL | | | | EQUIPMENT CATEGORY CODE | TEAM | ENGINEER | REASON/ACTION TAKEN | | | |

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| South Coast Air Quality Management District | | | | Mail To: | | | | | | | |
|--|--|---|--|---|--|--|--|--|--|--|--|
| Form 400-A | | | | P.O. Box 4944 | | | | | | | |
| | Application Form for Permit or Plan Approval List only one piece of equipment or process per form. | | | | | | | | | | |
| AQMD List only one piece of equipment or process pe | r form. | | | Tel: (909) 396-3385 | | | | | | | |
| Section A - Operator Information | | | | www.aqmd.gov | | | | | | | |
| 1. Facility Name (Business Name of Operator to Appear on t | the Permit): | | 2 Valid A | QMD Facility ID (Available On | | | | | | | |
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| AES Alamitos, LLC | | | | - , | | | | | | | |
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| Section B - Equipment Location Address | | Section C - Permit Mailin | ng Address | | | | | | | | |
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| 690 N. Studebaker Road Street Address | | 690 N. Studebaker Ro | bad | | | | | | | | |
| 1 | 90803 | | CA | 90803 | | | | | | | |
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| Stephen O'Kane Manag | • | Stephen O'Kane | | ager | | | | | | | |
| Contact Name Title | | Contact Name | Title | | | | | | | | |
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| Phone # Ext. Fax # Fax # E-Mail: stephen.okane@AES.com | | Phone # E-Mail: stephen.okane@ | Ext. Fax # | | | | | | | | |
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| Section D - Application Type | | | | | | | | | | | |
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| \$500,000 or less <u>OR</u> a not-for-profit training center) | No O Yes | | Yes, provide NOV/NC#: | | | | | | | | |
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| 13. What type of business is being conducted at this equ | Ipment location? | 14. What is your business p | | 0011110 | | | | | | | |
| Electrical Power Generation | | (North American Industria | | 221112 | | | | | | | |
| 15. Are there other facilities in the SCAQMD jurisdiction operated by the same operator? | 🔿 No 💿 Yes | 16. Are there any schools (I 1000 feet of the facility | | O No Yes | | | | | | | |
| | | tained herein and information su | | | | | | | | | |
| 17. Signature of Responsible Official: | 18. Title of Responsit | and the second se | wish to review the permit | prior to issuance | | | | | | | |
| | | | This may cause a delay in t | he ONO | | | | | | | |
| <u>l rare</u> | Manager | | application process.) | ess.) • Yes | | | | | | | |
| 20. Print Name: | 21. Date: | 22 1 |)o you claim confidential | onfidentiality of | | | | | | | |

| 20. Print Name: Stephen O'Kane | | | | | | | | | Do you claim confidentia data? (If Yes, see instruct) | | () Yes |
|---|--|-------------|---------|-------|-------------------------|-----------------------|---|---------------------|---|------------|--------|
| 23. Check List: X Authorized Signature/Date | | | | | Date | Form 400-CEQA | Supplemental Form(s) (ie., Form 400-E-xx) | | | 🗙 Fees Enc | losed |
| AQMD USE ONLY | APPLI | CATION TRAC | CKING # | CHECK | # | AMOUNT RECEIVED \$ | PAYMENT TRACKING # | | | VALIDATION | |
| DATE | DATE APP DATE APP CLASS BASIC REJ REJ I III CONTROL | | | | EQUIPMENT CATEGORY CODE | TEAM | ENGINEER | REASON/ACTION TAKEN | | | |

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| South Coast Air Quality Management District | | | | Mail To: | | | | | | | |
|--|---|---|--|---|--|--|--|--|--|--|--|
| Form 400-A | | | | P.O. Box 4944 | | | | | | | |
| | Application Form for Permit or Plan Approval List only one piece of equipment or process per form. | | | | | | | | | | |
| AQMD List only one piece of equipment or process pe | r form. | | | Tel: (909) 396-3385 | | | | | | | |
| Section A - Operator Information | | | | www.aqmd.gov | | | | | | | |
| 1. Facility Name (Business Name of Operator to Appear on t | the Permit): | | 2 Valid A | QMD Facility ID (Available On | | | | | | | |
| | ne remily. | | | t Or Invoice Issued By AQMD): | | | | | | | |
| AES Alamitos, LLC | | | | - , | | | | | | | |
| 3. Owner's Business Name (If different from Business Name | e of Operator): | | | 115394 | | | | | | | |
| Section B - Equipment Location Address | | Section C - Permit Mailin | ng Address | | | | | | | | |
| 4. Equipment Location Is: Fixed Location | | 5. Permit and Corresponden | | | | | | | | | |
| (For equipment operated at various locations, provide | e address of initial site.) | Check here if same as | equipment location addres | S | | | | | | | |
| 690 N. Studebaker Road Street Address | | 690 N. Studebaker Ro | bad | | | | | | | | |
| 1 | 90803 | | CA | 90803 | | | | | | | |
| City 2 | Zip | Long Beach City | , <u>CA</u> State | | | | | | | | |
| Stephen O'Kane Manag | • | Stephen O'Kane | | ager | | | | | | | |
| Contact Name Title | | Contact Name | Title | | | | | | | | |
| | 93-7737 | (562) 493-7840 | | .) 493-7737 | | | | | | | |
| Phone # Ext. Fax # Fax # E-Mail: stephen.okane@AES.com | | Phone # E-Mail: stephen.okane@ | Ext. Fax # | | | | | | | | |
| | | E-Mail: Stephen.okaned | | | | | | | | | |
| Section D - Application Type | | | | | | | | | | | |
| 6. The Facility Is: O Not In RECLAIM or Title | V O In RECLAIM | O In Title V 💿 | In RECLAIM & Title V Pro | ograms | | | | | | | |
| 7. Reason for Submitting Application (Select only ONE): | | | | | | | | | | | |
| 7a. New Equipment or Process Application: | 7c. Equipment or I | Process with an Existing/Previ | ous Application or Permi | | | | | | | | |
| New Construction (Permit to Construct) | O Administrative | Change | | | | | | | | | |
| O Equipment On-Site But Not Constructed or Operational | Alteration/Modi | fication | | Existing or Previous | | | | | | | |
| C Equipment Operating Without A Permit * | Alteration/Modi | fication without Prior Approval * | lf | Permit/Application | | | | | | | |
| O Compliance Plan | Change of Con | dition | | u checked any of the items in rou MUST provide an existing | | | | | | | |
| Registration/Certification | Change of Con | dition without Prior Approval * | | rmit or Application Number: | | | | | | | |
| Streamlined Standard Permit | O Change of Loca | ation | | | | | | | | | |
| 7b. Facility Permits: | Change of Loca | ation without Prior Approval * | | | | | | | | | |
| O Title V Application or Amendment (Also submit Form 500 | -A1) O Equipment Ope | erating with an Expired/Inactive I | Permit * | | | | | | | | |
| O RECLAIM Facility Permit Amendment | | essing Fee and additional Annual Op | perating Fees (up to 3 full years | s) may apply (Rule 301(c)(1)(D)(i)). | | | | | | | |
| 8a. Estimated Start Date of Construction (mm/dd/yyyy): | 8b. Estimated End Date of (| and the second se | | of Operation (mm/dd/yyyy): | | | | | | | |
| 01/01/2016 | | 1/2027 | | 30/2019 | | | | | | | |
| 9. Description of Equipment or Reason for Compliance | Plan (list applicable rule): | 10. For Identical equipment | | | | | | | | | |
| SCR/Oxidation Catalyst | | | ubmitted with this applic each equipment / process) | ation? 11 | | | | | | | |
| | | | | ······································ | | | | | | | |
| 11. Are you a Small Business as per AQMD's Rule 102 de (10 employees or less and total gross receipts are | efinition? | | on (NOV) or a Notice to Jed for this equipment? | ● No ○ Yes | | | | | | | |
| \$500,000 or less <u>OR</u> a not-for-profit training center) | No O Yes | | Yes, provide NOV/NC#: | | | | | | | | |
| Section E - Facility Business Information | | | | | | | | | | | |
| 13. What type of business is being conducted at this equ | Ipment location? | 14. What is your business p | | 0011110 | | | | | | | |
| Electrical Power Generation | | (North American Industria | | 221112 | | | | | | | |
| 15. Are there other facilities in the SCAQMD jurisdiction operated by the same operator? | 🔿 No 💿 Yes | 16. Are there any schools (I 1000 feet of the facility | | O No Yes | | | | | | | |
| | | tained herein and information su | | | | | | | | | |
| 17. Signature of Responsible Official: | 18. Title of Responsit | and the second se | wish to review the permit | prior to issuance | | | | | | | |
| | | | This may cause a delay in t | he ONO | | | | | | | |
| <u>l rare</u> | Manager | | application process.) | ess.) • Yes | | | | | | | |
| 20. Print Name: | 21. Date: | 22 1 |)o you claim confidential | onfidentiality of | | | | | | | |

| 20. Print Name: Stephen O'Kane | | | | | | | | | Do you claim confidentia data? (If Yes, see instruct) | | () Yes |
|---|--|-------------|---------|-------|-------------------------|-----------------------|---|---------------------|---|------------|--------|
| 23. Check List: X Authorized Signature/Date | | | | | Date | Form 400-CEQA | Supplemental Form(s) (ie., Form 400-E-xx) | | | 🗙 Fees Enc | losed |
| AQMD USE ONLY | APPLI | CATION TRAC | CKING # | CHECK | # | AMOUNT RECEIVED \$ | PAYMENT TRACKING # | | | VALIDATION | |
| DATE | DATE APP DATE APP CLASS BASIC REJ REJ I III CONTROL | | | | EQUIPMENT CATEGORY CODE | TEAM | ENGINEER | REASON/ACTION TAKEN | | | |

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| South Coast Air Quality Management District | | | | Mail To: | | | | | | | |
|--|---|---|--|---|--|--|--|--|--|--|--|
| Form 400-A | | | | P.O. Box 4944 | | | | | | | |
| | Application Form for Permit or Plan Approval List only one piece of equipment or process per form. | | | | | | | | | | |
| AQMD List only one piece of equipment or process pe | r form. | | | Tel: (909) 396-3385 | | | | | | | |
| Section A - Operator Information | | | | www.aqmd.gov | | | | | | | |
| 1. Facility Name (Business Name of Operator to Appear on t | the Permit): | | 2 Valid A | QMD Facility ID (Available On | | | | | | | |
| | ne remily. | | | t Or Invoice Issued By AQMD): | | | | | | | |
| AES Alamitos, LLC | | | | - , | | | | | | | |
| 3. Owner's Business Name (If different from Business Name | e of Operator): | | | 115394 | | | | | | | |
| Section B - Equipment Location Address | | Section C - Permit Mailin | ng Address | | | | | | | | |
| 4. Equipment Location Is: Fixed Location | | 5. Permit and Corresponden | | | | | | | | | |
| (For equipment operated at various locations, provide | e address of initial site.) | Check here if same as | equipment location addres | S | | | | | | | |
| 690 N. Studebaker Road Street Address | | 690 N. Studebaker Ro | bad | | | | | | | | |
| 1 | 90803 | | CA | 90803 | | | | | | | |
| City 2 | Zip | Long Beach City | , <u>CA</u> State | | | | | | | | |
| Stephen O'Kane Manag | • | Stephen O'Kane | | ager | | | | | | | |
| Contact Name Title | | Contact Name | Title | | | | | | | | |
| | 93-7737 | (562) 493-7840 | | .) 493-7737 | | | | | | | |
| Phone # Ext. Fax # Fax # E-Mail: stephen.okane@AES.com | | Phone # E-Mail: stephen.okane@ | Ext. Fax # | | | | | | | | |
| | | E-Mail: Stephen.okaneu | | | | | | | | | |
| Section D - Application Type | | | | | | | | | | | |
| 6. The Facility Is: O Not In RECLAIM or Title | V O In RECLAIM | O In Title V 💿 | In RECLAIM & Title V Pro | ograms | | | | | | | |
| 7. Reason for Submitting Application (Select only ONE): | | | | | | | | | | | |
| 7a. New Equipment or Process Application: | 7c. Equipment or I | Process with an Existing/Previ | ous Application or Permi | | | | | | | | |
| New Construction (Permit to Construct) | O Administrative | Change | | | | | | | | | |
| O Equipment On-Site But Not Constructed or Operational | Alteration/Modi | fication | | Existing or Previous | | | | | | | |
| C Equipment Operating Without A Permit * | Alteration/Modi | fication without Prior Approval * | lf | Permit/Application | | | | | | | |
| O Compliance Plan | Change of Con | dition | | u checked any of the items in rou MUST provide an existing | | | | | | | |
| Registration/Certification | Change of Con | dition without Prior Approval * | | rmit or Application Number: | | | | | | | |
| Streamlined Standard Permit | O Change of Loca | ation | | | | | | | | | |
| 7b. Facility Permits: | Change of Loca | ation without Prior Approval * | | | | | | | | | |
| O Title V Application or Amendment (Also submit Form 500 | -A1) O Equipment Ope | erating with an Expired/Inactive F | Permit * | | | | | | | | |
| O RECLAIM Facility Permit Amendment | | essing Fee and additional Annual Op | perating Fees (up to 3 full years | s) may apply (Rule 301(c)(1)(D)(i)). | | | | | | | |
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| 01/01/2016 | | 1/2027 | | 30/2019 | | | | | | | |
| 9. Description of Equipment or Reason for Compliance | Plan (list applicable rule): | 10. For Identical equipment | | | | | | | | | |
| SCR/Oxidation Catalyst | | | ubmitted with this applic each equipment / process) | ation? 11 | | | | | | | |
| | | | | ······································ | | | | | | | |
| 11. Are you a Small Business as per AQMD's Rule 102 de (10 employees or less and total gross receipts are | efinition? | | on (NOV) or a Notice to Jed for this equipment? | ● No ○ Yes | | | | | | | |
| \$500,000 or less <u>OR</u> a not-for-profit training center) | No O Yes | | Yes, provide NOV/NC#: | | | | | | | | |
| Section E - Facility Business Information | | | | | | | | | | | |
| 13. What type of business is being conducted at this equ | Ipment location? | 14. What is your business p | | 0011110 | | | | | | | |
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| <u>l rare</u> | Manager | | application process.) | ess.) • Yes | | | | | | | |
| 20. Print Name: | 21. Date: | 22 1 |)o you claim confidential | onfidentiality of | | | | | | | |

| 20. Print Name: Stephen O'Kane | | | | | | | | | Do you claim confidentia data? (If Yes, see instruct) | | () Yes |
|---|--|-------------|---------|-------|-------------------------|-----------------------|---|---------------------|---|------------|--------|
| 23. Check List: X Authorized Signature/Date | | | | | Date | Form 400-CEQA | Supplemental Form(s) (ie., Form 400-E-xx) | | | 🗙 Fees Enc | losed |
| AQMD USE ONLY | APPLI | CATION TRAC | CKING # | CHECK | # | AMOUNT RECEIVED \$ | PAYMENT TRACKING # | | | VALIDATION | |
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| Form 400-A | | | | P.O. Box 4944 | | | | | | | |
| | Application Form for Permit or Plan Approval List only one piece of equipment or process per form. | | | | | | | | | | |
| AQMD List only one piece of equipment or process pe | r form. | | | Tel: (909) 396-3385 | | | | | | | |
| Section A - Operator Information | | | | www.aqmd.gov | | | | | | | |
| 1. Facility Name (Business Name of Operator to Appear on t | the Permit): | | 2 Valid A | QMD Facility ID (Available On | | | | | | | |
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| AES Alamitos, LLC | | | | - , | | | | | | | |
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| (For equipment operated at various locations, provide | e address of initial site.) | Check here if same as | equipment location addres | S | | | | | | | |
| 690 N. Studebaker Road Street Address | | 690 N. Studebaker Ro | bad | | | | | | | | |
| 1 | 90803 | | CA | 90803 | | | | | | | |
| City 2 | Zip | Long Beach City | , <u>CA</u> State | | | | | | | | |
| Stephen O'Kane Manag | • | Stephen O'Kane | | ager | | | | | | | |
| Contact Name Title | | Contact Name | Title | | | | | | | | |
| | 93-7737 | (562) 493-7840 | | .) 493-7737 | | | | | | | |
| Phone # Ext. Fax # Fax # E-Mail: stephen.okane@AES.com | | Phone # E-Mail: stephen.okane@ | Ext. Fax # | | | | | | | | |
| | | E-Mail: Stephen.okaneu | | | | | | | | | |
| Section D - Application Type | | | | | | | | | | | |
| 6. The Facility Is: O Not In RECLAIM or Title | V O In RECLAIM | O In Title V 💿 | In RECLAIM & Title V Pro | ograms | | | | | | | |
| 7. Reason for Submitting Application (Select only ONE): | | | | | | | | | | | |
| 7a. New Equipment or Process Application: | 7c. Equipment or I | Process with an Existing/Previ | ous Application or Permi | | | | | | | | |
| New Construction (Permit to Construct) | O Administrative | Change | | | | | | | | | |
| O Equipment On-Site But Not Constructed or Operational | Alteration/Modi | fication | | Existing or Previous | | | | | | | |
| C Equipment Operating Without A Permit * | Alteration/Modi | fication without Prior Approval * | lf | Permit/Application | | | | | | | |
| O Compliance Plan | Change of Con | dition | | u checked any of the items in rou MUST provide an existing | | | | | | | |
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| Streamlined Standard Permit | O Change of Loca | ation | | | | | | | | | |
| 7b. Facility Permits: | Change of Loca | ation without Prior Approval * | | | | | | | | | |
| O Title V Application or Amendment (Also submit Form 500 | -A1) O Equipment Ope | erating with an Expired/Inactive I | Permit * | | | | | | | | |
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| 9. Description of Equipment or Reason for Compliance | Plan (list applicable rule): | 10. For Identical equipment | | | | | | | | | |
| SCR/Oxidation Catalyst | | | ubmitted with this applic each equipment / process) | ation? 11 | | | | | | | |
| | | | | ······································ | | | | | | | |
| 11. Are you a Small Business as per AQMD's Rule 102 de (10 employees or less and total gross receipts are | efinition? | | on (NOV) or a Notice to Jed for this equipment? | ● No ○ Yes | | | | | | | |
| \$500,000 or less <u>OR</u> a not-for-profit training center) | No O Yes | | Yes, provide NOV/NC#: | | | | | | | | |
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| <u>l rare</u> | Manager | | application process.) | ess.) • Yes | | | | | | | |
| 20. Print Name: | 21. Date: | 22 1 |)o you claim confidential | onfidentiality of | | | | | | | |

| 20. Print Name: Stephen O'Kane | | | | | | | | | Do you claim confidentia data? (If Yes, see instruct) | | () Yes |
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| South Coast Air Quality Management District | | | | Mail To: | | | | | | | |
|--|--|---|--|---|--|--|--|--|--|--|--|
| Form 400-A | | | | P.O. Box 4944 | | | | | | | |
| | Application Form for Permit or Plan Approval List only one piece of equipment or process per form. | | | | | | | | | | |
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| 1 | 90803 | | CA | 90803 | | | | | | | |
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| Contact Name Title | | Contact Name | Title | | | | | | | | |
| | 93-7737 | (562) 493-7840 | | .) 493-7737 | | | | | | | |
| Phone # Ext. Fax # Fax # E-Mail: stephen.okane@AES.com | | Phone # E-Mail: stephen.okane@ | Ext. Fax # | | | | | | | | |
| | | E-Mail: Stephen.okaneu | | | | | | | | | |
| Section D - Application Type | | | | | | | | | | | |
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| | | | This may cause a delay in t | he ONO | | | | | | | |
| <u>l rare</u> | Manager | | application process.) | ess.) • Yes | | | | | | | |
| 20. Print Name: | 21. Date: | 22 1 |)o you claim confidential | onfidentiality of | | | | | | | |

| 20. Print Name: Stephen O'Kane | | | | | | | | | Do you claim confidentia data? (If Yes, see instruct) | | () Yes |
|---|--|-------------|---------|-------|-------------------------|-----------------------|---|---------------------|---|------------|--------|
| 23. Check List: X Authorized Signature/Date | | | | | Date | Form 400-CEQA | Supplemental Form(s) (ie., Form 400-E-xx) | | | 🗙 Fees Enc | losed |
| AQMD USE ONLY | APPLI | CATION TRAC | CKING # | CHECK | # | AMOUNT RECEIVED \$ | PAYMENT TRACKING # | | | VALIDATION | |
| DATE | DATE APP DATE APP CLASS BASIC REJ REJ I III CONTROL | | | | EQUIPMENT CATEGORY CODE | TEAM | ENGINEER | REASON/ACTION TAKEN | | | |

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| South Coast Air Quality Management District | | | | Mail To: | | | | | | | |
|--|--|---|--|---|--|--|--|--|--|--|--|
| Form 400-A | | | | P.O. Box 4944 | | | | | | | |
| | Application Form for Permit or Plan Approval List only one piece of equipment or process per form. | | | | | | | | | | |
| AQMD List only one piece of equipment or process pe | r form. | | | Tel: (909) 396-3385 | | | | | | | |
| Section A - Operator Information | | | | www.aqmd.gov | | | | | | | |
| 1. Facility Name (Business Name of Operator to Appear on t | the Permit): | | 2 Valid A | QMD Facility ID (Available On | | | | | | | |
| | ne remily. | | | t Or Invoice Issued By AQMD): | | | | | | | |
| AES Alamitos, LLC | | | | - , | | | | | | | |
| 3. Owner's Business Name (If different from Business Name | e of Operator): | | | 115394 | | | | | | | |
| Section B - Equipment Location Address | | Section C - Permit Mailin | ng Address | | | | | | | | |
| 4. Equipment Location Is: Fixed Location | | 5. Permit and Corresponden | | | | | | | | | |
| (For equipment operated at various locations, provide | e address of initial site.) | Check here if same as | equipment location addres | S | | | | | | | |
| 690 N. Studebaker Road Street Address | | 690 N. Studebaker Ro | bad | | | | | | | | |
| 1 | 90803 | | CA | 90803 | | | | | | | |
| City 2 | Zip | Long Beach City | , <u>CA</u> State | | | | | | | | |
| Stephen O'Kane Manag | • | Stephen O'Kane | | ager | | | | | | | |
| Contact Name Title | | Contact Name | Title | | | | | | | | |
| | 93-7737 | (562) 493-7840 | | .) 493-7737 | | | | | | | |
| Phone # Ext. Fax # Fax # E-Mail: stephen.okane@AES.com | | Phone # E-Mail: stephen.okane@ | Ext. Fax # | | | | | | | | |
| | | E-Mail: Stephen.okaneu | | | | | | | | | |
| Section D - Application Type | | | | | | | | | | | |
| 6. The Facility Is: O Not In RECLAIM or Title | V O In RECLAIM | O In Title V 💿 | In RECLAIM & Title V Pro | ograms | | | | | | | |
| 7. Reason for Submitting Application (Select only ONE): | | | | | | | | | | | |
| 7a. New Equipment or Process Application: | 7c. Equipment or I | Process with an Existing/Previ | ous Application or Permi | | | | | | | | |
| New Construction (Permit to Construct) | O Administrative | Change | | | | | | | | | |
| O Equipment On-Site But Not Constructed or Operational | Alteration/Modi | fication | | Existing or Previous | | | | | | | |
| C Equipment Operating Without A Permit * | Alteration/Modi | fication without Prior Approval * | lf | Permit/Application | | | | | | | |
| O Compliance Plan | Change of Con | dition | | u checked any of the items in rou MUST provide an existing | | | | | | | |
| Registration/Certification | Change of Con | dition without Prior Approval * | | rmit or Application Number: | | | | | | | |
| Streamlined Standard Permit | O Change of Loca | ation | | | | | | | | | |
| 7b. Facility Permits: | and a second | ation without Prior Approval * | | | | | | | | | |
| O Title V Application or Amendment (Also submit Form 500 | -A1) O Equipment Ope | erating with an Expired/Inactive F | Permit * | | | | | | | | |
| O RECLAIM Facility Permit Amendment | | essing Fee and additional Annual Op | perating Fees (up to 3 full years | s) may apply (Rule 301(c)(1)(D)(i)). | | | | | | | |
| 8a. Estimated Start Date of Construction (mm/dd/yyyy): | 8b. Estimated End Date of (| and the second se | | of Operation (mm/dd/yyyy): | | | | | | | |
| 01/01/2016 | | 1/2027 | | 30/2019 | | | | | | | |
| 9. Description of Equipment or Reason for Compliance | Plan (list applicable rule): | 10. For Identical equipment | | | | | | | | | |
| SCR/Oxidation Catalyst | | | ubmitted with this applic each equipment / process) | ation? 11 | | | | | | | |
| | | | | ······································ | | | | | | | |
| 11. Are you a Small Business as per AQMD's Rule 102 de (10 employees or less and total gross receipts are | efinition? | | on (NOV) or a Notice to Jed for this equipment? | ● No ○ Yes | | | | | | | |
| \$500,000 or less <u>OR</u> a not-for-profit training center) | No O Yes | | Yes, provide NOV/NC#: | | | | | | | | |
| Section E - Facility Business Information | | | | | | | | | | | |
| 13. What type of business is being conducted at this equ | Ipment location? | 14. What is your business p | | 0011110 | | | | | | | |
| Electrical Power Generation | | (North American Industria | | 221112 | | | | | | | |
| 15. Are there other facilities in the SCAQMD jurisdiction operated by the same operator? | 🔿 No 💿 Yes | 16. Are there any schools (I 1000 feet of the facility | | O No Yes | | | | | | | |
| | | tained herein and information su | | | | | | | | | |
| 17. Signature of Responsible Official: | 18. Title of Responsit | and the second se | wish to review the permit | prior to issuance | | | | | | | |
| | | | This may cause a delay in t | he ONO | | | | | | | |
| <u>l rare</u> | Manager | | application process.) | ess.) • Yes | | | | | | | |
| 20. Print Name: | 21. Date: | 22 1 |)o you claim confidential | onfidentiality of | | | | | | | |

| 20. Print Name: Stephen O'Kane | | | | | | 21. Date: 12/20/2013 | | lity of ions.) | () Yes | | |
|---|------------|-----------------------|--------------------|----------------|-----------------|-------------------------|-------------|-----------------------------|---------------------|-------|--|
| 23. Check List: X Authorized Signature/Date | | | | Date | Form 400-CEQA | 🗙 Supj | plemental F | orm(s) (ie., Form 400-E-xx) | X Fees Enc | losed | |
| AOMD APPLICATION TRACKING # CHECK # | | AMOUNT RECEIVED \$ | PAYMENT TRACKING # | | | VALIDATION | | | | | |
| DATE | APP REJ | DATE | APP REJ | CLASS I III | BASIC CONTRO | EQUIPMENT CATEGORY CODE | TEAM | ENGINEER | REASON/ACTION TAKEN | | |

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| South Coast Air Quality Management District | | Mail To: | | | | |
|--|--|--|--|--|--|--|
| Form 400-A | | P.O. Box 4944 | | | | |
| Application Form for Peri | | Diamond Bar, CA 91765-0944 | | | | |
| List only one piece of equipment or process pe | | Tel: (909) 396-3385 | | | | |
| Section A - Operator Information | | | | www.aqmd.gov | | |
| 1. Facility Name (Business Name of Operator to Appear on t | the Permit): | | 2 Valid A | AQMD Facility ID (Available On | | |
| | | t Or Invoice Issued By AQMD): | | | | |
| AES Alamitos, LLC | | . , | | | | |
| 3. Owner's Business Name (If different from Business Name | | 115394 | | | | |
| Section B - Equipment Location Address | ng Address | | | | | |
| 4. Equipment Location Is: Fixed Location | | 5. Permit and Corresponden | | | | |
| (For equipment operated at various locations, provide | e address of initial site.) | Check here if same as | equipment location addres | is is | | |
| 690 N. Studebaker Road Street Address | | 690 N. Studebaker Ro | bad | | | |
| 1 | 90803 | | C 4 | 90803 | | |
| City 2 | Zip | Long Beach City | , <u>CA</u> State | | | |
| Stephen O'Kane Manag | • | Stephen O'Kane | | nager | | |
| Contact Name Title | | Contact Name | Title | | | |
| | 93-7737 | (562) 493-7840 | | 2) 493-7737 | | |
| Phone # Ext. Fax # Fax # E-Mail: stephen.okane@AES.com | | Phone # E-Mail: stephen.okane@ | Ext. Fax# | | | |
| | | E-Mail: Stephen.okaneta | | | | |
| Section D - Application Type | | | | | | |
| 6. The Facility Is: O Not In RECLAIM or Title | V O In RECLAIM | O In Title V 💿 | In RECLAIM & Title V Pro | ograms | | |
| 7. Reason for Submitting Application (Select only ONE): | | | | | | |
| 7a. New Equipment or Process Application: | 7c. Equipment or I | Process with an Existing/Previ | ous Application or Permi | t: | | |
| New Construction (Permit to Construct) | O Administrative | Change | | | | |
| O Equipment On-Site But Not Constructed or Operational | Alteration/Modi | fication | | Existing or Previous | | |
| C Equipment Operating Without A Permit * | Alteration/Modi | fication without Prior Approval * | الأسم | Permit/Application If you checked any of the items in | | |
| O Compliance Plan | Change of Con | dition | | 7c., you MUST provide an existing | | |
| Registration/Certification | Change of Con | dition without Prior Approval * | | Permit or Application Number: | | |
| Streamlined Standard Permit | O Change of Loca | ation | | | | |
| 7b. Facility Permits: | and a second | ation without Prior Approval * | | | | |
| O Title V Application or Amendment (Also submit Form 500 | -A1) O Equipment Ope | erating with an Expired/Inactive F | Permit * | | | |
| O RECLAIM Facility Permit Amendment | | essing Fee and additional Annual Op | erating Fees (up to 3 full years | s) may apply (Rule 301(c)(1)(D)(i)). | | |
| 8a. Estimated Start Date of Construction (mm/dd/yyyy): | 8b. Estimated End Date of (| | | of Operation (mm/dd/yyyy): | | |
| 01/01/2016 | | 1/2027 | | 30/2019 | | |
| 9. Description of Equipment or Reason for Compliance | Plan (list applicable rule): | 10. For Identical equipment, | | | | |
| SCR/Oxidation Catalyst | | applications are being s (Form 400-A required for (| | | | |
| | | | | | | |
| 11. Are you a Small Business as per AQMD's Rule 102 de (10 employees or less and total gross receipts are | efinition? | 12. Has a Notice of Violatio | on (NOV) or a Notice to led for this equipment? | No ○ Yes Yes | | |
| \$500,000 or less <u>OR</u> a not-for-profit training center) | No O Yes | | Yes, provide NOV/NC#: | | | |
| Section E - Facility Business Information | | | | | | |
| 13. What type of business is being conducted at this equ | Ipment location? | 14. What is your business p | | 001111 | | |
| Electrical Power Generation | | (North American Industria | | 221112 | | |
| 15. Are there other facilities in the SCAQMD jurisdiction operated by the same operator? | 🔿 No 💿 Yes | 16. Are there any schools (1000 feet of the facility p | | 🔿 No 💿 Yes | | |
| | | tained herein and information su | | | | |
| 17. Signature of Responsible Official: | 18. Title of Responsit | | wish to review the permit | prior to jesuance | | |
| | | | his may cause a delay in t | the ONO | | |
| <u>l rare</u> | Manager | | application process.) | • Yes | | |
| 20. Print Name: | 21. Date: | 22 Г | o you claim confidential | ity of | | |

| 20. Print Name: Stephen O'Kane | | | | | | 21. Date: 12/20/2013 | | lity of ions.) | () Yes | | |
|---|------------|-----------------------|--------------------|----------------|-----------------|-------------------------|-------------|-----------------------------|---------------------|-------|--|
| 23. Check List: X Authorized Signature/Date | | | | Date | Form 400-CEQA | 🗙 Supj | plemental F | orm(s) (ie., Form 400-E-xx) | X Fees Enc | losed | |
| AOMD APPLICATION TRACKING # CHECK # | | AMOUNT RECEIVED \$ | PAYMENT TRACKING # | | | VALIDATION | | | | | |
| DATE | APP REJ | DATE | APP REJ | CLASS I III | BASIC CONTRO | EQUIPMENT CATEGORY CODE | TEAM | ENGINEER | REASON/ACTION TAKEN | | |

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| 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 A 91765-0944 009) 396-3385 ww.aqmd.gov |
|--|-------------------------|---|--------------|--|---|----------------------|-------------------------|---|
| Section A - Operator Information | | | - Aren ar | e letter a | la calendaria de la calendaria | | New Providence | ww.aqma.gov |
| 1. Facility Name (Business Name of Operator to Appear on the Perm | it): | | | 210200 and 1 | | 2. Valid A | QMD Facility ID (A | vailable On |
| AES Alamitos, LLC | | | | | | | Or Invoice Issued E | |
| 3. Owner's Business Name (If different from Business Name of Oper | rator): | | | | | | 115394 | |
| Section B - Equipment Location Address | | Sectio | on C - P | ermit M | ailing Address | | a manager and the state | and The area |
| | Various Location | Bisco | | | ndence Information | | And the second state | |
| (For equipment operated at various locations, provide address | | X | Check he | ere if san | ne as equipment loca | tion addres | s | |
| 690 N. Studebaker Road | | | N. Stud | lebake | r Road | | | |
| Street Address | | Addres | - | | | ~ . | | |
| Long Beach , CA 90803 Zip | | Long City | Beach | 1 | | , <u>CA</u> State | | |
| Stephen O'Kane Manager | | | hen O' | Kane | | Man | | |
| Contact Name Title | | | t Name | | | Title | | |
| (562) 493-7840 (562) 493-773 | 37 | (562 |) 493-7 # | 840 | | (562 |) 493-7737 | |
| Phone # Ext. Fax # | | 1 | | | Ext. | Fax# | | |
| E-Mail: stephen.okane@AES.com | | E-Mail: | stepne | en.oka | ne@AES.com | | | |
| Section D - Application Type | And State of the | | | | | | | 199 |
| 6. The Facility Is: O Not In RECLAIM or Title V | O In RECLAIM | C |) in Title | V | In RECLAIM 8 | Title V Pro | ograms | |
| 7. Reason for Submitting Application (Select only ONE): | | | | | | | | |
| 7a. New Equipment or Process Application: | 7c. Equipment or F | rocess | with an E | xisting/ | Previous Applicatio | n or Permit | : | |
| New Construction (Permit to Construct) | O Administrative | Change | | | | · | | |
| O Equipment On-Site But Not Constructed or Operational | Alteration/Modif | ification Existing or Previous | | | | | | |
| Equipment Operating Without A Permit * | O Alteration/Modif | fication v | vithout Pri | or Appro | val * | | Permit/Application | |
| O Compliance Plan | Change of Con | | | | | | u checked any of the | |
| Registration/Certification | U | ndition without Prior Approval * 7c., you MUST provide an existing Permit or Application Number: | | | | | | |
| O Streamlined Standard Permit | O Change of Loca | | | | | | | |
| 7h Englithe Downites | | ation without Prior Approval * | | | | | | |
| 7b. Facility Permits: | | perating with an Expired/Inactive Permit * | | | | | | |
| O Title V Application or Amendment (Also submit Form 500-A1) | * A Higher Permit Proc | - | | | | فم 2 أنبأ | have each /Dute 204 | (-)(()(D)(()) |
| RECLAIM Facility Permit Amendment 8a. Estimated Start Date of Construction (mm/dd/yyyy): 8b. Esti | imated End Date of C | | | | | State of the state | | |
| 01/01/2016 | | Construction (mm/dd/yyyy): 8c. Estimated Start Date of Operation (mm/dd/yyyy): 05/2027 06/30/2019 | | | | | JQ/YYYY): | |
| 9. Description of Equipment or Reason for Compliance Plan (lis | t applicable rule): | | | | nent, how many ad | ditional | | |
| 19% Aqueous Ammonia Tanks | | | | | ing submitted with d for each equipmen | | | 1 |
| | | · · | | | | . , | | |
| Are you a Small Business as per AQMD's Rule 102 definition (10 employees or less and total gross receipts are | (| | | | olation (NOV) or a l | | 💿 No | O Yes |
| \$500,000 or less <u>OR</u> a not-for-profit training center) | No O Yes | | | , | If Yes, provide N | | | |
| Section E - Facility Business Information | Contract States | | en en | · · · · | | - Anne - P | Salaria Canada a la | |
| 13. What type of business is being conducted at this equipment | location? | 14. What is your business primary NAICS Code? (North American Industrial Classification System) 221112 | | | | | | |
| Electrical Power Generation | | <u> </u> | | | | System) | 221 | 112 |
| 15. Are there other facilities in the SCAQMD jurisdiction operated by the same operator? | | 10 |)00 feet o | f the fac | ols (K-12) within ility property line? | | O No | Yes |
| | hat all information con | ACCOUNT OF A | | | | | | ct. |
| 17. Signature of Responsible Official: | ole Offici | ial: | | I wish to review (This may cause application procession) | a delay in t | | ○ No ⊚ Yes | |
| 20. Print Name: 2 Stephen O'Kane 2 | 1. Date: 12/20/20 | 13 | | | 22. Do you claim co data? (If Yes, s | onfidentiali | | O Yes |
| | Form 400-CEQA | | C Supple | montal | Form(s) (ie., Form 4 | | Fees Encl | |
| AOMD APPLICATION TRACKING # CHECK # AMOU | INT RECEIVED | | PAYMEN | | | ···· | VALIDATION | |
| USE ONLY \$ | QUIPMENT CATEGORY | CODE | TEAM E | NGINEE | R REASON/ACTION | TAKEN | | |
| REJ REJ I III CONTROL | | | | | | | | |

| 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 A 91765-0944 009) 396-3385 ww.aqmd.gov |
|--|-------------------------|---|--------------|--|---|----------------------|-------------------------|---|
| Section A - Operator Information | | | - Aren ar | e letter a | la calendaria de la calendaria | | New Providence | ww.aqma.gov |
| 1. Facility Name (Business Name of Operator to Appear on the Perm | it): | | | 210200 million | | 2. Valid A | QMD Facility ID (A | vailable On |
| AES Alamitos, LLC | | | | | | | Or Invoice Issued E | |
| 3. Owner's Business Name (If different from Business Name of Oper | rator): | | | | | | 115394 | |
| Section B - Equipment Location Address | | Sectio | on C - P | ermit M | lailing Address | | a manager and the state | and The second |
| | Various Location | Bisco | | | ndence Information | : | And the second state | |
| (For equipment operated at various locations, provide address | | X | Check he | ere if san | ne as equipment loca | tion addres | s | |
| 690 N. Studebaker Road | | | N. Stud | lebake | r Road | | | |
| Street Address | | Addres | - | | | ~ . | | |
| Long Beach , CA 90803 Zip | | Long City | Beach | 1 | | , <u>CA</u> State | | |
| Stephen O'Kane Manager | | | hen O' | Kane | | Man | | |
| Contact Name Title | | | t Name | | | Title | | |
| (562) 493-7840 (562) 493-773 | 37 | (562 |) 493-7 # | 840 | | (562 |) 493-7737 | |
| Phone # Ext. Fax # | | 1 | | | Ext. | Fax# | | |
| E-Mail: stephen.okane@AES.com | | E-Mail: | stepne | en.oka | ne@AES.com | | | |
| Section D - Application Type | And State of the | | | | | | | 199 |
| 6. The Facility Is: O Not In RECLAIM or Title V | O In RECLAIM | C |) in Title | V | In RECLAIM 8 | Title V Pro | ograms | |
| 7. Reason for Submitting Application (Select only ONE): | | | | | | | | |
| 7a. New Equipment or Process Application: | 7c. Equipment or F | rocess | with an E | xisting/ | Previous Applicatio | n or Permit | : | |
| New Construction (Permit to Construct) | O Administrative | Change | | | | · | | |
| O Equipment On-Site But Not Constructed or Operational | Alteration/Modif | ification Existing or Previous | | | | | | |
| Equipment Operating Without A Permit * | O Alteration/Modif | fication v | vithout Pri | or Appro | val * | | Permit/Application | |
| O Compliance Plan | Change of Con | | | | | | u checked any of the | |
| Registration/Certification | U | ndition without Prior Approval * 7c., you MUST provide an existing Permit or Application Number: | | | | | | |
| O Streamlined Standard Permit | O Change of Loca | | | | | | | |
| 7h Englithe Downites | | ation without Prior Approval * | | | | | | |
| 7b. Facility Permits: | | perating with an Expired/Inactive Permit * | | | | | | |
| O Title V Application or Amendment (Also submit Form 500-A1) | * A Higher Permit Proc | - | | | | فم 2 أنبأ | have each /Dute 204 | (-)(()(D)(()) |
| RECLAIM Facility Permit Amendment 8a. Estimated Start Date of Construction (mm/dd/yyyy): 8b. Esti | imated End Date of C | | | | | State of the state | | |
| 01/01/2016 | | Construction (mm/dd/yyyy): 8c. Estimated Start Date of Operation (mm/dd/yyyy): 05/2027 06/30/2019 | | | | | JQ/YYYY): | |
| 9. Description of Equipment or Reason for Compliance Plan (lis | t applicable rule): | | | | nent, how many ad | ditional | | |
| 19% Aqueous Ammonia Tanks | | | | | ing submitted with d for each equipmen | | | 1 |
| | | · · | | | | . , | | |
| Are you a Small Business as per AQMD's Rule 102 definition (10 employees or less and total gross receipts are | (| | | | olation (NOV) or a l | | 💿 No | O Yes |
| \$500,000 or less <u>OR</u> a not-for-profit training center) | No O Yes | | | , | If Yes, provide N | | | |
| Section E - Facility Business Information | Contract States | | en en | · · · · | | - Annos | Salaria Canada a la | |
| 13. What type of business is being conducted at this equipment | location? | 14. What is your business primary NAICS Code? (North American Industrial Classification System) 221112 | | | | | | |
| Electrical Power Generation | | <u> </u> | | | | System) | 221 | 112 |
| 15. Are there other facilities in the SCAQMD jurisdiction operated by the same operator? | | 10 |)00 feet o | f the fac | ols (K-12) within ility property line? | | O No | Yes |
| | hat all information con | ACCOUNT OF A | | | | | | ct. |
| 17. Signature of Responsible Official: | ole Offici | ial: | | I wish to review (This may cause application procession) | a delay in t | | ○ No ⊚ Yes | |
| 20. Print Name: 2 Stephen O'Kane 2 | 1. Date: 12/20/20 | 13 | | | 22. Do you claim co data? (If Yes, s | onfidentiali | | O Yes |
| | Form 400-CEQA | | C Supple | montal | Form(s) (ie., Form 4 | | Fees Encl | |
| AOMD APPLICATION TRACKING # CHECK # AMOU | INT RECEIVED | | PAYMEN | | | ···· | VALIDATION | |
| USE ONLY \$ | QUIPMENT CATEGORY | CODE | TEAM E | NGINEE | R REASON/ACTION | TAKEN | | |
| REJ REJ I III CONTROL | | | | | | | | |

| South Coast Air Quality Management District Form 400-A Application Form for Permit or Plan App List only one piece of equipment or process per form. | Diamond Bar, CA 9 | | | | | | |
|--|---|----------------------------------|--|--|--|--|--|
| AQMD | |) 396-3389 .aq m d.gov | | | | | |
| Section A - Operator Information | | | | | | | |
| 1. Facility Name (Business Name of Operator to Appear on the Permit): | 2. Valid AQMD Facility ID (Avail | lable On | | | | | |
| AES Alamitos, LLC | Permit Or Invoice Issued By / | AQMD): | | | | | |
| 3. Owner's Business Name (If different from Business Name of Operator): | 115394 | | | | | | |
| Section B - Equipment Location Address | Section C - Permit Mailing Address | | | | | | |
| Equipment Location Is: Fixed Location Overlap Various Location (For equipment operated at various locations, provide address of initial site.) | n 5. Permit and Correspondence Information: | | | | | | |
| 690 N. Studebaker Road Street Address | 690 N. Studebaker Road | | | | | | |
| Long Beach , CA 90803 | Long Beach , CA 90803 | | | | | | |
| City Zip | City State Zip | | | | | | |
| Stephen O'Kane Manager Contact Name Title | Stephen O'Kane Manager Contact Name Title | | | | | | |
| (562) 493-7840 (562) 493-7737 | (562) 493-7840 (562) 493-7737 | | | | | | |
| Phone # Ext. Fax # | Phone # Ext. Fax # | | | | | | |
| E-Mail: stephen.okane@AES.com | E-Mail: stephen.okane@AES.com | | | | | | |
| Section D - Application Type | | | | | | | |
| 6. The Facility Is: O Not In RECLAIM or Title V O In RECLAIM | In Title V 💿 In RECLAIM & Title V Programs | | | | | | |
| 7. Reason for Submitting Application (Select only ONE): | | - | | | | | |
| 7a. New Equipment or Process Application: 7c. Equipment o | or Process with an Existing/Previous Application or Permit: | - | | | | | |
| New Construction (Permit to Construct) Administrativ | ve Change | | | | | | |
| Equipment On-Site But Not Constructed or Operational Alteration/Mo | Dification Existing or Previous | | | | | | |
| | lification without Prior Approval * | | | | | | |
| O Compliance Plan | If you checked any of the ite | | | | | | |
| | ondition without Prior Approval * 7c., you MUST provide an existing Permit or Application Number: | | | | | | |
| Streamlined Standard Permit Change of Lo | | | | | | | |
| | cation without Prior Approval * | | | | | | |
| O Equipment (| Dperating with an Expired/Inactive Permit * | | | | | | |
| Title V Application or Amendment (Also submit Form 500-A1) | rocessing Fee and additional Annual Operating Fees (up to 3 full years) may apply (Rule 301(c)(| 1)/DV/av | | | | | |
| | | (1977) - C. (1977) | | | | | |
| 01/01/2016 07/ | of Construction (mm/dd/yyyy): 8c. Estimated Start Date of Operation (mm/dd/y31/2027 06/30/2019 | уууу): | | | | | |
| 9. Description of Equipment or Reason for Compliance Plan (list applicable rule): Oil/Water Separators | 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 | | O Yes | | | | | |
| \$500,000 or less <u>OR</u> a not-for-profit training center) No Yes | If Yes, provide NOV/NC#: | | | | | | |
| Section E - Facility Business Information | | - AS CALL | | | | | |
| 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) 22111 | 2 | | | | | |
| 15. Are there other facilities in the SCAQMD jurisdiction operated by the same operator? O No O Yes | Tood teer of the racinty property line r | • Yes | | | | | |
| | contained herein and information submitted with this application are true and correct. | 2. 1. 1. 1. | | | | | |
| 17. Signature of Responsible Official: 18. Title of Respons Manager | (This may cause a delay in the | O No ⊙ Yes | | | | | |
| 20. Print Name:21. Date:Stephen O'Kane12/20/2 | 2013 22. Do you claim confidentiality of data? (If Yes, see instructions.) So No | () Yes | | | | | |
| 23. Check List: X Authorized Signature/Date X Form 400-CEQA | | ed | | | | | |
| AOMD APPLICATION TRACKING # CHECK # AMOUNT RECEIVED \$ | PAYMENT TRACKING # VALIDATION | | | | | | |
| DATE APP DATE APP CLASS BASIC EQUIPMENT CATEGO REJ REJ I III CONTROL | RY CODE TEAM ENGINEER REASON/ACTION TAKEN | | | | | | |

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| South Coast Air Quality Management District Form 400-A Application Form for Permit or Plan App List only one piece of equipment or process per form. | Diamond Bar, CA 9 | | | | | | |
|--|---|----------------------------------|--|--|--|--|--|
| AQMD | |) 396-3389 .aq m d.gov | | | | | |
| Section A - Operator Information | | | | | | | |
| 1. Facility Name (Business Name of Operator to Appear on the Permit): | 2. Valid AQMD Facility ID (Avail | lable On | | | | | |
| AES Alamitos, LLC | Permit Or Invoice Issued By / | AQMD): | | | | | |
| 3. Owner's Business Name (If different from Business Name of Operator): | 115394 | | | | | | |
| Section B - Equipment Location Address | Section C - Permit Mailing Address | | | | | | |
| Equipment Location Is: Fixed Location Overlap Various Location (For equipment operated at various locations, provide address of initial site.) | n 5. Permit and Correspondence Information: | | | | | | |
| 690 N. Studebaker Road Street Address | 690 N. Studebaker Road | | | | | | |
| Long Beach , CA 90803 | Long Beach , CA 90803 | | | | | | |
| City Zip | City State Zip | | | | | | |
| Stephen O'Kane Manager Contact Name Title | Stephen O'Kane Manager Contact Name Title | | | | | | |
| (562) 493-7840 (562) 493-7737 | (562) 493-7840 (562) 493-7737 | | | | | | |
| Phone # Ext. Fax # | Phone # Ext. Fax # | | | | | | |
| E-Mail: stephen.okane@AES.com | E-Mail: stephen.okane@AES.com | | | | | | |
| Section D - Application Type | | | | | | | |
| 6. The Facility Is: O Not In RECLAIM or Title V O In RECLAIM | In Title V 💿 In RECLAIM & Title V Programs | | | | | | |
| 7. Reason for Submitting Application (Select only ONE): | | - | | | | | |
| 7a. New Equipment or Process Application: 7c. Equipment o | or Process with an Existing/Previous Application or Permit: | - | | | | | |
| New Construction (Permit to Construct) Administrativ | ve Change | | | | | | |
| Equipment On-Site But Not Constructed or Operational Alteration/Mo | Dification Existing or Previous | | | | | | |
| | lification without Prior Approval * | | | | | | |
| O Compliance Plan | If you checked any of the ite | | | | | | |
| | ondition without Prior Approval * 7c., you MUST provide an existing Permit or Application Number: | | | | | | |
| Streamlined Standard Permit Change of Lo | | | | | | | |
| | cation without Prior Approval * | | | | | | |
| O Equipment (| Dperating with an Expired/Inactive Permit * | | | | | | |
| Title V Application or Amendment (Also submit Form 500-A1) | rocessing Fee and additional Annual Operating Fees (up to 3 full years) may apply (Rule 301(c)(| 1)/DV/av | | | | | |
| | | (1977) - C. (1977) | | | | | |
| 01/01/2016 07/ | of Construction (mm/dd/yyyy): 8c. Estimated Start Date of Operation (mm/dd/y31/2027 06/30/2019 | уууу): | | | | | |
| 9. Description of Equipment or Reason for Compliance Plan (list applicable rule): Oil/Water Separators | 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 | | O Yes | | | | | |
| \$500,000 or less <u>OR</u> a not-for-profit training center) No Yes | If Yes, provide NOV/NC#: | | | | | | |
| Section E - Facility Business Information | | - AS CALL | | | | | |
| 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) 22111 | 2 | | | | | |
| 15. Are there other facilities in the SCAQMD jurisdiction operated by the same operator? O No O Yes | Tood teer of the racinty property line r | • Yes | | | | | |
| | contained herein and information submitted with this application are true and correct. | 2. 1. 1. 1. | | | | | |
| 17. Signature of Responsible Official: 18. Title of Respons Manager | (This may cause a delay in the | O No ⊙ Yes | | | | | |
| 20. Print Name:21. Date:Stephen O'Kane12/20/2 | 2013 22. Do you claim confidentiality of data? (If Yes, see instructions.) So No | () Yes | | | | | |
| 23. Check List: X Authorized Signature/Date X Form 400-CEQA | | ed | | | | | |
| AOMD APPLICATION TRACKING # CHECK # AMOUNT RECEIVED \$ | PAYMENT TRACKING # VALIDATION | | | | | | |
| DATE APP DATE APP CLASS BASIC EQUIPMENT CATEGO REJ REJ I III CONTROL | RY CODE TEAM ENGINEER REASON/ACTION TAKEN | | | | | | |

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| South Coast Air Quality Management District Form 400-A Application Form for Permit or Plan App List only one piece of equipment or process per form. | | | | | | |
|--|---|--|--|--|--|--|
| AQMD | Tel: (909) 396- www.aqm | | | | | |
| Section A - Operator Information | | | | | | |
| 1. Facility Name (Business Name of Operator to Appear on the Permit): | 2. Valid AQMD Facility ID (Available (| | | | | |
| AES Alamitos, LLC | Permit Or Invoice Issued By AQME | | | | | |
| 3. Owner's Business Name (If different from Business Name of Operator): | 115394 | | | | | |
| Section B - Equipment Location Address | Section C - Permit Mailing Address | | | | | |
| Equipment Location Is: Fixed Location Overlap Various Location (For equipment operated at various locations, provide address of initial site.) | n 5. Permit and Correspondence Information: | | | | | |
| 690 N. Studebaker Road Street Address | 690 N. Studebaker Road | | | | | |
| Long Beach , CA 90803 | Long Beach , CA 90803 | | | | | |
| City Zip | City State Zip | | | | | |
| Stephen O'Kane Manager Contact Name Title | Stephen O'Kane Manager Contact Name Title | | | | | |
| (562) 493-7840 (562) 493-7737 | (562) 493-7840 (562) 493-7737 | | | | | |
| Phone # Ext. Fax # | Phone # Ext. Fax # | | | | | |
| E-Mail: stephen.okane@AES.com | E-Mail: stephen.okane@AES.com | | | | | |
| Section D - Application Type | | | | | | |
| 6. The Facility Is: O Not In RECLAIM or Title V O In RECLAIM | O In Title V 💿 In RECLAIM & Title V Programs | | | | | |
| 7. Reason for Submitting Application (Select only ONE): | | | | | | |
| 7a. New Equipment or Process Application: 7c. Equipment o | r Process with an Existing/Previous Application or Permit: | | | | | |
| New Construction (Permit to Construct) Administrativ | ve Change | | | | | |
| Equipment On-Site But Not Constructed or Operational Alteration/Mo | Evicting on Providence | | | | | |
| | dification without Prior Approval * | | | | | |
| Compliance Plan | If you checked any of the items in | | | | | |
| | ondition without Prior Approval * 7c., you MUST provide an existing Permit or Application Number: | | | | | |
| Streamlined Standard Permit Change of Lo | | | | | | |
| | ocation without Prior Approval * | | | | | |
| O Equipment (| perating with an Expired/Inactive Permit * | | | | | |
| U Title V Application or Amendment (Also submit Form 500-A1) | | | | | | |
| | rocessing Fee and additional Annual Operating Fees (up to 3 full years) may apply (Rule 301(c)(1)(D)(i) | | | | | |
| 01/01/2016 07/ | of Construction (mm/dd/yyyy): 8c. Estimated Start Date of Operation (mm/dd/yyyy): /31/2027 06/30/2019 | | | | | |
| 9. Description of Equipment or Reason for Compliance Plan (list applicable rule): Oil/Water Separators | 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 <u>OR</u> a not-for-profit training center) Image: No or less OR is a not-for-profit training center is a not-for-for-profit training center is a not-for-for-profit training center is a not-for-for-for-for-for-for-for-for-for-for | 12. Has a Notice of Violation (NOV) or a Notice to Comply (NC) been issued for this equipment? 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? O No O Yes | 16. Are there any schools (K-12) within 1000 feet of the facility property line? O No O Y | | | | | |
| Section F - Authorization/Signature / hereby certify that all information c | contained herein and information submitted with this application are true and correct. | | | | | |
| 17. Signature of Responsible Official: 18. Title of Responsible Official: Manager | sible Official: 19. I wish to review the permit prior to issuance. (This may cause a delay in the application process.) | | | | | |
| 20. Print Name:21. Date:Stephen O'Kane12/20/2 | 22. Do you claim confidentiality of | | | | | |
| 23. Check List: X Authorized Signature/Date X Form 400-CEQA | | | | | | |
| AQMD APPLICATION TRACKING # CHECK # AMOUNT RECEIVED \$ | PAYMENT TRACKING # VALIDATION | | | | | |
| DATE APP DATE APP CLASS BASIC EQUIPMENT CATEGO REJ REJ I III CONTROL | RY CODE TEAM ENGINEER REASON/ACTION TAKEN | | | | | |

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South Coast Air Quality Management District

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.agmd.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 project¹ has the potential to generate significant adverse environmental impacts that might require preparation of a CEQA document [CEQA Guidelines §15060(a)].² Refer to the attached instructions for guidance in completing this form.³ For each Form 400-A application, also complete and submit one Form 400-CEQA. If submitting multiple Form 400-A applications for the same project at the same time, only one 400-CEQA form is necessary for the entire project. If you need assistance completing this form, contact Permit Services at (909) 396-3385 or (909) 396-2668.

| Section A - Facility Information | |
|---|--|
| 1. Facility Name (Business Name of Operator To Appear On The Permit): | 2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued |
| AES Alamitos, LLC | By AQMD): 115394 |

3. Project Description:

1,936 MW Natural Gas-Fired Combined Cycle Facility

| Check | "Yes" o | r "No" a | as applicable | | | | | |
|--------|---|----------|--|--|--|--|--|--|
| | Yes | No | Is this application for: | | | | | |
| 1. | ۲ | 0 | A CEQA and/or NEPA document previously or currently prepared that specifically evaluates this project? If yes, attach a copy of the signed Notice of Determination to this form. | | | | | |
| 2. | 0 | ۲ | A request for a change of permittee only (without equipment modifications)? | | | | | |
| 3. | 0 | ۲ | A functionally identical permit unit replacement with no increase in rating or emissions? | | | | | |
| 4. | 0 | ۲ | A change of daily VOC permit limit to a monthly VOC permit limit? | | | | | |
| 5. | 0 | ۲ | Equipment damaged as a result of a disaster during state of emergency? | | | | | |
| 6. | 0 | ۲ | A Title V (i.e., Regulation XXX) permit renewal (without equipment modifications)? | | | | | |
| 7. | ۲ | 0 | A Title V administrative permit revision? | | | | | |
| 8. | 8. O The conversion of an existing permit into an initial Title V permit? | | | | | | | |
| | | | r any question in Section B, your application does not require additional evaluation for CEQA applicability. Skip to Section D - Signatures on date this form. | | | | | |
| Sectio | on C - I | Review | of Impacts Which May Trigger CEQA | | | | | |
| | lete Par tach it to | | by checking "Yes" or "No" as applicable. To avoid delays in processing your application(s), explain all "Yes" responses on a separate sheet orm. | | | | | |
| | Yes | No | Part I - General | | | | | |
| 1. | 0 | 0 | Has this project generated any known public controversy regarding potential adverse impacts that may be generated by the project? Controversy may be construed as concerns raised by local groups at public meetings; adverse media attention such as negative articles in newspapers or other periodical publications, local news programs, environmental justice issues, etc. | | | | | |
| 2. | 0 | 0 | Is this project part of a larger project? If yes, attach a separate sheet to briefly describe the larger project. | | | | | |
| ••••• | · | | Part II - Air Quality | | | | | |

| | | | Part II - Air Quality |
|----|---|---|--|
| 3. | 0 | 0 | Will there be any demolition, excavating, and/or grading construction activities that encompass an area exceeding 20,000 square feet? |
| 4. | 0 | 0 | Does this project include the open outdoor storage of dry bulk solid materials that could generate dust? If Yes, include a plot plan with the application package. |

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

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| Sectio | Section C - Review of Impacts Which May Trigger CEQA (cont.) | | | | | | | | | | |
|---------------------|--|-------------------|--|---|--|--|--|--|--|--|--|
| [| Yes | No | Part II - Air Quality | r (cont.) | | | | | | | |
| 5. | 0 | 0 | For example, comp | build this project result in noticeable off-site odors from activities that may not be subject to SCAQMD permit requirements? r example, compost materials or other types of greenwaste (i.e., lawn clippings, tree trimmings, etc.) have the potential to generate odor mplaints subject to Rule 402 – Nuisance. | | | | | | | |
| 6. | 0 | 0 | | | marine vessels, trains and/or airplanes? | | | | | | |
| 7. | 0 | 0 | | II the proposed project increase the QUANTITY of hazardous materials stored aboveground onsite or transported by mobile hicle to or from the site by greater than or equal to the amounts associated with each compound on the attached Table 1? ⁴ | | | | | | | |
| | | | Part III - Water Re | sources | | | | | | | |
| 8. | 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. | 0 | 0 | Examples of such p | II the project require construction of new water conveyance infrastructure? amples of such projects are when water demands exceed the capacity of the local water purveyor to supply sufficient water for the oject, or require new or modified sewage treatment facilities such that the project requires new water lines, sewage lines, sewage hook- s, etc. | | | | | | | |
| | | | Part IV - Transpor | tation/Circulation | | | | | | | |
| 10. | | | Will the project res | sult in (Check all that apply): | | | | | | | |
| | 0 | 0 | | pre than 350 new employees? | | | | | | | |
| | 0 | 0 | | | nd/or from the facility by more than 350 truck round-trips per day? | | | | | | |
| | 0 | 0 | c. increase custor | mer traffic by more than 700 visits pe | r day? | | | | | | |
| | | | Part V - Noise | | | | | | | | |
| 11. | 0 | 0 | Will the project inc | clude equipment that will generate no | ise GREATER THAN 90 decibels (dB) at the property line? | | | | | | |
| | | | Part VI - Public Se | rvices | and the second | | | | | | |
| 12. | | C. Y.M. | Will the project create a permanent need for new or additional public services in any of the following areas (Check all that apply): | | | | | | | | |
| | 0 | 0 | | | ential amount of wastes generated by the project is less than five tons per day. | | | | | | |
| | 0 | 0 | cubic yards per day | (or equivalent in pounds). | ed potential amount of hazardous wastes generated by the project is less than 42 | | | | | | |
| **REM | INDER: / | For each | "Yes" response in Sect | tion C, attach all pertinent information includi | ng but not limited to estimated quantities, volumes, weights, etc.** | | | | | | |
| State Street Street | on D - 3 | The second second | the state of the second st | | | | | | | | |
| CORR RIGH | ECT TO | o the i | BEST OF MY KNOW | RMATION CONTAINED HEREIN AN VLEDGE. 1 UNDERSTAND THAT THIS INT INFORMATION IN DETERMINING | ID INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND S FORM IS A SCREENING TOOL AND THAT THE SCAQMD RESERVES THE CEQA APPLICABILITY. | | | | | | |
| 1. Sign | ature of | Respor | sible Official of Firm: | , | 2. Title of Responsible Official of Firm: | | | | | | |
| | | | Na | e, | Manager | | | | | | |
| 3. Prin | t Name o | of Respo | onsible Official of Firm | | 4. Date Signed: | | | | | | |
| Ste | ephen | O'Ka | ine | | 12/20/2013 | | | | | | |
| 5. Pho | ne # of F | Respons | ible Official of Firm: | 6. Fax # of Responsible Official of Firm: | 7. Email of Responsible Official of Firm: | | | | | | |
| (56 | 62) 49 | 3-784 | 10 | (562) 493-7737 | stephen.okane@AES.com | | | | | | |
| 8. Sign | ature of | Prepare | er, (if prepared by perso | on other than responsible official of firm): | 9. Title of Preparer: | | | | | | |
| 10. Pri | nt Name | of Prep | arer: | | 11. Date Signed: | | | | | | |
| Sa | me as | s abov | /e. | | | | | | | | |
| 12. Ph | one # of | Prepare | er: | 13. Fax # of Preparer: | 14. Email of Preparer: | | | | | | |
| | | | | | | | | | | | |

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

| | | , | | | |
|-----------|-----------------------------------|------------------------------|----------------------------|-------------------------------|--------------------------|
| 4 | | | | | |
| T Lable 1 | - Regulated Substances List and | threshold (Juantities for Ac | ridental Release Preventic | on can be found in the Instru | ctions for Form 100_CEOA |
| T GIDIO | i togulatod odbotalioco Elot alia | Anoshola adamitico for Ao | | an can be found in the man | |

| Form 400 Selective Oxidatio | Quality Management District Mail To D-E-5 SCAQME P Catalytic Reduction (SCR) System, P.O. Box 4944 Diamond Bar, CA 91765-0944 Diamond Bar, CA 91765-0944 be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Tel: (909) 396-338: | | | | | | | |
|---|--|--|--|--|--|--|--|--|
| Section A - Operato | r Information | | | | | | | |
| Facility Name (Business Nam | Facility Name (Business Name of Operator That Appears On Permit): Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): | | | | | | | |
| AES Alamitos, LLC | | | | | | | | |
| 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): | | | | | | | | |
| 690 N. Studebaker | Road, Long Beach, CA 90803 • Fixed Location O Various Locations | | | | | | | |
| Section B - Equipme | ent Description | | | | | | | |
| | Selective Catalytic Reduction (SCR) | | | | | | | |
| | Manufacturer:Haldor TopsoeCatalyst Active Material:Titanium/Vanadium/Tungsten | | | | | | | |
| | Model Number: DNX GT-201 Type: ceramic honeycomb | | | | | | | |
| SCR Catalyst | Size of Each Layer or Module: L: 65 ft. 10 in. W: 2 ft. 1.2 in. H: 20 ft. 4 in. | | | | | | | |
| | | | | | | | | |
| | No. of Layers or Modules:1 Total Volume:2810.00 cu. ft. Total Weight:78000 lbs. | | | | | | | |
| Reducing Agent | O Urea O Anhydrous Ammonia O Aqueous Ammonia19.00 % Injection Rate: 149.8 lb/hr | | | | | | | |
| Reducing Agent Storage* | gent Storage* Diameter: <u>12</u> ftin. Height: <u>28</u> ft_ <u>5</u> in. Capactity: <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:40049_per hour | | | | | | | |
| Area Velocity | Gas Flow Rate/Wetted Catalyst Surface Area:84287_ft/hr | | | | | | | |
| Manufacturer's Guarantee | NOx: 2.0 ppm %0 ₂ : 15.00 NOx: gm/bhp-hr Ammonia Slip: 5 ppm @ 15.00 %0 ₂ | | | | | | | |
| Catalyst Life | 3_years (expected) | | | | | | | |
| Cost | Capital Cost: \$506,000.00 Installation Cost: \$50,000.00 Catalyst Replacement Cost: \$569650 | | | | | | | |
| | Oxidation Catalyst | | | | | | | |
| | Manufacturer: Johnson Matthey Catalyst Active Material: Palladium | | | | | | | |
| | Model Number: SC42 Type: ceramic honeycomb | | | | | | | |
| Oxidation Catalyst | Size of Each Layer or Module: L: 2 ft. 2 in. W: ft. 2 ft. 2 ft. 2 in. | | | | | | | |
| | | | | | | | | |
| And the second | No. of Layers or Modules: 260 Total Volume: 204.21 cu. ft. Total Weight: lbs. | | | | | | | |
| Space Velocity | Gas Flow Rate/Catalyst Volume:552392_per hour | | | | | | | |
| Manufacturer's Guarantee | VOC: <u>1.0 ppm</u> VOC: <u>gm/bhp-hr</u> %O ₂ : <u>15.00</u> | | | | | | | |
| | CO: <u>2.0</u> ppm CO: <u>gm/bhp-hr</u> %O ₂ : <u>15.00</u> | | | | | | | |
| Catalyst Life | 3 years (expected) | | | | | | | |
| Cost | Capital Cost: \$595,000.00 Installation Cost: \$45,000.00 Catalyst Replacement Cost: \$491250 | | | | | | | |

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 C | atalyst | | | | | | | | |
| Space Velocity Gas Flow Rate/Catalyst Volume: per hour | | | | | per hour | | | | |
| Manufacturer's | Guarantee | NH3: | pp | m %O ₂ : | | | | | |
| Catalyst Life years (expected) | | | | | (Anti- | | | | |
| Cost | | Capital Cost: | | Installation C | ost: | Cata | lyst Replacemen | nt Cost: | |
| Section C - | Operatio | n Information | 1 | | | | | | |
| Operating Ter | nperature | Minimum Inlet To Warm-up Time:_ | | <u> </u> | |) Maximum Temp o | erature: | 700 °F | |
| Operating S | chedule | Normal: Maximum: | 24 24 | hours/day hours/day | 7 7 | days/weekdays/week | 40 52 | weeks/yr | |
| Section D - | Authoriz | ation/Signatu | ire | | | | | | |
| | | nation gontained h | erein and inform | nation submitted with | this application | is true and correct. | | | |
| Preparer info Signature: Date: Title: Company Name: Manager AES Alamitos, LLC | | | | | | Fax #: | (562) 493-773 | 57 | |
| Contact info | Same | as Preparer | Company Na | me: | Phone # Email: | | Fax #: | | |

THIS IS A PUBLIC DOCUMENT

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| Form 400 Selective Oxidatio | Quality Management District Mail To D-E-5 SCAQME P Catalytic Reduction (SCR) System, P.O. Box 4944 Diamond Bar, CA 91765-0944 Diamond Bar, CA 91765-0944 be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Tel: (909) 396-338: | | | | | | | |
|---|--|--|--|--|--|--|--|--|
| Section A - Operato | r Information | | | | | | | |
| Facility Name (Business Nam | Facility Name (Business Name of Operator That Appears On Permit): Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): | | | | | | | |
| AES Alamitos, LLC | | | | | | | | |
| 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): | | | | | | | | |
| 690 N. Studebaker | Road, Long Beach, CA 90803 • Fixed Location O Various Locations | | | | | | | |
| Section B - Equipme | ent Description | | | | | | | |
| | Selective Catalytic Reduction (SCR) | | | | | | | |
| | Manufacturer:Haldor TopsoeCatalyst Active Material:Titanium/Vanadium/Tungsten | | | | | | | |
| | Model Number: DNX GT-201 Type: ceramic honeycomb | | | | | | | |
| SCR Catalyst | Size of Each Layer or Module: L: 65 ft. 10 in. W: 2 ft. 1.2 in. H: 20 ft. 4 in. | | | | | | | |
| | | | | | | | | |
| | No. of Layers or Modules:1 Total Volume:2810.00 cu. ft. Total Weight:78000 lbs. | | | | | | | |
| Reducing Agent | O Urea O Anhydrous Ammonia O Aqueous Ammonia19.00 % Injection Rate: 149.8 lb/hr | | | | | | | |
| Reducing Agent Storage* | gent Storage* Diameter: <u>12</u> ftin. Height: <u>28</u> ft_ <u>5</u> in. Capactity: <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:40049_per hour | | | | | | | |
| Area Velocity | Gas Flow Rate/Wetted Catalyst Surface Area:84287_ft/hr | | | | | | | |
| Manufacturer's Guarantee | NOx: 2.0 ppm %0 ₂ : 15.00 NOx: gm/bhp-hr Ammonia Slip: 5 ppm @ 15.00 %0 ₂ | | | | | | | |
| Catalyst Life | 3_years (expected) | | | | | | | |
| Cost | Capital Cost: \$506,000.00 Installation Cost: \$50,000.00 Catalyst Replacement Cost: \$569650 | | | | | | | |
| | Oxidation Catalyst | | | | | | | |
| | Manufacturer: Johnson Matthey Catalyst Active Material: Palladium | | | | | | | |
| | Model Number: SC42 Type: ceramic honeycomb | | | | | | | |
| Oxidation Catalyst | Size of Each Layer or Module: L: 2 ft. 2 in. W: ft. 2 ft. 2 ft. 2 in. | | | | | | | |
| | | | | | | | | |
| And the second | No. of Layers or Modules: 260 Total Volume: 204.21 cu. ft. Total Weight: lbs. | | | | | | | |
| Space Velocity | Gas Flow Rate/Catalyst Volume:552392_per hour | | | | | | | |
| Manufacturer's Guarantee | VOC: <u>1.0 ppm</u> VOC: <u>gm/bhp-hr</u> %O ₂ : <u>15.00</u> | | | | | | | |
| | CO: <u>2.0</u> ppm CO: <u>gm/bhp-hr</u> %O ₂ : <u>15.00</u> | | | | | | | |
| Catalyst Life | 3 years (expected) | | | | | | | |
| Cost | Capital Cost: \$595,000.00 Installation Cost: \$45,000.00 Catalyst Replacement Cost: \$491250 | | | | | | | |

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 C | atalyst | | | | | | | | |
| Space Velocity Gas Flow Rate/Catalyst Volume: per hour | | | | | per hour | | | | |
| Manufacturer's | Guarantee | NH3: | pp | m %O ₂ : | | | | | |
| Catalyst Life years (expected) | | | | | (Anti- | | | | |
| Cost | | Capital Cost: | | Installation C | ost: | Cata | lyst Replacemen | nt Cost: | |
| Section C - | Operatio | n Information | 1 | | | | | | |
| Operating Ter | nperature | Minimum Inlet To Warm-up Time:_ | | <u> </u> | |) Maximum Temp o | erature: | 700 °F | |
| Operating S | chedule | Normal: Maximum: | 24 24 | hours/day hours/day | 7 7 | days/weekdays/week | 40 52 | weeks/yr | |
| Section D - | Authoriz | ation/Signatu | ire | | | | | | |
| | | nation gontained h | erein and inform | nation submitted with | this application | is true and correct. | | | |
| Preparer info Signature: Date: Title: Company Name: Manager AES Alamitos, LLC | | | | | | Fax #: | (562) 493-773 | 57 | |
| Contact info | Same | as Preparer | Company Na | me: | Phone # | | Fax #: | | |

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|---|--|--|--|--|--|--|--|--|
| Section A - Operato | r Information | | | | | | | |
| Facility Name (Business Nam | Facility Name (Business Name of Operator That Appears On Permit): Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): | | | | | | | |
| AES Alamitos, LLC | | | | | | | | |
| 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): | | | | | | | | |
| 690 N. Studebaker | Road, Long Beach, CA 90803 • Fixed Location O Various Locations | | | | | | | |
| Section B - Equipme | ent Description | | | | | | | |
| | Selective Catalytic Reduction (SCR) | | | | | | | |
| | Manufacturer:Haldor TopsoeCatalyst Active Material:Titanium/Vanadium/Tungsten | | | | | | | |
| | Model Number: DNX GT-201 Type: ceramic honeycomb | | | | | | | |
| SCR Catalyst | Size of Each Layer or Module: L: 65 ft. 10 in. W: 2 ft. 1.2 in. H: 20 ft. 4 in. | | | | | | | |
| | | | | | | | | |
| | No. of Layers or Modules:1 Total Volume:2810.00 cu. ft. Total Weight:78000 lbs. | | | | | | | |
| Reducing Agent | O Urea O Anhydrous Ammonia O Aqueous Ammonia19.00 % Injection Rate: 149.8 lb/hr | | | | | | | |
| Reducing Agent Storage* | gent Storage* Diameter: <u>12</u> ftin. Height: <u>28</u> ft_ <u>5</u> in. Capactity: <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:40049_per hour | | | | | | | |
| Area Velocity | Gas Flow Rate/Wetted Catalyst Surface Area:84287_ft/hr | | | | | | | |
| Manufacturer's Guarantee | NOx: 2.0 ppm %0 ₂ : 15.00 NOx: gm/bhp-hr Ammonia Slip: 5 ppm @ 15.00 %0 ₂ | | | | | | | |
| Catalyst Life | 3_years (expected) | | | | | | | |
| Cost | Capital Cost: \$506,000.00 Installation Cost: \$50,000.00 Catalyst Replacement Cost: \$569650 | | | | | | | |
| | Oxidation Catalyst | | | | | | | |
| | Manufacturer: Johnson Matthey Catalyst Active Material: Palladium | | | | | | | |
| | Model Number: SC42 Type: ceramic honeycomb | | | | | | | |
| Oxidation Catalyst | Size of Each Layer or Module: L: 2 ft. 2 in. W: ft. 2 ft. 2 ft. 2 in. | | | | | | | |
| | | | | | | | | |
| And the second | No. of Layers or Modules: 260 Total Volume: 204.21 cu. ft. Total Weight: lbs. | | | | | | | |
| Space Velocity | Gas Flow Rate/Catalyst Volume:552392_per hour | | | | | | | |
| Manufacturer's Guarantee | VOC: <u>1.0 ppm</u> VOC: <u>gm/bhp-hr</u> %O ₂ : <u>15.00</u> | | | | | | | |
| | CO: <u>2.0</u> ppm CO: <u>gm/bhp-hr</u> %O ₂ : <u>15.00</u> | | | | | | | |
| Catalyst Life | 3 years (expected) | | | | | | | |
| Cost | Capital Cost: \$595,000.00 Installation Cost: \$45,000.00 Catalyst Replacement Cost: \$491250 | | | | | | | |

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 C | atalyst | | | | | | | | |
| Space Velocity Gas Flow Rate/Catalyst Volume: per hour | | | | | per hour | | | | |
| Manufacturer's | Guarantee | NH3: | pp | m %O ₂ : | | | | | |
| Catalyst Life years (expected) | | | | | (Anti- | | | | |
| Cost | | Capital Cost: | | Installation C | ost: | Cata | lyst Replacemen | nt Cost: | |
| Section C - | Operatio | n Information | 1 | | | | | | |
| Operating Ter | nperature | Minimum Inlet To Warm-up Time:_ | | <u> </u> | |) Maximum Temp o | erature: | 700 °F | |
| Operating S | chedule | Normal: Maximum: | 24 24 | hours/day hours/day | 7 7 | days/weekdays/week | 40 52 | weeks/yr | |
| Section D - | Authoriz | ation/Signatu | ire | | | | | | |
| | | nation gontained h | erein and inform | nation submitted with | this application | is true and correct. | | | |
| Preparer info Signature: Date: Title: Company Name: Manager AES Alamitos, LLC | | | | | | Fax #: | (562) 493-773 | 57 | |
| Contact info | Same | as Preparer | Company Na | me: | Phone # | | Fax #: | | |

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|--|--|--|--|--|--|--|--|--|--|
| Section A - Operato | r Information | | | | | | | | |
| Facility Name (Business Nam | e of Operator That Appears On Permit): Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): | | | | | | | | |
| AES Alamitos, LLC | 115394 | | | | | | | | |
| Address where the equipment | nt will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial location site): | | | | | | | | |
| 690 N. Studebaker | Road, Long Beach, CA 90803 • Fixed Location O Various Locations | | | | | | | | |
| Section B - Equipme | ent Description | | | | | | | | |
| | Selective Catalytic Reduction (SCR) | | | | | | | | |
| | Manufacturer:Haldor TopsoeCatalyst Active Material:Titanium/Vanadium/Tungsten | | | | | | | | |
| | Model Number: DNX GT-201 Type: ceramic honeycomb | | | | | | | | |
| SCR Catalyst | Size of Each Layer or Module: L: 65 ft. 10 in. W: 2 ft. 1.2 in. H: 20 ft. 4 in. | | | | | | | | |
| | | | | | | | | | |
| | No. of Layers or Modules:1 Total Volume:2810.00 cu. ft. Total Weight:78000 lbs. | | | | | | | | |
| Reducing Agent | O Urea O Anhydrous Ammonia O Aqueous Ammonia19.00 % Injection Rate: 149.8 lb/hr | | | | | | | | |
| Reducing Agent Storage* | Diameter: <u>12</u> ftin. Height: <u>28</u> ft_ <u>5</u> in. Capactity: <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:40049_per hour | | | | | | | | |
| Area Velocity | Gas Flow Rate/Wetted Catalyst Surface Area:84287_ft/hr | | | | | | | | |
| Manufacturer's Guarantee | NOx: 2.0 ppm %0 ₂ : 15.00 NOx: gm/bhp-hr Ammonia Slip: 5 ppm @ 15.00 %0 ₂ | | | | | | | | |
| Catalyst Life | 3_years (expected) | | | | | | | | |
| Cost | Capital Cost: \$506,000.00 Installation Cost: \$50,000.00 Catalyst Replacement Cost: \$569650 | | | | | | | | |
| | Oxidation Catalyst | | | | | | | | |
| | Manufacturer: Johnson Matthey Catalyst Active Material: Palladium | | | | | | | | |
| | Model Number: SC42 Type: ceramic honeycomb | | | | | | | | |
| Oxidation Catalyst | Size of Each Layer or Module: L: 2 ft. 2 in. W: ft. 2 ft. 2 ft. 2 in. | | | | | | | | |
| | | | | | | | | | |
| And the second | No. of Layers or Modules: 260 Total Volume: 204.21 cu. ft. Total Weight: lbs. | | | | | | | | |
| Space Velocity | Gas Flow Rate/Catalyst Volume:552392_per hour | | | | | | | | |
| Manufacturer's Guarantee | VOC: <u>1.0 ppm</u> VOC: <u>gm/bhp-hr</u> %O ₂ : <u>15.00</u> | | | | | | | | |
| | CO: <u>2.0</u> ppm CO: <u>gm/bhp-hr</u> %O ₂ : <u>15.00</u> | | | | | | | | |
| Catalyst Life | 3 years (expected) | | | | | | | | |
| Cost | Capital Cost: \$595,000.00 Installation Cost: \$45,000.00 Catalyst Replacement Cost: \$491250 | | | | | | | | |

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

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| Section B - Equipment Description (cont.) | | | | | | | | | | | |
|---|-----------------------|---|-----------------------|--|-------------------|--|----------|---------------|----|--|--|
| | | | | Ammon | ia Catalyst | | | | | | |
| Ammonia C | atalyst | Model Number:_ Size of Each Lay | er or Module: | | Typ | | | | | | |
| Space Ve | locity | Gas Flow Rate/Catalyst Volume: per hour | | | | | | | | | |
| Manufacturer's | Guarantee | NH3: | NH3: ppm %O2: | | | | | | | | |
| Catalyst | Life | years (expected) | | | | | | | | | |
| Cost | | Capital Cost: Installation Cost: Catalyst Replacement Cost: | | | | | | | | | |
| Section C - | Operatio | n Information | 1 | | | | | | | | |
| Operating Temperature | | Minimum Inlet To Warm-up Time:_ | | <u> </u> | |) Maximum Temp o | erature: | 700 °F | | | |
| Operating S | chedule | Normal: Maximum: | 24 24 | hours/day hours/day | 7 7 | days/weekdays/week | 40 52 | weeks/yr | | | |
| Section D - | Authoriz | ation/Signatu | ire | | | | | | | | |
| | | nation gontained h | erein and inform | nation submitted with | this application | is true and correct. | | | | | |
| Preparer info Title | ature: : anager | Fare | Company Na AES Ala | Date: 12/20/2013 me: mitos, LLC | Phone # | Stephen O'Kaı (562) 493-78 stephen.okane@A | Fax #: | (562) 493-773 | 57 | | |
| Contact info | Same | as Preparer | Company Na | me: | Phone # Email: | | Fax #: | | | | |

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|--|--|--|--|--|--|--|--|--|--|
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| Facility Name (Business Nam | e of Operator That Appears On Permit): Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): | | | | | | | | |
| AES Alamitos, LLC | 115394 | | | | | | | | |
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| Section B - Equipme | ent Description | | | | | | | | |
| | Selective Catalytic Reduction (SCR) | | | | | | | | |
| | Manufacturer:Haldor TopsoeCatalyst Active Material:Titanium/Vanadium/Tungsten | | | | | | | | |
| | Model Number: DNX GT-201 Type: ceramic honeycomb | | | | | | | | |
| SCR Catalyst | Size of Each Layer or Module: L: 65 ft. 10 in. W: 2 ft. 1.2 in. H: 20 ft. 4 in. | | | | | | | | |
| | | | | | | | | | |
| | No. of Layers or Modules:1 Total Volume:2810.00 cu. ft. Total Weight:78000 lbs. | | | | | | | | |
| Reducing Agent | O Urea O Anhydrous Ammonia O Aqueous Ammonia19.00 % Injection Rate: 149.8 lb/hr | | | | | | | | |
| Reducing Agent Storage* | Diameter: <u>12</u> ftin. Height: <u>28</u> ft_ <u>5</u> in. Capactity: <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:40049_per hour | | | | | | | | |
| Area Velocity | Gas Flow Rate/Wetted Catalyst Surface Area:84287_ft/hr | | | | | | | | |
| Manufacturer's Guarantee | NOx: 2.0 ppm %0 ₂ : 15.00 NOx: gm/bhp-hr Ammonia Slip: 5 ppm @ 15.00 %0 ₂ | | | | | | | | |
| Catalyst Life | 3_years (expected) | | | | | | | | |
| Cost | Capital Cost: \$506,000.00 Installation Cost: \$50,000.00 Catalyst Replacement Cost: \$569650 | | | | | | | | |
| | Oxidation Catalyst | | | | | | | | |
| | Manufacturer: Johnson Matthey Catalyst Active Material: Palladium | | | | | | | | |
| | Model Number: SC42 Type: ceramic honeycomb | | | | | | | | |
| Oxidation Catalyst | Size of Each Layer or Module: L: 2 ft. 2 in. W: ft. 2 ft. 2 ft. 2 in. | | | | | | | | |
| | | | | | | | | | |
| And the second | No. of Layers or Modules: 260 Total Volume: 204.21 cu. ft. Total Weight: lbs. | | | | | | | | |
| Space Velocity | Gas Flow Rate/Catalyst Volume:552392_per hour | | | | | | | | |
| Manufacturer's Guarantee | VOC: <u>1.0 ppm</u> VOC: <u>gm/bhp-hr</u> %O ₂ : <u>15.00</u> | | | | | | | | |
| | CO: <u>2.0</u> ppm CO: <u>gm/bhp-hr</u> %O ₂ : <u>15.00</u> | | | | | | | | |
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| Cost | Capital Cost: \$595,000.00 Installation Cost: \$45,000.00 Catalyst Replacement Cost: \$491250 | | | | | | | | |

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

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| Section B - Equipment Description (cont.) | | | | | | | | | | | |
|---|-----------------------|---|-----------------------|--|-------------------|--|----------|---------------|----|--|--|
| | | | | Ammon | ia Catalyst | | | | | | |
| Ammonia C | atalyst | Model Number:_ Size of Each Lay | er or Module: | | Typ | | | | | | |
| Space Ve | locity | Gas Flow Rate/Catalyst Volume: per hour | | | | | | | | | |
| Manufacturer's | Guarantee | NH3: | NH3: ppm %O2: | | | | | | | | |
| Catalyst | Life | years (expected) | | | | | | | | | |
| Cost | | Capital Cost: Installation Cost: Catalyst Replacement Cost: | | | | | | | | | |
| Section C - | Operatio | n Information | 1 | | | | | | | | |
| Operating Temperature | | Minimum Inlet To Warm-up Time:_ | | <u> </u> | |) Maximum Temp o | erature: | 700 °F | | | |
| Operating S | chedule | Normal: Maximum: | 24 24 | hours/day hours/day | 7 7 | days/weekdays/week | 40 52 | weeks/yr | | | |
| Section D - | Authoriz | ation/Signatu | ire | | | | | | | | |
| | | nation gontained h | erein and inform | nation submitted with | this application | is true and correct. | | | | | |
| Preparer info Title | ature: : anager | Fare | Company Na AES Ala | Date: 12/20/2013 me: mitos, LLC | Phone # | Stephen O'Kaı (562) 493-78 stephen.okane@A | Fax #: | (562) 493-773 | 57 | | |
| Contact info | Same | as Preparer | Company Na | me: | Phone # Email: | | Fax #: | | | | |

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|--|--|--|--|--|--|--|--|--|--|
| Section A - Operato | r Information | | | | | | | | |
| Facility Name (Business Nam | e of Operator That Appears On Permit): Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): | | | | | | | | |
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| Address where the equipment | nt will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial location site): | | | | | | | | |
| 690 N. Studebaker | Road, Long Beach, CA 90803 • Fixed Location O Various Locations | | | | | | | | |
| Section B - Equipme | ent Description | | | | | | | | |
| | Selective Catalytic Reduction (SCR) | | | | | | | | |
| | Manufacturer:Haldor TopsoeCatalyst Active Material:Titanium/Vanadium/Tungsten | | | | | | | | |
| | Model Number: DNX GT-201 Type: ceramic honeycomb | | | | | | | | |
| SCR Catalyst | Size of Each Layer or Module: L: 65 ft. 10 in. W: 2 ft. 1.2 in. H: 20 ft. 4 in. | | | | | | | | |
| | | | | | | | | | |
| | No. of Layers or Modules:1 Total Volume:2810.00 cu. ft. Total Weight:78000 lbs. | | | | | | | | |
| Reducing Agent | O Urea O Anhydrous Ammonia O Aqueous Ammonia19.00 % Injection Rate: 149.8 lb/hr | | | | | | | | |
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| Space Velocity | Gas Flow Rate/Catalyst Volume:40049_per hour | | | | | | | | |
| Area Velocity | Gas Flow Rate/Wetted Catalyst Surface Area:84287_ft/hr | | | | | | | | |
| Manufacturer's Guarantee | NOx: 2.0 ppm %0 ₂ : 15.00 NOx: gm/bhp-hr Ammonia Slip: 5 ppm @ 15.00 %0 ₂ | | | | | | | | |
| Catalyst Life | 3_years (expected) | | | | | | | | |
| Cost | Capital Cost: \$506,000.00 Installation Cost: \$50,000.00 Catalyst Replacement Cost: \$569650 | | | | | | | | |
| | Oxidation Catalyst | | | | | | | | |
| | Manufacturer: Johnson Matthey Catalyst Active Material: Palladium | | | | | | | | |
| | Model Number: SC42 Type: ceramic honeycomb | | | | | | | | |
| Oxidation Catalyst | Size of Each Layer or Module: L: 2 ft. 2 in. W: ft. 2 ft. 2 ft. 2 in. | | | | | | | | |
| | | | | | | | | | |
| And the second | No. of Layers or Modules: 260 Total Volume: 204.21 cu. ft. Total Weight: lbs. | | | | | | | | |
| Space Velocity | Gas Flow Rate/Catalyst Volume:552392_per hour | | | | | | | | |
| Manufacturer's Guarantee | VOC: <u>1.0 ppm</u> VOC: <u>gm/bhp-hr</u> %O ₂ : <u>15.00</u> | | | | | | | | |
| | CO: <u>2.0</u> ppm CO: <u>gm/bhp-hr</u> %O ₂ : <u>15.00</u> | | | | | | | | |
| Catalyst Life | 3 years (expected) | | | | | | | | |
| Cost | Capital Cost: \$595,000.00 Installation Cost: \$45,000.00 Catalyst Replacement Cost: \$491250 | | | | | | | | |

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.) | | | | | | | | | | | |
|---|-----------------------|---|-----------------------|--|-------------------|--|----------|---------------|----|--|--|
| | | | | Ammon | ia Catalyst | | | | | | |
| Ammonia C | atalyst | Model Number:_ Size of Each Lay | er or Module: | | Typ | | | | | | |
| Space Ve | locity | Gas Flow Rate/Catalyst Volume: per hour | | | | | | | | | |
| Manufacturer's | Guarantee | NH3: | NH3: ppm %O2: | | | | | | | | |
| Catalyst | Life | years (expected) | | | | | | | | | |
| Cost | | Capital Cost: Installation Cost: Catalyst Replacement Cost: | | | | | | | | | |
| Section C - | Operatio | n Information | 1 | | | | | | | | |
| Operating Temperature | | Minimum Inlet To Warm-up Time:_ | | <u> </u> | |) Maximum Temp o | erature: | 700 °F | | | |
| Operating S | chedule | Normal: Maximum: | 24 24 | hours/day hours/day | 7 7 | days/weekdays/week | 40 52 | weeks/yr | | | |
| Section D - | Authoriz | ation/Signatu | ire | | | | | | | | |
| | | nation gontained h | erein and inform | nation submitted with | this application | is true and correct. | | | | | |
| Preparer info Title | ature: : anager | Fare | Company Na AES Ala | Date: 12/20/2013 me: mitos, LLC | Phone # | Stephen O'Kaı (562) 493-78 stephen.okane@A | Fax #: | (562) 493-773 | 57 | | |
| Contact info | Same | as Preparer | Company Na | me: | Phone # Email: | | Fax #: | | | | |

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| Form 400 Selective Oxidatio | Quality Management District Mail To D-E-5 SCAQME P Catalytic Reduction (SCR) System, P.O. Box 4944 Diamond Bar, CA 91765-0944 Diamond Bar, CA 91765-0944 be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Tel: (909) 396-338: | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|
| Section A - Operato | r Information | | | | | | | | |
| Facility Name (Business Nam | e of Operator That Appears On Permit): Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): | | | | | | | | |
| AES Alamitos, LLC | 115394 | | | | | | | | |
| Address where the equipment | nt will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial location site): | | | | | | | | |
| 690 N. Studebaker | Road, Long Beach, CA 90803 • Fixed Location O Various Locations | | | | | | | | |
| Section B - Equipme | ent Description | | | | | | | | |
| | Selective Catalytic Reduction (SCR) | | | | | | | | |
| | Manufacturer:Haldor TopsoeCatalyst Active Material:Titanium/Vanadium/Tungsten | | | | | | | | |
| | Model Number: DNX GT-201 Type: ceramic honeycomb | | | | | | | | |
| SCR Catalyst | Size of Each Layer or Module: L: 65 ft. 10 in. W: 2 ft. 1.2 in. H: 20 ft. 4 in. | | | | | | | | |
| | | | | | | | | | |
| | No. of Layers or Modules:1 Total Volume:2810.00 cu. ft. Total Weight:78000 lbs. | | | | | | | | |
| Reducing Agent | O Urea O Anhydrous Ammonia O Aqueous Ammonia19.00 % Injection Rate: 149.8 lb/hr | | | | | | | | |
| Reducing Agent Storage* | Diameter: <u>12</u> ftin. Height: <u>28</u> ft_ <u>5</u> in. Capactity: <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:40049_per hour | | | | | | | | |
| Area Velocity | Gas Flow Rate/Wetted Catalyst Surface Area:84287_ft/hr | | | | | | | | |
| Manufacturer's Guarantee | NOx: 2.0 ppm %0 ₂ : 15.00 NOx: gm/bhp-hr Ammonia Slip: 5 ppm @ 15.00 %0 ₂ | | | | | | | | |
| Catalyst Life | 3_years (expected) | | | | | | | | |
| Cost | Capital Cost: \$506,000.00 Installation Cost: \$50,000.00 Catalyst Replacement Cost: \$569650 | | | | | | | | |
| | Oxidation Catalyst | | | | | | | | |
| | Manufacturer: Johnson Matthey Catalyst Active Material: Palladium | | | | | | | | |
| | Model Number: SC42 Type: ceramic honeycomb | | | | | | | | |
| Oxidation Catalyst | Size of Each Layer or Module: L: 2 ft. 2 in. W: ft. 2 ft. 2 ft. 2 in. | | | | | | | | |
| | | | | | | | | | |
| And the second | No. of Layers or Modules: 260 Total Volume: 204.21 cu. ft. Total Weight: lbs. | | | | | | | | |
| Space Velocity | Gas Flow Rate/Catalyst Volume:552392_per hour | | | | | | | | |
| Manufacturer's Guarantee | VOC: <u>1.0 ppm</u> VOC: <u>gm/bhp-hr</u> %O ₂ : <u>15.00</u> | | | | | | | | |
| | CO: <u>2.0</u> ppm CO: <u>gm/bhp-hr</u> %O ₂ : <u>15.00</u> | | | | | | | | |
| Catalyst Life | 3 years (expected) | | | | | | | | |
| Cost | Capital Cost: \$595,000.00 Installation Cost: \$45,000.00 Catalyst Replacement Cost: \$491250 | | | | | | | | |

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

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| Section B - Equipment Description (cont.) | | | | | | | | | | | |
|---|-----------------------|---|-----------------------|--|-------------------|--|----------|---------------|----|--|--|
| | | | | Ammon | ia Catalyst | | | | | | |
| Ammonia C | atalyst | Model Number:_ Size of Each Lay | er or Module: | | Typ | | | | | | |
| Space Ve | locity | Gas Flow Rate/Catalyst Volume: per hour | | | | | | | | | |
| Manufacturer's | Guarantee | NH3: | NH3: ppm %O2: | | | | | | | | |
| Catalyst | Life | years (expected) | | | | | | | | | |
| Cost | | Capital Cost: Installation Cost: Catalyst Replacement Cost: | | | | | | | | | |
| Section C - | Operatio | n Information | 1 | | | | | | | | |
| Operating Temperature | | Minimum Inlet To Warm-up Time:_ | | <u> </u> | |) Maximum Temp o | erature: | 700 °F | | | |
| Operating S | chedule | Normal: Maximum: | 24 24 | hours/day hours/day | 7 7 | days/weekdays/week | 40 52 | weeks/yr | | | |
| Section D - | Authoriz | ation/Signatu | ire | | | | | | | | |
| | | nation gontained h | erein and inform | nation submitted with | this application | is true and correct. | | | | | |
| Preparer info Title | ature: : anager | Fare | Company Na AES Ala | Date: 12/20/2013 me: mitos, LLC | Phone # | Stephen O'Kaı (562) 493-78 stephen.okane@A | Fax #: | (562) 493-773 | 57 | | |
| Contact info | Same | as Preparer | Company Na | me: | Phone # Email: | | Fax #: | | | | |

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| Form 400 Selective Oxidatio | Quality Management District Mail To D-E-5 SCAQME P Catalytic Reduction (SCR) System, P.O. Box 4944 Diamond Bar, CA 91765-0944 Diamond Bar, CA 91765-0944 be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Tel: (909) 396-338: | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|
| Section A - Operato | r Information | | | | | | | | |
| Facility Name (Business Nam | e of Operator That Appears On Permit): Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): | | | | | | | | |
| AES Alamitos, LLC | 115394 | | | | | | | | |
| Address where the equipment | nt will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial location site): | | | | | | | | |
| 690 N. Studebaker | Road, Long Beach, CA 90803 • Fixed Location O Various Locations | | | | | | | | |
| Section B - Equipme | ent Description | | | | | | | | |
| | Selective Catalytic Reduction (SCR) | | | | | | | | |
| | Manufacturer:Haldor TopsoeCatalyst Active Material:Titanium/Vanadium/Tungsten | | | | | | | | |
| | Model Number: DNX GT-201 Type: ceramic honeycomb | | | | | | | | |
| SCR Catalyst | Size of Each Layer or Module: L: 65 ft. 10 in. W: 2 ft. 1.2 in. H: 20 ft. 4 in. | | | | | | | | |
| | | | | | | | | | |
| | No. of Layers or Modules:1 Total Volume:2810.00 cu. ft. Total Weight:78000 lbs. | | | | | | | | |
| Reducing Agent | O Urea O Anhydrous Ammonia O Aqueous Ammonia19.00 % Injection Rate: 149.8 lb/hr | | | | | | | | |
| Reducing Agent Storage* | Diameter: <u>12</u> ftin. Height: <u>28</u> ft_ <u>5</u> in. Capactity: <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:40049_per hour | | | | | | | | |
| Area Velocity | Gas Flow Rate/Wetted Catalyst Surface Area:84287_ft/hr | | | | | | | | |
| Manufacturer's Guarantee | NOx: 2.0 ppm %0 ₂ : 15.00 NOx: gm/bhp-hr Ammonia Slip: 5 ppm @ 15.00 %0 ₂ | | | | | | | | |
| Catalyst Life | 3_years (expected) | | | | | | | | |
| Cost | Capital Cost: \$506,000.00 Installation Cost: \$50,000.00 Catalyst Replacement Cost: \$569650 | | | | | | | | |
| | Oxidation Catalyst | | | | | | | | |
| | Manufacturer: Johnson Matthey Catalyst Active Material: Palladium | | | | | | | | |
| | Model Number: SC42 Type: ceramic honeycomb | | | | | | | | |
| Oxidation Catalyst | Size of Each Layer or Module: L: 2 ft. 2 in. W: ft. 2 ft. 2 ft. 2 in. | | | | | | | | |
| | | | | | | | | | |
| And the second | No. of Layers or Modules: 260 Total Volume: 204.21 cu. ft. Total Weight: lbs. | | | | | | | | |
| Space Velocity | Gas Flow Rate/Catalyst Volume:552392_per hour | | | | | | | | |
| Manufacturer's Guarantee | VOC: <u>1.0 ppm</u> VOC: <u>gm/bhp-hr</u> %O ₂ : <u>15.00</u> | | | | | | | | |
| | CO: <u>2.0</u> ppm CO: <u>gm/bhp-hr</u> %O ₂ : <u>15.00</u> | | | | | | | | |
| Catalyst Life | 3 years (expected) | | | | | | | | |
| Cost | Capital Cost: \$595,000.00 Installation Cost: \$45,000.00 Catalyst Replacement Cost: \$491250 | | | | | | | | |

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

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| Section B - Equipment Description (cont.) | | | | | | | | | | | |
|---|-----------------------|---|-----------------------|--|-------------------|--|----------|---------------|----|--|--|
| | | | | Ammon | ia Catalyst | | | | | | |
| Ammonia C | atalyst | Model Number:_ Size of Each Lay | er or Module: | | Typ | | | | | | |
| Space Ve | locity | Gas Flow Rate/Catalyst Volume: per hour | | | | | | | | | |
| Manufacturer's | Guarantee | NH3: | NH3: ppm %O2: | | | | | | | | |
| Catalyst | Life | years (expected) | | | | | | | | | |
| Cost | | Capital Cost: Installation Cost: Catalyst Replacement Cost: | | | | | | | | | |
| Section C - | Operatio | n Information | 1 | | | | | | | | |
| Operating Temperature | | Minimum Inlet To Warm-up Time:_ | | <u> </u> | |) Maximum Temp o | erature: | 700 °F | | | |
| Operating S | chedule | Normal: Maximum: | 24 24 | hours/day hours/day | 7 7 | days/weekdays/week | 40 52 | weeks/yr | | | |
| Section D - | Authoriz | ation/Signatu | ire | | | | | | | | |
| | | nation gontained h | erein and inform | nation submitted with | this application | is true and correct. | | | | | |
| Preparer info Title | ature: : anager | Fare | Company Na AES Ala | Date: 12/20/2013 me: mitos, LLC | Phone # | Stephen O'Kaı (562) 493-78 stephen.okane@A | Fax #: | (562) 493-773 | 57 | | |
| Contact info | Same | as Preparer | Company Na | me: | Phone # Email: | | Fax #: | | | | |

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|--|--|--|--|--|--|--|--|--|--|
| Section A - Operato | r Information | | | | | | | | |
| Facility Name (Business Nam | e of Operator That Appears On Permit): Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): | | | | | | | | |
| AES Alamitos, LLC | 115394 | | | | | | | | |
| Address where the equipment | nt will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial location site): | | | | | | | | |
| 690 N. Studebaker | Road, Long Beach, CA 90803 • Fixed Location O Various Locations | | | | | | | | |
| Section B - Equipme | ent Description | | | | | | | | |
| | Selective Catalytic Reduction (SCR) | | | | | | | | |
| | Manufacturer:Haldor TopsoeCatalyst Active Material:Titanium/Vanadium/Tungsten | | | | | | | | |
| | Model Number: DNX GT-201 Type: ceramic honeycomb | | | | | | | | |
| SCR Catalyst | Size of Each Layer or Module: L: 65 ft. 10 in. W: 2 ft. 1.2 in. H: 20 ft. 4 in. | | | | | | | | |
| | | | | | | | | | |
| | No. of Layers or Modules:1 Total Volume:2810.00 cu. ft. Total Weight:78000 lbs. | | | | | | | | |
| Reducing Agent | O Urea O Anhydrous Ammonia O Aqueous Ammonia19.00 % Injection Rate: 149.8 lb/hr | | | | | | | | |
| Reducing Agent Storage* | Diameter: <u>12</u> ftin. Height: <u>28</u> ft_ <u>5</u> in. Capactity: <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:40049_per hour | | | | | | | | |
| Area Velocity | Gas Flow Rate/Wetted Catalyst Surface Area:84287_ft/hr | | | | | | | | |
| Manufacturer's Guarantee | NOx: 2.0 ppm %0 ₂ : 15.00 NOx: gm/bhp-hr Ammonia Slip: 5 ppm @ 15.00 %0 ₂ | | | | | | | | |
| Catalyst Life | 3_years (expected) | | | | | | | | |
| Cost | Capital Cost: \$506,000.00 Installation Cost: \$50,000.00 Catalyst Replacement Cost: \$569650 | | | | | | | | |
| | Oxidation Catalyst | | | | | | | | |
| | Manufacturer: Johnson Matthey Catalyst Active Material: Palladium | | | | | | | | |
| | Model Number: SC42 Type: ceramic honeycomb | | | | | | | | |
| Oxidation Catalyst | Size of Each Layer or Module: L: 2 ft. 2 in. W: ft. 2 ft. 2 ft. 2 in. | | | | | | | | |
| | | | | | | | | | |
| And the second | No. of Layers or Modules: 260 Total Volume: 204.21 cu. ft. Total Weight: lbs. | | | | | | | | |
| Space Velocity | Gas Flow Rate/Catalyst Volume:552392_per hour | | | | | | | | |
| Manufacturer's Guarantee | VOC: <u>1.0 ppm</u> VOC: <u>gm/bhp-hr</u> %O ₂ : <u>15.00</u> | | | | | | | | |
| | CO: <u>2.0</u> ppm CO: <u>gm/bhp-hr</u> %O ₂ : <u>15.00</u> | | | | | | | | |
| Catalyst Life | 3 years (expected) | | | | | | | | |
| Cost | Capital Cost: \$595,000.00 Installation Cost: \$45,000.00 Catalyst Replacement Cost: \$491250 | | | | | | | | |

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| Section B - Equipment Description (cont.) | | | | | | | | | | | |
|---|-----------------------|---|-----------------------|--|-------------------|--|----------|---------------|----|--|--|
| | | | | Ammon | ia Catalyst | | | | | | |
| Ammonia C | atalyst | Model Number:_ Size of Each Lay | er or Module: | | Typ | | | | | | |
| Space Ve | locity | Gas Flow Rate/Catalyst Volume: per hour | | | | | | | | | |
| Manufacturer's | Guarantee | NH3: | NH3: ppm %O2: | | | | | | | | |
| Catalyst | Life | years (expected) | | | | | | | | | |
| Cost | | Capital Cost: Installation Cost: Catalyst Replacement Cost: | | | | | | | | | |
| Section C - | Operatio | n Information | 1 | | | | | | | | |
| Operating Temperature | | Minimum Inlet To Warm-up Time:_ | | <u> </u> | |) Maximum Temp o | erature: | 700 °F | | | |
| Operating S | chedule | Normal: Maximum: | 24 24 | hours/day hours/day | 7 7 | days/weekdays/week | 40 52 | weeks/yr | | | |
| Section D - | Authoriz | ation/Signatu | ire | | | | | | | | |
| | | nation gontained h | erein and inform | nation submitted with | this application | is true and correct. | | | | | |
| Preparer info Title | ature: : anager | Fare | Company Na AES Ala | Date: 12/20/2013 me: mitos, LLC | Phone # | Stephen O'Kaı (562) 493-78 stephen.okane@A | Fax #: | (562) 493-773 | 57 | | |
| Contact info | Same | as Preparer | Company Na | me: | Phone # Email: | | Fax #: | | | | |

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|--|--|
| Section A - Operato | r Information |
| Facility Name (Business Nam | e of Operator That Appears On Permit): Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): |
| AES Alamitos, LLC | 115394 |
| Address where the equipment | nt will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial location site): |
| 690 N. Studebaker | Road, Long Beach, CA 90803 • Fixed Location O Various Locations |
| Section B - Equipme | ent Description |
| | Selective Catalytic Reduction (SCR) |
| | Manufacturer:Haldor TopsoeCatalyst Active Material:Titanium/Vanadium/Tungsten |
| | Model Number: DNX GT-201 Type: ceramic honeycomb |
| SCR Catalyst | Size of Each Layer or Module: L: 65 ft. 10 in. W: 2 ft. 1.2 in. H: 20 ft. 4 in. |
| | |
| | No. of Layers or Modules:1 Total Volume:2810.00 cu. ft. Total Weight:78000 lbs. |
| Reducing Agent | O Urea O Anhydrous Ammonia O Aqueous Ammonia19.00 % Injection Rate: 149.8 lb/hr |
| Reducing Agent Storage* | Diameter: 12 ft. in. Height: 28 ft. 5 in. Capactity: 24000 gal Pressure Setting: 50 psia * A separate permit may be needed for the storage equipment. |
| Space Velocity | Gas Flow Rate/Catalyst Volume:40049_per hour |
| Area Velocity | Gas Flow Rate/Wetted Catalyst Surface Area:84287_ft/hr |
| Manufacturer's Guarantee | NOx: 2.0 ppm %0 ₂ : 15.00 NOx: gm/bhp-hr Ammonia Slip: 5 ppm @ 15.00 %0 ₂ |
| Catalyst Life | 3_years (expected) |
| Cost | Capital Cost: \$506,000.00 Installation Cost: \$50,000.00 Catalyst Replacement Cost: \$569650 |
| | Oxidation Catalyst |
| | Manufacturer: Johnson Matthey Catalyst Active Material: Palladium |
| | Model Number: SC42 Type: ceramic honeycomb |
| Oxidation Catalyst | Size of Each Layer or Module: L: 2 ft. 2 in. W: ft. 2 ft. 2 ft. 2 in. |
| | |
| And the second | No. of Layers or Modules: 260 Total Volume: 204.21 cu. ft. Total Weight: lbs. |
| Space Velocity | Gas Flow Rate/Catalyst Volume:552392_per hour |
| Manufacturer's Guarantee | VOC: <u>1.0 ppm</u> VOC: <u>gm/bhp-hr</u> %O ₂ : <u>15.00</u> |
| | CO: <u>2.0</u> ppm CO: <u>gm/bhp-hr</u> %O ₂ : <u>15.00</u> |
| Catalyst Life | 3 years (expected) |
| Cost | Capital Cost: \$595,000.00 Installation Cost: \$45,000.00 Catalyst Replacement Cost: \$491250 |

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 - | Equipme | ent Descriptio | on (cont.) | | | | | | |
|------------------------|-----------------------|------------------------------------|-----------------------|--|-------------------|--|-----------------|---------------|-----|
| | | | | Ammon | ia Catalyst | | | | |
| Ammonia C | atalyst | Model Number:_ Size of Each Lay | er or Module: | L:ft Tt | Typ | e:ft | in. H: | | in. |
| Space Ve | locity | Gas Flow Rate/C | atalyst Volume: | to the second second | per hour | | | | |
| Manufacturer's | Guarantee | NH3: | pp | m %O ₂ : | | | | | |
| Catalyst | Life | year | s (expected) | | | | (Anti- | | |
| Cost | | Capital Cost: | | Installation C | ost: | Cata | lyst Replacemen | nt Cost: | |
| Section C - | Operatio | n Information | 1 | | | | | | |
| Operating Ter | nperature | Minimum Inlet To Warm-up Time:_ | | <u> </u> | |) Maximum Temp o | erature: | 700 °F | |
| Operating S | chedule | Normal: Maximum: | 24 24 | hours/day hours/day | 7 7 | days/weekdays/week | 40 52 | weeks/yr | |
| Section D - | Authoriz | ation/Signatu | ire | | | | | | |
| | | nation gontained h | erein and inform | nation submitted with | this application | is true and correct. | | | |
| Preparer info Title | ature: : anager | Fare | Company Na AES Ala | Date: 12/20/2013 me: mitos, LLC | Phone # | Stephen O'Kaı (562) 493-78 stephen.okane@A | Fax #: | (562) 493-773 | 57 |
| Contact info | Same | as Preparer | Company Na | me: | Phone # Email: | | Fax #: | | |

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 <u>at the time of submittal</u> to the District.

| Form 400 Selective Oxidatio | Quality Management District Mail To D-E-5 SCAQME P Catalytic Reduction (SCR) System, P.O. Box 4944 Diamond Bar, CA 91765-0944 Diamond Bar, CA 91765-0944 be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Tel: (909) 396-338: |
|--|--|
| Section A - Operato | r Information |
| Facility Name (Business Nam | e of Operator That Appears On Permit): Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): |
| AES Alamitos, LLC | 115394 |
| Address where the equipment | nt will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial location site): |
| 690 N. Studebaker | Road, Long Beach, CA 90803 • Fixed Location O Various Locations |
| Section B - Equipme | ent Description |
| | Selective Catalytic Reduction (SCR) |
| | Manufacturer:Haldor TopsoeCatalyst Active Material:Titanium/Vanadium/Tungsten |
| | Model Number: DNX GT-201 Type: ceramic honeycomb |
| SCR Catalyst | Size of Each Layer or Module: L: 65 ft. 10 in. W: 2 ft. 1.2 in. H: 20 ft. 4 in. |
| | |
| | No. of Layers or Modules:1 Total Volume:2810.00 cu. ft. Total Weight:78000 lbs. |
| Reducing Agent | O Urea O Anhydrous Ammonia O Aqueous Ammonia19.00 % Injection Rate: 149.8 lb/hr |
| Reducing Agent Storage* | Diameter: 12 ft. in. Height: 28 ft. 5 in. Capactity: 24000 gal Pressure Setting: 50 psia * A separate permit may be needed for the storage equipment. |
| Space Velocity | Gas Flow Rate/Catalyst Volume:40049_per hour |
| Area Velocity | Gas Flow Rate/Wetted Catalyst Surface Area:84287_ft/hr |
| Manufacturer's Guarantee | NOx: 2.0 ppm %0 ₂ : 15.00 NOx: gm/bhp-hr Ammonia Slip: 5 ppm @ 15.00 %0 ₂ |
| Catalyst Life | 3_years (expected) |
| Cost | Capital Cost: \$506,000.00 Installation Cost: \$50,000.00 Catalyst Replacement Cost: \$569650 |
| | Oxidation Catalyst |
| | Manufacturer: Johnson Matthey Catalyst Active Material: Palladium |
| | Model Number: SC42 Type: ceramic honeycomb |
| Oxidation Catalyst | Size of Each Layer or Module: L: 2 ft. 2 in. W: ft. 2 ft. 2 ft. 2 in. |
| | |
| And the second | No. of Layers or Modules: 260 Total Volume: 204.21 cu. ft. Total Weight: lbs. |
| Space Velocity | Gas Flow Rate/Catalyst Volume:552392_per hour |
| Manufacturer's Guarantee | VOC: <u>1.0 ppm</u> VOC: <u>gm/bhp-hr</u> %O ₂ : <u>15.00</u> |
| | CO: <u>2.0</u> ppm CO: <u>gm/bhp-hr</u> %O ₂ : <u>15.00</u> |
| Catalyst Life | 3 years (expected) |
| Cost | Capital Cost: \$595,000.00 Installation Cost: \$45,000.00 Catalyst Replacement Cost: \$491250 |

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 - | Equipme | ent Descriptio | on (cont.) | | | | | | |
|------------------------|-----------------------|------------------------------------|-----------------------|--|-------------------|--|-----------------|---------------|-----|
| | | | | Ammon | ia Catalyst | | | | |
| Ammonia C | atalyst | Model Number:_ Size of Each Lay | er or Module: | L:ft Tt | Typ | e:ft | in. H: | | in. |
| Space Ve | locity | Gas Flow Rate/C | atalyst Volume: | to the second second | per hour | | | | |
| Manufacturer's | Guarantee | NH3: | pp | m %O ₂ : | | | | | |
| Catalyst | Life | year | s (expected) | | | | (Anti- | | |
| Cost | | Capital Cost: | | Installation C | ost: | Cata | lyst Replacemen | nt Cost: | |
| Section C - | Operatio | n Information | 1 | | | | | | |
| Operating Ter | nperature | Minimum Inlet To Warm-up Time:_ | | <u> </u> | |) Maximum Temp o | erature: | 700 °F | |
| Operating S | chedule | Normal: Maximum: | 24 24 | hours/day hours/day | 7 7 | days/weekdays/week | 40 52 | weeks/yr | |
| Section D - | Authoriz | ation/Signatu | ire | | | | | | |
| | | nation gontained h | erein and inform | nation submitted with | this application | is true and correct. | | | |
| Preparer info Title | ature: : anager | Fare | Company Na AES Ala | Date: 12/20/2013 me: mitos, LLC | Phone # | Stephen O'Kaı (562) 493-78 stephen.okane@A | Fax #: | (562) 493-773 | 57 |
| Contact info | Same | as Preparer | Company Na | me: | Phone # Email: | | Fax #: | | |

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| Form 400 Selective Oxidatio | Quality Management District Mail To D-E-5 SCAQME P Catalytic Reduction (SCR) System, P.O. Box 4944 Diamond Bar, CA 91765-0944 Diamond Bar, CA 91765-0944 be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Tel: (909) 396-338: |
|--|--|
| Section A - Operato | r Information |
| Facility Name (Business Nam | e of Operator That Appears On Permit): Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): |
| AES Alamitos, LLC | 115394 |
| Address where the equipment | nt will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial location site): |
| 690 N. Studebaker | Road, Long Beach, CA 90803 • Fixed Location O Various Locations |
| Section B - Equipme | ent Description |
| | Selective Catalytic Reduction (SCR) |
| | Manufacturer:Haldor TopsoeCatalyst Active Material:Titanium/Vanadium/Tungsten |
| | Model Number: DNX GT-201 Type: ceramic honeycomb |
| SCR Catalyst | Size of Each Layer or Module: L: 65 ft. 10 in. W: 2 ft. 1.2 in. H: 20 ft. 4 in. |
| | |
| | No. of Layers or Modules:1 Total Volume:2810.00 cu. ft. Total Weight:78000 lbs. |
| Reducing Agent | O Urea O Anhydrous Ammonia O Aqueous Ammonia19.00 % Injection Rate: 149.8 lb/hr |
| Reducing Agent Storage* | Diameter: 12 ft. in. Height: 28 ft. 5 in. Capactity: 24000 gal Pressure Setting: 50 psia * A separate permit may be needed for the storage equipment. |
| Space Velocity | Gas Flow Rate/Catalyst Volume:40049_per hour |
| Area Velocity | Gas Flow Rate/Wetted Catalyst Surface Area:84287_ft/hr |
| Manufacturer's Guarantee | NOx: 2.0 ppm %0 ₂ : 15.00 NOx: gm/bhp-hr Ammonia Slip: 5 ppm @ 15.00 %0 ₂ |
| Catalyst Life | 3_years (expected) |
| Cost | Capital Cost: \$506,000.00 Installation Cost: \$50,000.00 Catalyst Replacement Cost: \$569650 |
| | Oxidation Catalyst |
| | Manufacturer: Johnson Matthey Catalyst Active Material: Palladium |
| | Model Number: SC42 Type: ceramic honeycomb |
| Oxidation Catalyst | Size of Each Layer or Module: L: 2 ft. 2 in. W: ft. 2 ft. 2 ft. 2 in. |
| | |
| And the second | No. of Layers or Modules: 260 Total Volume: 204.21 cu. ft. Total Weight: lbs. |
| Space Velocity | Gas Flow Rate/Catalyst Volume:552392_per hour |
| Manufacturer's Guarantee | VOC: <u>1.0 ppm</u> VOC: <u>gm/bhp-hr</u> %O ₂ : <u>15.00</u> |
| | CO: <u>2.0</u> ppm CO: <u>gm/bhp-hr</u> %O ₂ : <u>15.00</u> |
| Catalyst Life | 3 years (expected) |
| Cost | Capital Cost: \$595,000.00 Installation Cost: \$45,000.00 Catalyst Replacement Cost: \$491250 |

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 - | Equipme | ent Descriptio | on (cont.) | | | | | | |
|------------------------|-----------------------|------------------------------------|-----------------------|--|-------------------|--|-----------------|---------------|-----|
| | | | | Ammon | ia Catalyst | | | | |
| Ammonia C | atalyst | Model Number:_ Size of Each Lay | er or Module: | L:ft Tt | Typ | e:ft | in. H: | | in. |
| Space Ve | locity | Gas Flow Rate/C | atalyst Volume: | to the second second | per hour | | | | |
| Manufacturer's | Guarantee | NH3: | pp | m %O ₂ : | | | | | |
| Catalyst | Life | year | s (expected) | | | | (Anti- | | |
| Cost | | Capital Cost: | | Installation C | ost: | Cata | lyst Replacemen | nt Cost: | |
| Section C - | Operatio | n Information | 1 | | | | | | |
| Operating Ter | nperature | Minimum Inlet To Warm-up Time:_ | | <u> </u> | |) Maximum Temp o | erature: | 700 °F | |
| Operating S | chedule | Normal: Maximum: | 24 24 | hours/day hours/day | 7 7 | days/weekdays/week | 40 52 | weeks/yr | |
| Section D - | Authoriz | ation/Signatu | ire | | | | | | |
| | | nation gontained h | erein and inform | nation submitted with | this application | is true and correct. | | | |
| Preparer info Title | ature: : anager | Fare | Company Na AES Ala | Date: 12/20/2013 me: mitos, LLC | Phone # | Stephen O'Kaı (562) 493-78 stephen.okane@A | Fax #: | (562) 493-773 | 57 |
| Contact info | Same | as Preparer | Company Na | me: | Phone # Email: | | Fax #: | | |

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| Form 400 Gas Turt | | Mail To: SCAQMD P.O. Box 4944 Diamond Bar, CA 91765-0944 Tel: (909) 396-3385 www.agmd.gov |
|---|---|--|
| Section A - Operato | or Information | |
| | ne of Operator That Appears On Permit): Valid AQMD Facility ID (Available On Permit Or I | Invoice Issued By AQMD): |
| AES Alamitos, LLC | ; | 115394 |
| Address where the equipme | nt will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial lo | ocation site): |
| 690 N. Studebaker | Road, Long Beach, CA 90803 Fixed Locat | ion 🔿 Various Locations |
| Section B - Equipme | ent Description | |
| | Manufacturer: Model: Serial No.: | |
| | Mitsubishi Power System Americas 501DA TBD | |
| Turbine | Size (based on Higher Heating Value - HHV): | |
| | Manufacturer Maximum Input Rating: MMBTU/hr | kWh |
| | Manufacturer Maximum Output Rating: 1509 MMBTU/hr 1331 | |
| | Image: Comparison in the second se | <u> </u> |
| Function (Check all that apply) | Image: Steam Generation Image: Steam Generation Image: Steam Generation | |
| | O Simply Cycle O Regenerative Cycle | |
| Cycle Type | Combined Cycle Other (specify): | |
| Combustion Type | ⊖ Tubular | |
| Fuel (Turbine) | Image: Natural Gas LPG Digester Gas* Image: Landfill Gas* Propane Refinery Gas* Other*: | value and sulfur content). |
| Heat Recovery Steam Generator (HRSG) | Steam Turbine Capacity: 143 MW Low Pressure Steam Output Capacity: lb/hr @°F High Pressure Steam Output Capacity: 1230000 lb/hr @°F Superheated Steam Output Capacity: lb/hr @°F | |
| Duct Burner | Manufacturer: Model: Number of burners: | |
| Fuel (Duct Burner) | Natural Gas LPG Digester Gas* Landfill Gas* Propane Refinery Gas* Other*: | g value and sulfur content). |

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 - Equipme | ent Description (Con | t.) | | | | | | | |
|-------------------------|---|--------------------------|---|--|------------------------|--|--|--|--|
| | O Selective Catalytic R | Reduction (SCR)* | Selective Non-Catalytic Red | uction (SNCR)* | | | | | |
| | Oxidation Catalyst* O Other (specify)*: | | | | | | | | |
| Air Pollution Control | O Steam/Water Injection * Separate application is rea | | lbs. water/lbs. | fuel, or | _ mole water/mole fuel | | | | |
| | Capital Cost: \$595,000 | 0.00 Installation | Cost: \$45,000.00 | _ Annual Operating Cost | : | | | | |
| | Manufacturer: | | Model: | | | | | | |
| | Johnson Matthey Incorporated SC42 | | | | | | | | |
| Oxidation Catalyst Data | Catalyst Dimensions: L | ength:2 _{ft} | in. Width: | _ft2 in. Height:_ | 2_ft2_in. | | | | |
| | Catalyst Cell Density: cells/sq.in. Pressure Drop Across Catalyst: 2.0 | | | | | | | | |
| (if Applicable) | Manufacturer's Guarantee | <u>3</u> yrs | | | | | | | |
| | | VOC Control Efficiency:_ | % | Operating Temp. Range: | <u>500</u> °F | | | | |
| | Space Velocity (gas flow rate/catalyst volume): 552392 Area Velocity (gas flow/wetted catalyst surface area): 92071 | | | | | | | | |
| | VOC Concentration into C | atalyst:1_PP | MVD@ 15%O2 CO Concer | ntration inot Catalyst: | 2_PPMVD@ 15%02 | | | | |
| Section C - Operation | on Information | | | | | | | | |
| | Pollutants | Maximum Emiss | ions Before Control * | Maximum Emiss | ions After Control | | | | |
| | PORMants | PPM@15% O2, dry | ib/hour | PPM@15% O ₂ , dry | lb/hour | | | | |
| | ROG | | | 1.0 | 1.9 | | | | |
| | NOx | | | 2.0 | 10.7 | | | | |
| | CO | | | 2.0 | 6.50 | | | | |
| On-line Emissions Data | PM ₁₀ | | | | 4.5 | | | | |
| | SOx | | | | 3.09 | | | | |
| | NH ₃ | | | 5 | 9.9 | | | | |
| | Reference (attach data): | _ | temperature, fuel consumption, sission Factors | and MW output. QMD Emission Factors | Source Test | | | | |
| | Stack Height: | 120 _{ft} | O_in. Stack Diam | neter:18 | _ft0_in. | | | | |
| Stack or Vent Data | Exhaust Temperature: | 412_°F | Exhaust Pressure: | | | | | | |
| | Exhaust Flow Rate: | 1259905_CFM | Oxygen Level: | 13.69 % | | | | | |

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.

| St | artup Data | No. of Startups per day: | 3 | No. of Startup | s per year: | 495 | Duration of each startup: | | 1.5 | hrs. |
|---|---|---|---|----------------------|-----------------------------------|---------------------------------------|---------------------------|-------------|---------|------|
| Shu | tdown Data | No. of Shutdowns per day: | 3 | No. of Shutdo | wns per year: | 495 | Duration of each S | Shutdown: | 0.16 | hrs. |
| н., с., с., с., с., с., с., с., с., с., с | | Pollutants | | | ssions | | Shutde | own Emissio | ns | |
| | | Foliulants | PPM@15% | O ₂ , dry | lb/hor | ur | PPM@15% 02, dry | | lb/hour | |
| | | ROG | | | 27.3 | 3 | | | 32.6 | |
| Startup | and Shutdown | NOx | | | 25.8 | 5 | | | 18.0 | |
| | ssions Data | со | | | 113. | 9 | | | 50.8 | |
| | | PM10 | | | 4.5 | i | | | 4.5 | |
| | | SOx | | | 3.09 | 9 | | | 3.09 | |
| | | NH3 | | | | | | | | |
| Monitorin | g and Reporting | The following parameters will be continuously monitored: Image: NOx Image: October (Specify): Image: Fuel Flow Rate Image: Ammonia Injection Rate Other (specify): Image: Ammonia Stack Concentration: Ammonia CEMS Make: TBD Ammonia CEMS Model: TBD | | | | | | | | |
| Operation | ting Schedule | Normal: 24 | hours/da | | 7 | _days/week | 40 | weeks/yr | | |
| Opera | ung schedule | Maximum:24 | hours/da | ay | 7 | days/week | 52 | weeks/yr | | |
| And the second second second second | D - Authoriz | ation/Signature | | | | 1 | | | | |
| Section | | | | nitted with this | application is | true and corre | ect. | | | |
| Seasan Parts Parts | | nation contained herein and inf | and the second se | | | | | | | |
| CONTRACTOR POLICE | ertify that all inform Signature: Title: <u>Manager</u> Name: | Kare Company | Date: 12/20 | /2013 | Name: St Phone #: Email: | ephen O'l 562493784 ephen.okane | 40 Fax #: 56 | 52493773 | 37 | |

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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-12 (2009.04)

| Form 400 Gas Turt | | Mail To: SCAQMD P.O. Box 4944 Diamond Bar, CA 91765-0944 Tel: (909) 396-3385 www.agmd.gov |
|---|---|--|
| Section A - Operato | or Information | |
| | ne of Operator That Appears On Permit): Valid AQMD Facility ID (Available On Permit Or I | Invoice Issued By AQMD): |
| AES Alamitos, LLC | ; | 115394 |
| Address where the equipme | nt will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial lo | ocation site): |
| 690 N. Studebaker | Road, Long Beach, CA 90803 Fixed Locat | ion 🔿 Various Locations |
| Section B - Equipme | ent Description | |
| | Manufacturer: Model: Serial No.: | |
| | Mitsubishi Power System Americas 501DA TBD | |
| Turbine | Size (based on Higher Heating Value - HHV): | |
| | Manufacturer Maximum Input Rating: MMBTU/hr | kWh |
| | Manufacturer Maximum Output Rating: 1509 MMBTU/hr 1331 | |
| | Image: Comparison in the second se | <u> </u> |
| Function (Check all that apply) | Image: Steam Generation Image: Steam Generation Image: Steam Generation | |
| | O Simply Cycle O Regenerative Cycle | |
| Cycle Type | Combined Cycle Other (specify): | |
| Combustion Type | ⊖ Tubular | |
| Fuel (Turbine) | Image: Natural Gas LPG Digester Gas* Image: Landfill Gas* Propane Refinery Gas* Other*: | value and sulfur content). |
| Heat Recovery Steam Generator (HRSG) | Steam Turbine Capacity: 143 MW Low Pressure Steam Output Capacity: lb/hr @°F High Pressure Steam Output Capacity: 1230000 lb/hr @°F Superheated Steam Output Capacity: lb/hr @°F | |
| Duct Burner | Manufacturer: Model: Number of burners: | |
| Fuel (Duct Burner) | Natural Gas LPG Digester Gas* Landfill Gas* Propane Refinery Gas* Other*: | g value and sulfur content). |

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 - Equipme | ent Description (Con | t.) | | | | | | | |
|-------------------------|---|--------------------------|---|--|------------------------|--|--|--|--|
| | O Selective Catalytic R | Reduction (SCR)* | Selective Non-Catalytic Red | uction (SNCR)* | | | | | |
| | Oxidation Catalyst* O Other (specify)*: | | | | | | | | |
| Air Pollution Control | O Steam/Water Injection * Separate application is rea | | lbs. water/lbs. | fuel, or | _ mole water/mole fuel | | | | |
| | Capital Cost: \$595,000 | 0.00 Installation | Cost: \$45,000.00 | _ Annual Operating Cost | : | | | | |
| | Manufacturer: | | Model: | | | | | | |
| | Johnson Matthey Incorporated SC42 | | | | | | | | |
| Oxidation Catalyst Data | Catalyst Dimensions: L | ength:2 _{ft} | | _ft2 in. Height:_ | 2_ft2_in. | | | | |
| | Catalyst Cell Density: cells/sq.in. Pressure Drop Across Catalyst: 2.0 | | | | | | | | |
| (if Applicable) | Manufacturer's Guarantee | <u>3</u> yrs | | | | | | | |
| | | VOC Control Efficiency:_ | % | Operating Temp. Range: | <u>500</u> °F | | | | |
| | Space Velocity (gas flow rate/catalyst volume): 552392 Area Velocity (gas flow/wetted catalyst surface area): 92071 | | | | | | | | |
| | VOC Concentration into C | atalyst:1_PP | MVD@ 15%O2 CO Concer | ntration inot Catalyst: | 2_PPMVD@ 15%02 | | | | |
| Section C - Operation | on Information | | | | | | | | |
| | Pollutants | Maximum Emiss | ions Before Control * | Maximum Emiss | ions After Control | | | | |
| | PORMants | PPM@15% O2, dry | ib/hour | PPM@15% O ₂ , dry | lb/hour | | | | |
| | ROG | | | 1.0 | 1.9 | | | | |
| | NOx | | | 2.0 | 10.7 | | | | |
| | CO | | | 2.0 | 6.50 | | | | |
| On-line Emissions Data | PM ₁₀ | | | | 4.5 | | | | |
| | SOx | | | | 3.09 | | | | |
| | NH ₃ | | | 5 | 9.9 | | | | |
| | Reference (attach data): | _ | temperature, fuel consumption, sission Factors | and MW output. QMD Emission Factors | Source Test | | | | |
| | Stack Height: | 120 _{ft} | O_in. Stack Diam | neter:18 | _ft0_in. | | | | |
| Stack or Vent Data | Exhaust Temperature: | 412_°F | Exhaust Pressure: | | | | | | |
| | Exhaust Flow Rate: | 1259905_CFM | Oxygen Level: | 13.69 % | | | | | |

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.

| St | artup Data | No. of Startups per day: | 3 | No. of Startup | s per year: | 495 | Duration of each startup: | | 1.5 | hrs. |
|---|---|---|---|----------------------|-----------------------------------|---------------------------------------|---------------------------|-------------|---------|------|
| Shu | tdown Data | No. of Shutdowns per day: | 3 | No. of Shutdo | wns per year: | 495 | Duration of each S | Shutdown: | 0.16 | hrs. |
| н., с., с., с., с., с., с., с., с., с., с | | Pollutants | | | ssions | | Shutde | own Emissio | ns | |
| | | Foliulants | PPM@15% | O ₂ , dry | lb/hor | ur | PPM@15% 02, dry | | lb/hour | |
| | | ROG | | | 27.3 | 3 | | | 32.6 | |
| Startup | and Shutdown | NOx | | | 25.8 | 5 | | | 18.0 | |
| | ssions Data | со | | | 113. | 9 | | | 50.8 | |
| | | PM10 | | | 4.5 | i | | | 4.5 | |
| | | SOx | | | 3.09 | 9 | | | 3.09 | |
| | | NH3 | | | | | | | | |
| Monitorin | g and Reporting | The following parameters will be continuously monitored: Image: NOx Image: October (Specify): Image: Fuel Flow Rate Image: Ammonia Injection Rate Other (specify): Image: Ammonia Stack Concentration: Ammonia CEMS Make: TBD Ammonia CEMS Model: TBD | | | | | | | | |
| Operation | ting Schedule | Normal: 24 | hours/da | | 7 | _days/week | 40 | weeks/yr | | |
| Opera | ung schedule | Maximum:24 | hours/da | ay | 7 | days/week | 52 | weeks/yr | | |
| And the second second second second | D - Authoriz | ation/Signature | | | | 1 | | | | |
| Section | | | | nitted with this | application is | true and corre | ect. | | | |
| Seasan Parts Parts | | nation contained herein and inf | and the second se | | | | | | | |
| CONTRACTOR POLICE | ertify that all inform Signature: Title: <u>Manager</u> Name: | Kare Company | Date: 12/20 | /2013 | Name: St Phone #: Email: | ephen O'l 562493784 ephen.okane | 40 Fax #: 56 | 52493773 | 37 | |

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

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| Form 400 Gas Turt | | Mail To: SCAQMD P.O. Box 4944 Diamond Bar, CA 91765-0944 Tel: (909) 396-3385 www.agmd.gov |
|---|---|--|
| Section A - Operato | r Information | |
| | e of Operator That Appears On Permit): Valid AQMD Facility ID (Available On Permit Or I | Invoice Issued By AQMD): |
| AES Alamitos, LLC | | 115394 |
| Address where the equipme | nt will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial lo | ocation site): |
| 690 N. Studebaker | Road, Long Beach, CA 90803 Fixed Locat | ion 🔿 Various Locations |
| Section B - Equipme | ent Description | |
| | Manufacturer: Model: Serial No.: | |
| | Mitsubishi Power System Americas 501DA TBD | |
| Turbine | Size (based on Higher Heating Value - HHV): | |
| | Manufacturer Maximum Input Rating: MMBTU/hr | kWh |
| | Manufacturer Maximum Output Rating: 1509 MMBTU/hr 1331 | |
| Provedlan | Image: Contract of the second seco | |
| Function (Check all that apply) | Image: Second | |
| | O Simply Cycle Regenerative Cycle | |
| Cycle Type | Combined Cycle Other (specify): | |
| Combustion Type | O Tubular O Can-Annular O Annular | |
| Fuel (Turbine) | Image: Sector of the sector | value and sulfur content). |
| Heat Recovery Steam Generator (HRSG) | Steam Turbine Capacity: 143 MW Low Pressure Steam Output Capacity: lb/hr @°F High Pressure Steam Output Capacity: 1230000 lb/hr @°F Superheated Steam Output Capacity: lb/hr @°F | |
| Duct Burner | Manufacturer: Model: Number of burners: | |
| Fuel (Duct Burner) | Natural Gas LPG Digester Gas* Landfill Gas* Propane Refinery Gas* Other*: | g value and sulfur content). |

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 - Equipm | ent Description (Con | it.) | | | | | | |
|--|---|---|-----------------------------|---------------------------------|---------------------------|--|--|--|
| | O Selective Catalytic R | Reduction (SCR)* | Selective Non-Catalytic Red | uction (SNCR)* | | | | |
| Air Pollution Control | Oxidation Catalyst* Other (specify)*: | | | | | | | |
| | | Steam/Water Injection: Injection Rate: Ibs. water/lbs. fuel, or Separate application is required. Separate application is required. | | | | | | |
| | Capital Cost: \$595,00 | 0.00 Installation | Cost: \$45,000.00 | Annual Operating Cost | ······ | | | |
| | Manufacturer: Model: | | | | | | | |
| | Johnson Matthey Incorporated SC42 | | | | | | | |
| | Catalyst Dimensions: L | ength:2 _{ft} | 2 in. Width: | ft2 in. Height:_ | <u>2</u> ft. <u>2</u> in. | | | |
| Oxidation Catalyst Data (If Applicable) | Catalyst Cell Density: cells/sq.in. Pressure Drop Across Catalyst: 2.0 | | | | | | | |
| | Manufacturer's Guarantee | : CO Control Efficiency: | % | Catalyst Life: | 3_yrs | | | |
| | | VOC Control Efficiency:_ | % | Operating Temp. Range: | <u>500</u> ° _F | | | |
| | Space Velocity (gas flow rate/catalyst volume): 552392 Area Velocity (gas flow/wetted catalyst surface area): 92071 | | | | | | | |
| | VOC Concentration into C | atalyst:1 PP | MVD@ 15%O2 CO Concer | ntration inot Catalyst: | 2_PPMVD@ 15%02 | | | |
| Section C - Operation | on Information | | | | | | | |
| | Maximum Emissions Before Control * | | | Maximum Emissions After Control | | | | |
| | Pollutants | PPM@15% O2, dry | ib/hour | PPM@15% O2, dry | lb/hour | | | |
| | ROG | | | 1.0 | 1.9 | | | |
| | NOx | | | 2.0 | 10.7 | | | |
| | СО | | | 2.0 | 6.50 | | | |
| On-line Emissions Data | PM ₁₀ | | | | 4.5 | | | |
| | SOx | | | | 3.09 | | | |
| | NH3 | | | 5 | 9.9 | | | |
| | * Based on temperature, fuel consumption, and MW output. Reference (attach data): Manufacturer Emission Data EPA Emission Factors AQMD Emission Factors Source Test | | | | | | | |
| | Sheek Helekt | 120 _{ft} | O in. Stack Diam | | | | | |
| Stack or Vent Data | Stack Height: | | | | _ft0_in. | | | |
| | Exhaust Temperature: | <u>412</u> °F | Exhaust Pressure: | | olumn | | | |
| | Exhaust Flow Rate: | 1259905_CFM | Oxygen Level: | 13.69 % | | | | |

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.

| St | artup Data | No. of Startups per day: | 3 No. of Startups per year: 495 3 No. of Shutdowns per year: 495 | | 495 | Duration of each startup: Duration of each Shutdown: | | 1.5 | hrs. | |
|--|---|--|--|----------------------|----------|--|-----------------|----------|---------|--|
| Shu | tdown Data | No. of Shutdowns per day: | | | 495 | | | 0.16 | hrs. | |
| | Pollutants | | Startup Emissions | | | Shutdown Emissions | | | | |
| | | Foliutants | PPM@15% | O ₂ , dry | lb/hour | | PPM@15% O2, dry | | lb/hour | |
| Startup and Shutdown Emissions Data | ROG | | | 27.3 | | | | 32.6 | | |
| | NOx | | | 25.5 | | | | 18.0 | | |
| | | со | | | 113.9 | | | | 50.8 | |
| | | PM10 | | | 4.5 | | | | 4.5 | |
| | SOx | | | 3.09 | | | | 3.09 | | |
| | | NH ₃ | | | | | | | | |
| Monitoring and Reporting | | The following parameters will be continuously monitored: Image: Nox Image: CO Image: O2 Image: Fuel Flow Rate Image: Ammonia Injection Rate Image: Other (specify): Image: Ammonia Stack Concentration: Ammonia CEMS Make: TBD Ammonia CEMS Model: TBD | | | | | | | | |
| Operating Schedule | | Normal: <u>24</u> | hours/d | - | | ays/week | 40 | weeks/yr | | |
| Operating Schedule | Maximum:24 | hours/d | ay <u>7</u> | da | ays/week | 52 | weeks/yr | | | |
| Section | D - Authoriz | ation/Signature | | | | 1. C. C. C. | | | | |
| i hereby ce | and the second se | nation contained herein and in | | | | e and corre | ict. | | | |
| | Signature: | Hare. | | | ione #: | hen O'k 2493784 | Fax #· | 62493773 | 37 | |
| Preparer Info | Title: Manager | Company AES A | Alamitos, L | | nail: | | @AES.com | | | |

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 <u>at the time of submittal</u> 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-12 (2009.04)

| Form 400 Gas Turt | | Mail To: SCAQMD P.O. Box 4944 Diamond Bar, CA 91765-0944 Tel: (909) 396-3385 www.agmd.gov |
|---|---|--|
| Section A - Operato | or Information | |
| | ne of Operator That Appears On Permit): Valid AQMD Facility ID (Available On Permit Or I | Invoice Issued By AQMD): |
| AES Alamitos, LLC | ; | 115394 |
| Address where the equipme | nt will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial lo | ocation site): |
| 690 N. Studebaker | Road, Long Beach, CA 90803 Fixed Locat | ion 🔿 Various Locations |
| Section B - Equipme | ent Description | |
| | Manufacturer: Model: Serial No.: | |
| | Mitsubishi Power System Americas 501DA TBD | |
| Turbine | Size (based on Higher Heating Value - HHV): | |
| | Manufacturer Maximum Input Rating: MMBTU/hr | kWh |
| | Manufacturer Maximum Output Rating: 1509 MMBTU/hr 1331 | |
| | Image: Comparison in the second se | <u> </u> |
| Function (Check all that apply) | Image: Steam Generation Image: Steam Generation Image: Steam Generation | |
| | O Simply Cycle O Regenerative Cycle | |
| Cycle Type | Combined Cycle Other (specify): | |
| Combustion Type | ⊖ Tubular | |
| Fuel (Turbine) | Image: Natural Gas LPG Digester Gas* Image: Landfill Gas* Propane Refinery Gas* Other*: | value and sulfur content). |
| Heat Recovery Steam Generator (HRSG) | Steam Turbine Capacity: 143 MW Low Pressure Steam Output Capacity: lb/hr @°F High Pressure Steam Output Capacity: 1230000 lb/hr @°F Superheated Steam Output Capacity: lb/hr @°F | |
| Duct Burner | Manufacturer: Model: Number of burners: | |
| Fuel (Duct Burner) | Natural Gas LPG Digester Gas* Landfill Gas* Propane Refinery Gas* Other*: | g value and sulfur content). |

Gas Turbine

| Section B - Equipme | ent Description (Con | t.) | | | | | | | | |
|--|--|--|---|--|--------------------------|--|--|--|--|--|
| | O Selective Catalytic R | Reduction (SCR)* | Selective Non-Catalytic Red | uction (SNCR)* | | | | | | |
| | Oxidation Catalyst* Other (specify)*: | | | | | | | | | |
| Air Pollution Control | O Steam/Water Injection * Separate application is rea | | lbs. water/lbs. | fuel, or | _ mole water/mole fuel | | | | | |
| | Capital Cost: \$595,000 | 0.00 Installation | Cost: \$45,000.00 | _ Annual Operating Cost | : | | | | | |
| | Manufacturer: | | Model: | | | | | | | |
| | Johnson Matthey | Incorporated | SC42 | 2 | | | | | | |
| | Catalyst Dimensions: L | ength:2 _{ft} | in. Width: | _ft2 in. Height:_ | 2_ft2_in. | | | | | |
| Outleding Codebud Date | Catalyst Cell Density: | Catalyst Cell Density: cells/sq.in. Pressure Drop Across Catalyst: 2.0 | | | | | | | | |
| Oxidation Catalyst Data (If Applicable) | 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 ra | te/catalyst volume): 55239 | Area Velocity (g | as flow/wetted catalyst surface | _{area):_} 92071 | | | | | |
| | VOC Concentration into C | atalyst:1_PP | MVD@ 15%O2 CO Concer | ntration inot Catalyst: | 2_PPMVD@ 15%02 | | | | | |
| Section C - Operation | on Information | | | | | | | | | |
| | Pollutants | Maximum Emiss | ions Before Control * | Maximum Emiss | ions After Control | | | | | |
| | PORMants | PPM@15% O2, dry | ib/hour | PPM@15% O ₂ , dry | lb/hour | | | | | |
| | ROG | | | 1.0 | 1.9 | | | | | |
| | NOx | | | 2.0 | 10.7 | | | | | |
| | CO | | | 2.0 | 6.50 | | | | | |
| On-line Emissions Data | PM ₁₀ | | | | 4.5 | | | | | |
| | SOx | | | | 3.09 | | | | | |
| | NH ₃ | | | 5 | 9.9 | | | | | |
| | Reference (attach data): | _ | temperature, fuel consumption, sission Factors | and MW output. QMD Emission Factors | Source Test | | | | | |
| | Stack Height: | 120 _{ft} | O_in. Stack Diam | neter:18 | _ft0_in. | | | | | |
| Stack or Vent Data | Exhaust Temperature: | 412_°F | Exhaust Pressure: | | | | | | | |
| | Exhaust Flow Rate: | 1259905_CFM | Oxygen Level: | 13.69 % | | | | | | |

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.

| St | artup Data | No. of Startups per day: | 3 | No. of Startup | s per year: | 495 | Duration of each startup: | | 1.5 | hrs. |
|---|---|--|---|----------------------|-----------------------------------|---------------------------------------|------------------------------|----------|---------|------|
| Shu | tdown Data | No. of Shutdowns per day: | 3 | No. of Shutdo | wns per year: | 495 | Duration of each Shutdown:0. | | | hrs. |
| н., с., с., с., с., с., с., с., с., с., с | | Pollutants | | Startup Emi | ssions | | Shutdown Emissions | | | |
| | | Foliulants | PPM@15% | O ₂ , dry | lb/hor | ur | PPM@15% 02, dry | | lb/hour | |
| | | ROG | | | 27.3 | 3 | | | 32.6 | |
| Startup | and Shutdown | NOx | | | 25.8 | 5 | | | 18.0 | |
| | ssions Data | со | | | 113. | 9 | | | 50.8 | |
| | | PM10 | | | 4.5 | i | | | 4.5 | |
| | | SOx | | | 3.09 | 9 | | | 3.09 | |
| | | NH3 | | | | | | | | |
| Monitorin | g and Reporting | The following parameters will be continuously monitored: Image: NOx Image: O2 Image: Fuel Flow Rate Image: Ammonia Injection Rate Image: Other (specify): Image: Ammonia Stack Concentration: Ammonia CEMS Make: TBD Ammonia CEMS Model: TBD | | | | | | | | |
| Operation | ting Schedule | Normal: 24 | hours/da | | 7 | _days/week | 40 | weeks/yr | | |
| Opera | ung schedule | Maximum:24 | hours/da | ay | 7 | days/week | 52 | weeks/yr | | |
| And the second second second second | D - Authoriz | ation/Signature | | | | 1 | | | | |
| Section | | | | nitted with this | application is | true and corre | ect. | | | |
| Seasan Parts Parts | | nation contained herein and inf | and the second se | | | | | | | |
| CONTRACTOR POLICE | ertify that all inform Signature: Title: <u>Manager</u> Name: | Kare Company | Date: 12/20 | /2013 | Name: St Phone #: Email: | ephen O'l 562493784 ephen.okane | 40 Fax #: 56 | 52493773 | 37 | |

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

| Form 400 Gas Turt | | Mail To: SCAQMD P.O. Box 4944 Diamond Bar, CA 91765-0944 Tel: (909) 396-3385 www.agmd.gov |
|---|---|--|
| Section A - Operato | or Information | |
| | ne of Operator That Appears On Permit): Valid AQMD Facility ID (Available On Permit Or I | Invoice Issued By AQMD): |
| AES Alamitos, LLC | ; | 115394 |
| Address where the equipme | nt will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial lo | ocation site): |
| 690 N. Studebaker | Road, Long Beach, CA 90803 Fixed Locat | ion 🔿 Various Locations |
| Section B - Equipme | ent Description | |
| | Manufacturer: Model: Serial No.: | |
| | Mitsubishi Power System Americas 501DA TBD | |
| Turbine | Size (based on Higher Heating Value - HHV): | |
| | Manufacturer Maximum Input Rating: MMBTU/hr | kWh |
| | Manufacturer Maximum Output Rating: 1509 MMBTU/hr 1331 | |
| | Image: Comparison in the second se | <u> </u> |
| Function (Check all that apply) | Image: Steam Generation Image: Steam Generation Image: Steam Generation | |
| | O Simply Cycle O Regenerative Cycle | |
| Cycle Type | Combined Cycle Other (specify): | |
| Combustion Type | ⊖ Tubular | |
| Fuel (Turbine) | Image: Natural Gas LPG Digester Gas* Image: Landfill Gas* Propane Refinery Gas* Other*: | value and sulfur content). |
| Heat Recovery Steam Generator (HRSG) | Steam Turbine Capacity: 143 MW Low Pressure Steam Output Capacity: lb/hr @°F High Pressure Steam Output Capacity: 1230000 lb/hr @°F Superheated Steam Output Capacity: lb/hr @°F | |
| Duct Burner | Manufacturer: Model: Number of burners: | |
| Fuel (Duct Burner) | Natural Gas LPG Digester Gas* Landfill Gas* Propane Refinery Gas* Other*: | g value and sulfur content). |

Gas Turbine

| Section B - Equipme | ent Description (Con | t.) | | | | | | | | |
|--|--|--|---|--|--------------------------|--|--|--|--|--|
| | O Selective Catalytic R | Reduction (SCR)* | Selective Non-Catalytic Red | uction (SNCR)* | | | | | | |
| | Oxidation Catalyst* Other (specify)*: | | | | | | | | | |
| Air Pollution Control | O Steam/Water Injection * Separate application is rea | | lbs. water/lbs. | fuel, or | _ mole water/mole fuel | | | | | |
| | Capital Cost: \$595,000 | 0.00 Installation | Cost: \$45,000.00 | _ Annual Operating Cost | : | | | | | |
| | Manufacturer: | | Model: | | | | | | | |
| | Johnson Matthey | Incorporated | SC42 | 2 | | | | | | |
| | Catalyst Dimensions: L | ength:2 _{ft} | | _ft2 in. Height:_ | 2_ft2_in. | | | | | |
| Outleding Codebud Date | Catalyst Cell Density: | Catalyst Cell Density: cells/sq.in. Pressure Drop Across Catalyst: 2.0 | | | | | | | | |
| Oxidation Catalyst Data (If Applicable) | 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 ra | te/catalyst volume): 55239 | Area Velocity (g | as flow/wetted catalyst surface | _{area):_} 92071 | | | | | |
| | VOC Concentration into C | atalyst:1_PP | MVD@ 15%O2 CO Concer | ntration inot Catalyst: | 2_PPMVD@ 15%02 | | | | | |
| Section C - Operation | on Information | | | | | | | | | |
| | Pollutants | Maximum Emiss | ions Before Control * | Maximum Emiss | ions After Control | | | | | |
| | PORMants | PPM@15% O2, dry | ib/hour | PPM@15% O ₂ , dry | lb/hour | | | | | |
| | ROG | | | 1.0 | 1.9 | | | | | |
| | NOx | | | 2.0 | 10.7 | | | | | |
| | CO | | | 2.0 | 6.50 | | | | | |
| On-line Emissions Data | PM ₁₀ | | | | 4.5 | | | | | |
| | SOx | | | | 3.09 | | | | | |
| | NH ₃ | | | 5 | 9.9 | | | | | |
| | Reference (attach data): | _ | temperature, fuel consumption, sission Factors | and MW output. QMD Emission Factors | Source Test | | | | | |
| | Stack Height: | 120 _{ft} | O_in. Stack Diam | neter:18 | _ft0_in. | | | | | |
| Stack or Vent Data | Exhaust Temperature: | 412_°F | Exhaust Pressure: | | | | | | | |
| | Exhaust Flow Rate: | 1259905_CFM | Oxygen Level: | 13.69 % | | | | | | |

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.

| St | artup Data | No. of Startups per day: | 3 | No. of Startup | s per year: | 495 | Duration of each startup: | | 1.5 | hrs. |
|---|---|--|---|----------------------|-----------------------------------|---------------------------------------|------------------------------|----------|---------|------|
| Shu | tdown Data | No. of Shutdowns per day: | 3 | No. of Shutdo | wns per year: | 495 | Duration of each Shutdown:0. | | | hrs. |
| н., с., с., с., с., с., с., с., с., с., с | | Pollutants | | Startup Emi | ssions | | Shutdown Emissions | | | |
| | | Foliulants | PPM@15% | O ₂ , dry | lb/hor | ur | PPM@15% 02, dry | | lb/hour | |
| | | ROG | | | 27.3 | 3 | | | 32.6 | |
| Startup | and Shutdown | NOx | | | 25.8 | 5 | | | 18.0 | |
| | ssions Data | со | | | 113. | 9 | | | 50.8 | |
| | | PM10 | | | 4.5 | i | | | 4.5 | |
| | | SOx | | | 3.09 | 9 | | | 3.09 | |
| | | NH3 | | | | | | | | |
| Monitorin | g and Reporting | The following parameters will be continuously monitored: Image: NOx Image: O2 Image: Fuel Flow Rate Image: Ammonia Injection Rate Image: Other (specify): Image: Ammonia Stack Concentration: Ammonia CEMS Make: TBD Ammonia CEMS Model: TBD | | | | | | | | |
| Operation | ting Schedule | Normal: 24 | hours/da | | 7 | _days/week | 40 | weeks/yr | | |
| Opera | ung schedule | Maximum:24 | hours/da | ay | 7 | days/week | 52 | weeks/yr | | |
| And the second second second second | D - Authoriz | ation/Signature | | | | 1 | | | | |
| Section | | | | nitted with this | application is | true and corre | ect. | | | |
| Seasan Parts Parts | | nation contained herein and inf | and the second se | | | | | | | |
| CONTRACTOR POLICE | ertify that all inform Signature: Title: <u>Manager</u> Name: | Kare Company | Date: 12/20 | /2013 | Name: St Phone #: Email: | ephen O'l 562493784 ephen.okane | 40 Fax #: 56 | 52493773 | 37 | |

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| Form 400 Gas Turt | | Mail To: SCAQMD P.O. Box 4944 Diamond Bar, CA 91765-0944 Tel: (909) 396-3385 www.agmd.gov |
|---|---|--|
| Section A - Operato | or Information | |
| | ne of Operator That Appears On Permit): Valid AQMD Facility ID (Available On Permit Or I | Invoice Issued By AQMD): |
| AES Alamitos, LLC | ; | 115394 |
| Address where the equipme | nt will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial lo | ocation site): |
| 690 N. Studebaker | Road, Long Beach, CA 90803 Fixed Locat | ion 🔿 Various Locations |
| Section B - Equipme | ent Description | |
| | Manufacturer: Model: Serial No.: | |
| | Mitsubishi Power System Americas 501DA TBD | |
| Turbine | Size (based on Higher Heating Value - HHV): | |
| | Manufacturer Maximum Input Rating: MMBTU/hr | kWh |
| | Manufacturer Maximum Output Rating: 1509 MMBTU/hr 1331 | |
| | Image: Comparison in the second se | <u> </u> |
| Function (Check all that apply) | Image: Steam Generation Image: Steam Generation Image: Steam Generation | |
| | O Simply Cycle O Regenerative Cycle | |
| Cycle Type | Combined Cycle Other (specify): | |
| Combustion Type | ⊖ Tubular | |
| Fuel (Turbine) | Image: Natural Gas LPG Digester Gas* Image: Landfill Gas* Propane Refinery Gas* Other*: | value and sulfur content). |
| Heat Recovery Steam Generator (HRSG) | Steam Turbine Capacity: 143 MW Low Pressure Steam Output Capacity: lb/hr @°F High Pressure Steam Output Capacity: 1230000 lb/hr @°F Superheated Steam Output Capacity: lb/hr @°F | |
| Duct Burner | Manufacturer: Model: Number of burners: | |
| Fuel (Duct Burner) | Natural Gas LPG Digester Gas* Landfill Gas* Propane Refinery Gas* Other*: | g value and sulfur content). |

Gas Turbine

| Section B - Equipme | ent Description (Con | t.) | | | | | | | | |
|--|--|--|---|--|--------------------------|--|--|--|--|--|
| | O Selective Catalytic R | Reduction (SCR)* | Selective Non-Catalytic Red | uction (SNCR)* | | | | | | |
| | Oxidation Catalyst* Other (specify)*: | | | | | | | | | |
| Air Pollution Control | O Steam/Water Injection * Separate application is rea | | lbs. water/lbs. | fuel, or | _ mole water/mole fuel | | | | | |
| | Capital Cost: \$595,000 | 0.00 Installation | Cost: \$45,000.00 | _ Annual Operating Cost | : | | | | | |
| | Manufacturer: | | Model: | | | | | | | |
| | Johnson Matthey | Incorporated | SC42 | 2 | | | | | | |
| | Catalyst Dimensions: L | ength:2 _{ft} | in. Width: | _ft2 in. Height:_ | 2_ft2_in. | | | | | |
| Outleding Codebud Date | Catalyst Cell Density: | Catalyst Cell Density: cells/sq.in. Pressure Drop Across Catalyst: 2.0 | | | | | | | | |
| Oxidation Catalyst Data (If Applicable) | 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 ra | te/catalyst volume): 55239 | Area Velocity (g | as flow/wetted catalyst surface | _{area):_} 92071 | | | | | |
| | VOC Concentration into C | atalyst:1_PP | MVD@ 15%O2 CO Concer | ntration inot Catalyst: | 2_PPMVD@ 15%02 | | | | | |
| Section C - Operation | on Information | | | | | | | | | |
| | Pollutants | Maximum Emiss | ions Before Control * | Maximum Emiss | ions After Control | | | | | |
| | PORMants | PPM@15% O2, dry | ib/hour | PPM@15% O ₂ , dry | lb/hour | | | | | |
| | ROG | | | 1.0 | 1.9 | | | | | |
| | NOx | | | 2.0 | 10.7 | | | | | |
| | CO | | | 2.0 | 6.50 | | | | | |
| On-line Emissions Data | PM ₁₀ | | | | 4.5 | | | | | |
| | SOx | | | | 3.09 | | | | | |
| | NH ₃ | | | 5 | 9.9 | | | | | |
| | Reference (attach data): | _ | temperature, fuel consumption, sission Factors | and MW output. QMD Emission Factors | Source Test | | | | | |
| | Stack Height: | 120 _{ft} | O_in. Stack Diam | neter:18 | _ft0_in. | | | | | |
| Stack or Vent Data | Exhaust Temperature: | 412_°F | Exhaust Pressure: | | | | | | | |
| | Exhaust Flow Rate: | 1259905_CFM | Oxygen Level: | 13.69 % | | | | | | |

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.

| St | artup Data | No. of Startups per day: | 3 | No. of Startup | s per year: | 495 | Duration of each startup: | | 1.5 | hrs. |
|---|---|--|---|----------------------|-----------------------------------|---------------------------------------|------------------------------|----------|---------|------|
| Shu | tdown Data | No. of Shutdowns per day: | 3 | No. of Shutdo | wns per year: | 495 | Duration of each Shutdown:0. | | | hrs. |
| н., с., с., с., с., с., с., с., с., с., с | | Pollutants | | Startup Emi | ssions | | Shutdown Emissions | | | |
| | | Foliulants | PPM@15% | O ₂ , dry | lb/hor | ur | PPM@15% 02, dry | | lb/hour | |
| | | ROG | | | 27.3 | 3 | | | 32.6 | |
| Startup | and Shutdown | NOx | | | 25.8 | 5 | | | 18.0 | |
| | ssions Data | со | | | 113. | 9 | | | 50.8 | |
| | | PM10 | | | 4.5 | i | | | 4.5 | |
| | | SOx | | | 3.09 | 9 | | | 3.09 | |
| | | NH3 | | | | | | | | |
| Monitorin | g and Reporting | The following parameters will be continuously monitored: Image: NOx Image: O2 Image: Fuel Flow Rate Image: Ammonia Injection Rate Image: Other (specify): Image: Ammonia Stack Concentration: Ammonia CEMS Make: TBD Ammonia CEMS Model: TBD | | | | | | | | |
| Operation | ting Schedule | Normal: 24 | hours/da | | 7 | _days/week | 40 | weeks/yr | | |
| Opera | ung schedule | Maximum:24 | hours/da | ay | 7 | days/week | 52 | weeks/yr | | |
| And the second second second second | D - Authoriz | ation/Signature | | | | 1 | | | | |
| Section | | | | nitted with this | application is | true and corre | ect. | | | |
| Seasan Parts Parts | | nation contained herein and inf | and the second se | | | | | | | |
| CONTRACTOR POLICE | ertify that all inform Signature: Title: <u>Manager</u> Name: | Kare Company | Date: 12/20 | /2013 | Name: St Phone #: Email: | ephen O'l 562493784 ephen.okane | 40 Fax #: 56 | 52493773 | 37 | |

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

| Form 400 Gas Turt | | Mail To: SCAQMD P.O. Box 4944 Diamond Bar, CA 91765-0944 Tel: (909) 396-3385 www.agmd.gov |
|---|---|--|
| Section A - Operato | or Information | |
| | ne of Operator That Appears On Permit): Valid AQMD Facility ID (Available On Permit Or I | Invoice Issued By AQMD): |
| AES Alamitos, LLC | ; | 115394 |
| Address where the equipme | nt will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial lo | ocation site): |
| 690 N. Studebaker | Road, Long Beach, CA 90803 Fixed Locat | ion 🔿 Various Locations |
| Section B - Equipme | ent Description | |
| | Manufacturer: Model: Serial No.: | |
| | Mitsubishi Power System Americas 501DA TBD | |
| Turbine | Size (based on Higher Heating Value - HHV): | |
| | Manufacturer Maximum Input Rating: MMBTU/hr | kWh |
| | Manufacturer Maximum Output Rating: 1509 MMBTU/hr 1331 | |
| | Image: Comparison in the second se | <u> </u> |
| Function (Check all that apply) | Image: Steam Generation Image: Steam Generation Image: Steam Generation | |
| | O Simply Cycle O Regenerative Cycle | |
| Cycle Type | Combined Cycle Other (specify): | |
| Combustion Type | ⊖ Tubular | |
| Fuel (Turbine) | Image: Natural Gas LPG Digester Gas* Image: Landfill Gas* Propane Refinery Gas* Other*: | value and sulfur content). |
| Heat Recovery Steam Generator (HRSG) | Steam Turbine Capacity: 143 MW Low Pressure Steam Output Capacity: lb/hr @°F High Pressure Steam Output Capacity: 1230000 lb/hr @°F Superheated Steam Output Capacity: lb/hr @°F | |
| Duct Burner | Manufacturer: Model: Number of burners: | |
| Fuel (Duct Burner) | Natural Gas LPG Digester Gas* Landfill Gas* Propane Refinery Gas* Other*: | g value and sulfur content). |

Gas Turbine

| Section B - Equipme | ent Description (Con | t.) | | | | | | | | |
|--|--|--|---|--|--------------------------|--|--|--|--|--|
| | O Selective Catalytic R | Reduction (SCR)* | Selective Non-Catalytic Red | uction (SNCR)* | | | | | | |
| | Oxidation Catalyst* Other (specify)*: | | | | | | | | | |
| Air Pollution Control | O Steam/Water Injection * Separate application is rea | | lbs. water/lbs. | fuel, or | _ mole water/mole fuel | | | | | |
| | Capital Cost: \$595,000 | 0.00 Installation | Cost: \$45,000.00 | _ Annual Operating Cost | : | | | | | |
| | Manufacturer: | | Model: | | | | | | | |
| | Johnson Matthey | Incorporated | SC42 | 2 | | | | | | |
| | Catalyst Dimensions: L | ength:2 _{ft} | | _ft2 in. Height:_ | 2_ft2_in. | | | | | |
| Outleding Codebud Date | Catalyst Cell Density: | Catalyst Cell Density: cells/sq.in. Pressure Drop Across Catalyst: 2.0 | | | | | | | | |
| Oxidation Catalyst Data (if Applicable) | 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 ra | te/catalyst volume): 55239 | Area Velocity (g | as flow/wetted catalyst surface | _{area):_} 92071 | | | | | |
| | VOC Concentration into C | atalyst:1_PP | MVD@ 15%O2 CO Concer | ntration inot Catalyst: | 2_PPMVD@ 15%02 | | | | | |
| Section C - Operation | on Information | | | | | | | | | |
| | Pollutants | Maximum Emiss | ions Before Control * | Maximum Emiss | ions After Control | | | | | |
| | PORMants | PPM@15% O2, dry | ib/hour | PPM@15% O ₂ , dry | lb/hour | | | | | |
| | ROG | | | 1.0 | 1.9 | | | | | |
| | NOx | | | 2.0 | 10.7 | | | | | |
| | CO | | | 2.0 | 6.50 | | | | | |
| On-line Emissions Data | PM ₁₀ | | | | 4.5 | | | | | |
| | SOx | | | | 3.09 | | | | | |
| | NH ₃ | | | 5 | 9.9 | | | | | |
| | Reference (attach data): | _ | temperature, fuel consumption, sission Factors | and MW output. QMD Emission Factors | Source Test | | | | | |
| | Stack Height: | 120 _{ft} | O_in. Stack Diam | neter:18 | _ft0_in. | | | | | |
| Stack or Vent Data | Exhaust Temperature: | 412_°F | Exhaust Pressure: | | | | | | | |
| | Exhaust Flow Rate: | 1259905_CFM | Oxygen Level: | 13.69 % | | | | | | |

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.

| St | artup Data | No. of Startups per day: | 3 | No. of Startup | s per year: | 495 | Duration of each startup: | | 1.5 | hrs. |
|---|---|--|---|----------------------|-----------------------------------|---------------------------------------|------------------------------|----------|---------|------|
| Shu | tdown Data | No. of Shutdowns per day: | 3 | No. of Shutdo | wns per year: | 495 | Duration of each Shutdown:0. | | | hrs. |
| н., с., с., с., с., с., с., с., с., с., с | | Pollutants | | Startup Emi | ssions | | Shutdown Emissions | | | |
| | | Foliulants | PPM@15% | O ₂ , dry | lb/hor | ur | PPM@15% 02, dry | | lb/hour | |
| | | ROG | | | 27.3 | 3 | | | 32.6 | |
| Startup | and Shutdown | NOx | | | 25.8 | 5 | | | 18.0 | |
| | ssions Data | со | | | 113. | 9 | | | 50.8 | |
| | | PM10 | | | 4.5 | i | | | 4.5 | |
| | | SOx | | | 3.09 | 9 | | | 3.09 | |
| | | NH3 | | | | | | | | |
| Monitorin | g and Reporting | The following parameters will be continuously monitored: Image: NOx Image: O2 Image: Fuel Flow Rate Image: Ammonia Injection Rate Image: Other (specify): Image: Ammonia Stack Concentration: Ammonia CEMS Make: TBD Ammonia CEMS Model: TBD | | | | | | | | |
| Operation | ting Schedule | Normal: 24 | hours/da | | 7 | _days/week | 40 | weeks/yr | | |
| Opera | ung schedule | Maximum:24 | hours/da | ay | 7 | days/week | 52 | weeks/yr | | |
| And the second second second second | D - Authoriz | ation/Signature | | | | 1 | | | | |
| Section | | | | nitted with this | application is | true and corre | ect. | | | |
| Seasan Parts Parts | | nation contained herein and inf | and the second se | | | | | | | |
| CONTRACTOR POLICE | ertify that all inform Signature: Title: <u>Manager</u> Name: | Kare Company | Date: 12/20 | /2013 | Name: St Phone #: Email: | ephen O'l 562493784 ephen.okane | 40 Fax #: 56 | 52493773 | 37 | |

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| Form 400 Gas Turt | | Mail To: SCAQMD P.O. Box 4944 Diamond Bar, CA 91765-0944 Tel: (909) 396-3385 www.agmd.gov |
|---|---|--|
| Section A - Operato | or Information | |
| | ne of Operator That Appears On Permit): Valid AQMD Facility ID (Available On Permit Or I | Invoice Issued By AQMD): |
| AES Alamitos, LLC | ; | 115394 |
| Address where the equipme | nt will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial lo | ocation site): |
| 690 N. Studebaker | Road, Long Beach, CA 90803 Fixed Locat | ion 🔿 Various Locations |
| Section B - Equipme | ent Description | |
| | Manufacturer: Model: Serial No.: | |
| | Mitsubishi Power System Americas 501DA TBD | |
| Turbine | Size (based on Higher Heating Value - HHV): | |
| | Manufacturer Maximum Input Rating: MMBTU/hr | kWh |
| | Manufacturer Maximum Output Rating: 1509 MMBTU/hr 1331 | |
| | Image: Comparison in the second se | <u> </u> |
| Function (Check all that apply) | Image: Steam Generation Image: Steam Generation Image: Steam Generation | |
| | O Simply Cycle O Regenerative Cycle | |
| Cycle Type | Combined Cycle Other (specify): | |
| Combustion Type | ⊖ Tubular | |
| Fuel (Turbine) | Image: Natural Gas LPG Digester Gas* Image: Landfill Gas* Propane Refinery Gas* Other*: | value and sulfur content). |
| Heat Recovery Steam Generator (HRSG) | Steam Turbine Capacity: 143 MW Low Pressure Steam Output Capacity: lb/hr @°F High Pressure Steam Output Capacity: 1230000 lb/hr @°F Superheated Steam Output Capacity: lb/hr @°F | |
| Duct Burner | Manufacturer: Model: Number of burners: | |
| Fuel (Duct Burner) | Natural Gas LPG Digester Gas* Landfill Gas* Propane Refinery Gas* Other*: | g value and sulfur content). |

Gas Turbine

| Section B - Equipme | ent Description (Con | t.) | | | | | | | | |
|--|--|--|---|--|--------------------------|--|--|--|--|--|
| | O Selective Catalytic R | Reduction (SCR)* | Selective Non-Catalytic Red | uction (SNCR)* | | | | | | |
| | Oxidation Catalyst* Other (specify)*: | | | | | | | | | |
| Air Pollution Control | O Steam/Water Injection * Separate application is rea | | lbs. water/lbs. | fuel, or | _ mole water/mole fuel | | | | | |
| | Capital Cost: \$595,000 | 0.00 Installation | Cost: \$45,000.00 | _ Annual Operating Cost | : | | | | | |
| | Manufacturer: | | Model: | | | | | | | |
| | Johnson Matthey | Incorporated | SC42 | 2 | | | | | | |
| | Catalyst Dimensions: L | ength:2 _{ft} | | _ft2 in. Height:_ | 2_ft2_in. | | | | | |
| Outleding Codebud Date | Catalyst Cell Density: | Catalyst Cell Density: cells/sq.in. Pressure Drop Across Catalyst: 2.0 | | | | | | | | |
| Oxidation Catalyst Data (If Applicable) | 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 ra | te/catalyst volume): 55239 | Area Velocity (g | as flow/wetted catalyst surface | _{area):_} 92071 | | | | | |
| | VOC Concentration into C | atalyst:1_PP | MVD@ 15%O2 CO Concer | ntration inot Catalyst: | 2_PPMVD@ 15%02 | | | | | |
| Section C - Operation | on Information | | | | | | | | | |
| | Pollutants | Maximum Emiss | ions Before Control * | Maximum Emiss | ions After Control | | | | | |
| | PORMants | PPM@15% O2, dry | ib/hour | PPM@15% O ₂ , dry | lb/hour | | | | | |
| | ROG | | | 1.0 | 1.9 | | | | | |
| | NOx | | | 2.0 | 10.7 | | | | | |
| | CO | | | 2.0 | 6.50 | | | | | |
| On-line Emissions Data | PM ₁₀ | | | | 4.5 | | | | | |
| | SOx | | | | 3.09 | | | | | |
| | NH ₃ | | | 5 | 9.9 | | | | | |
| | Reference (attach data): | _ | temperature, fuel consumption, sission Factors | and MW output. QMD Emission Factors | Source Test | | | | | |
| | Stack Height: | 120 _{ft} | O_in. Stack Diam | neter:18 | _ft0_in. | | | | | |
| Stack or Vent Data | Exhaust Temperature: | 412_°F | Exhaust Pressure: | | | | | | | |
| | Exhaust Flow Rate: | 1259905_CFM | Oxygen Level: | 13.69 % | | | | | | |

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.

| St | artup Data | No. of Startups per day: | 3 | No. of Startup | s per year: | 495 | Duration of each startup: | | 1.5 | hrs. |
|---|---|--|---|----------------------|-----------------------------------|---------------------------------------|------------------------------|----------|---------|------|
| Shu | tdown Data | No. of Shutdowns per day: | 3 | No. of Shutdo | wns per year: | 495 | Duration of each Shutdown:0. | | | hrs. |
| н., с., с., с., с., с., с., с., с., с., с | | Pollutants | | Startup Emi | ssions | | Shutdown Emissions | | | |
| | | Foliulants | PPM@15% | O ₂ , dry | lb/hor | ur | PPM@15% 02, dry | | lb/hour | |
| | | ROG | | | 27.3 | 3 | | | 32.6 | |
| Startup | and Shutdown | NOx | | | 25.8 | 5 | | | 18.0 | |
| | ssions Data | со | | | 113. | 9 | | | 50.8 | |
| | | PM10 | | | 4.5 | i | | | 4.5 | |
| | | SOx | | | 3.09 | 9 | | | 3.09 | |
| | | NH3 | | | | | | | | |
| Monitorin | g and Reporting | The following parameters will be continuously monitored: Image: NOx Image: O2 Image: Fuel Flow Rate Image: Ammonia Injection Rate Image: Other (specify): Image: Ammonia Stack Concentration: Ammonia CEMS Make: TBD Ammonia CEMS Model: TBD | | | | | | | | |
| Operation | ting Schedule | Normal: 24 | hours/da | | 7 | _days/week | 40 | weeks/yr | | |
| Opera | ung schedule | Maximum:24 | hours/da | ay | 7 | days/week | 52 | weeks/yr | | |
| And the second second second second | D - Authoriz | ation/Signature | | | | 1 | | | | |
| Section | | | | nitted with this | application is | true and corre | ect. | | | |
| Seasan Parts Parts | | nation contained herein and inf | and the second se | | | | | | | |
| CONTRACTOR POLICE | ertify that all inform Signature: Title: <u>Manager</u> Name: | Kare Company | Date: 12/20 | /2013 | Name: St Phone #: Email: | ephen O'l 562493784 ephen.okane | 40 Fax #: 56 | 52493773 | 37 | |

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|---|---|--|
| Section A - Operato | or Information | |
| | ne of Operator That Appears On Permit): Valid AQMD Facility ID (Available On Permit Or I | Invoice Issued By AQMD): |
| AES Alamitos, LLC | ; | 115394 |
| Address where the equipme | nt will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial lo | ocation site): |
| 690 N. Studebaker | Road, Long Beach, CA 90803 Fixed Locat | ion 🔿 Various Locations |
| Section B - Equipme | ent Description | |
| | Manufacturer: Model: Serial No.: | |
| | Mitsubishi Power System Americas 501DA TBD | |
| Turbine | Size (based on Higher Heating Value - HHV): | |
| | Manufacturer Maximum Input Rating: MMBTU/hr | kWh |
| | Manufacturer Maximum Output Rating: 1509 MMBTU/hr 1331 | |
| | Image: Comparison in the second se | <u> </u> |
| Function (Check all that apply) | Image: Steam Generation Image: Steam Generation Image: Steam Generation | |
| | O Simply Cycle O Regenerative Cycle | |
| Cycle Type | Combined Cycle Other (specify): | |
| Combustion Type | ⊖ Tubular | |
| Fuel (Turbine) | Image: Natural Gas LPG Digester Gas* Image: Landfill Gas* Propane Refinery Gas* Other*: | value and sulfur content). |
| Heat Recovery Steam Generator (HRSG) | Steam Turbine Capacity: 143 MW Low Pressure Steam Output Capacity: lb/hr @°F High Pressure Steam Output Capacity: 1230000 lb/hr @°F Superheated Steam Output Capacity: lb/hr @°F | |
| Duct Burner | Manufacturer: Model: Number of burners: | |
| Fuel (Duct Burner) | Natural Gas LPG Digester Gas* Landfill Gas* Propane Refinery Gas* Other*: | g value and sulfur content). |

Gas Turbine

| Section B - Equipme | ent Description (Con | t.) | | | | | | | | |
|--|--|--|---|--|--------------------------|--|--|--|--|--|
| | O Selective Catalytic R | Reduction (SCR)* | Selective Non-Catalytic Red | uction (SNCR)* | | | | | | |
| | Oxidation Catalyst* Other (specify)*: | | | | | | | | | |
| Air Pollution Control | O Steam/Water Injection * Separate application is rea | | lbs. water/lbs. | fuel, or | _ mole water/mole fuel | | | | | |
| | Capital Cost: \$595,000 | 0.00 Installation | Cost: \$45,000.00 | _ Annual Operating Cost | : | | | | | |
| | Manufacturer: | | Model: | | | | | | | |
| | Johnson Matthey | Incorporated | SC42 | 2 | | | | | | |
| | Catalyst Dimensions: L | ength:2 _{ft} | | _ft2 in. Height:_ | 2_ft2_in. | | | | | |
| Outleding Codebud Date | Catalyst Cell Density: | Catalyst Cell Density: cells/sq.in. Pressure Drop Across Catalyst: 2.0 | | | | | | | | |
| Oxidation Catalyst Data (if Applicable) | 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 ra | te/catalyst volume): 55239 | Area Velocity (g | as flow/wetted catalyst surface | _{area):_} 92071 | | | | | |
| | VOC Concentration into C | atalyst:1_PP | MVD@ 15%O2 CO Concer | ntration inot Catalyst: | 2_PPMVD@ 15%02 | | | | | |
| Section C - Operation | on Information | | | | | | | | | |
| | Pollutants | Maximum Emiss | ions Before Control * | Maximum Emiss | ions After Control | | | | | |
| | PORMants | PPM@15% O2, dry | ib/hour | PPM@15% O ₂ , dry | lb/hour | | | | | |
| | ROG | | | 1.0 | 1.9 | | | | | |
| | NOx | | | 2.0 | 10.7 | | | | | |
| | CO | | | 2.0 | 6.50 | | | | | |
| On-line Emissions Data | PM ₁₀ | | | | 4.5 | | | | | |
| | SOx | | | | 3.09 | | | | | |
| | NH ₃ | | | 5 | 9.9 | | | | | |
| | Reference (attach data): | _ | temperature, fuel consumption, sission Factors | and MW output. QMD Emission Factors | Source Test | | | | | |
| | Stack Height: | 120 _{ft} | O_in. Stack Diam | neter:18 | _ft0_in. | | | | | |
| Stack or Vent Data | Exhaust Temperature: | 412_°F | Exhaust Pressure: | | | | | | | |
| | Exhaust Flow Rate: | 1259905_CFM | Oxygen Level: | 13.69 % | | | | | | |

Gas Turbine

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| St | artup Data | No. of Startups per day: | 3 | No. of Startup | s per year: | 495 | Duration of each startup: | | 1.5 | hrs. |
|---|---|--|---|----------------------|-----------------------------------|---------------------------------------|------------------------------|----------|---------|------|
| Shu | tdown Data | No. of Shutdowns per day: | 3 | No. of Shutdo | wns per year: | 495 | Duration of each Shutdown:0. | | | hrs. |
| н., с., с., с., с., с., с., с., с., с., с | | Pollutants | | Startup Emi | ssions | | Shutdown Emissions | | | |
| | | Foliulants | PPM@15% | O ₂ , dry | lb/hor | ur | PPM@15% 02, dry | | lb/hour | |
| | | ROG | | | 27.3 | 3 | | | 32.6 | |
| Startup | and Shutdown | NOx | | | 25.8 | 5 | | | 18.0 | |
| | ssions Data | со | | | 113. | 9 | | | 50.8 | |
| | | PM10 | | | 4.5 | i | | | 4.5 | |
| | | SOx | | | 3.09 | 9 | | | 3.09 | |
| | | NH3 | | | | | | | | |
| Monitorin | g and Reporting | The following parameters will be continuously monitored: Image: NOx Image: O2 Image: Fuel Flow Rate Image: Ammonia Injection Rate Image: Other (specify): Image: Ammonia Stack Concentration: Ammonia CEMS Make: TBD Ammonia CEMS Model: TBD | | | | | | | | |
| Operation | ting Schedule | Normal: 24 | hours/da | | 7 | _days/week | 40 | weeks/yr | | |
| Opera | ung schedule | Maximum:24 | hours/da | ay | 7 | days/week | 52 | weeks/yr | | |
| And the second second second second | D - Authoriz | ation/Signature | | | | 1 | | | | |
| Section | | | | nitted with this | application is | true and corre | ect. | | | |
| Seasan Parts Parts | | nation contained herein and inf | and the second se | | | | | | | |
| CONTRACTOR POLICE | ertify that all inform Signature: Title: <u>Manager</u> Name: | Kare Company | Date: 12/20 | /2013 | Name: St Phone #: Email: | ephen O'l 562493784 ephen.okane | 40 Fax #: 56 | 52493773 | 37 | |

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|---|---|--|
| Section A - Operato | or Information | |
| | ne of Operator That Appears On Permit): Valid AQMD Facility ID (Available On Permit Or I | Invoice Issued By AQMD): |
| AES Alamitos, LLC | ; | 115394 |
| Address where the equipme | nt will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial lo | ocation site): |
| 690 N. Studebaker | Road, Long Beach, CA 90803 Fixed Locat | ion 🔿 Various Locations |
| Section B - Equipme | ent Description | |
| | Manufacturer: Model: Serial No.: | |
| | Mitsubishi Power System Americas 501DA TBD | |
| Turbine | Size (based on Higher Heating Value - HHV): | |
| | Manufacturer Maximum Input Rating: MMBTU/hr | kWh |
| | Manufacturer Maximum Output Rating: 1509 MMBTU/hr 1331 | |
| | Image: Comparison in the second se | <u> </u> |
| Function (Check all that apply) | Image: Steam Generation Image: Steam Generation Image: Steam Generation | |
| | O Simply Cycle O Regenerative Cycle | |
| Cycle Type | Combined Cycle Other (specify): | |
| Combustion Type | ⊖ Tubular | |
| Fuel (Turbine) | Image: Natural Gas LPG Digester Gas* Image: Landfill Gas* Propane Refinery Gas* Other*: | value and sulfur content). |
| Heat Recovery Steam Generator (HRSG) | Steam Turbine Capacity: 143 MW Low Pressure Steam Output Capacity: lb/hr @°F High Pressure Steam Output Capacity: 1230000 lb/hr @°F Superheated Steam Output Capacity: lb/hr @°F | |
| Duct Burner | Manufacturer: Model: Number of burners: | |
| Fuel (Duct Burner) | Natural Gas LPG Digester Gas* Landfill Gas* Propane Refinery Gas* Other*: | g value and sulfur content). |

Gas Turbine

| Section B - Equipme | ent Description (Con | t.) | | | | | | | | |
|--|--|--|---|--|--------------------------|--|--|--|--|--|
| | O Selective Catalytic R | Reduction (SCR)* | Selective Non-Catalytic Red | uction (SNCR)* | | | | | | |
| | Oxidation Catalyst* Other (specify)*: | | | | | | | | | |
| Air Pollution Control | O Steam/Water Injection * Separate application is rea | | lbs. water/lbs. | fuel, or | _ mole water/mole fuel | | | | | |
| | Capital Cost: \$595,000 | 0.00 Installation | Cost: \$45,000.00 | _ Annual Operating Cost | : | | | | | |
| | Manufacturer: | | Model: | | | | | | | |
| | Johnson Matthey | Incorporated | SC42 | 2 | | | | | | |
| | Catalyst Dimensions: L | ength:2 _{ft} | in. Width: | _ft2 in. Height:_ | 2_ft2_in. | | | | | |
| Outleding Codebud Date | Catalyst Cell Density: | Catalyst Cell Density: cells/sq.in. Pressure Drop Across Catalyst: 2.0 | | | | | | | | |
| Oxidation Catalyst Data (If Applicable) | 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 ra | te/catalyst volume): 55239 | Area Velocity (g | as flow/wetted catalyst surface | _{area):_} 92071 | | | | | |
| | VOC Concentration into C | atalyst:1_PP | MVD@ 15%O2 CO Concer | ntration inot Catalyst: | 2_PPMVD@ 15%02 | | | | | |
| Section C - Operation | on Information | | | | | | | | | |
| | Pollutants | Maximum Emiss | ions Before Control * | Maximum Emiss | ions After Control | | | | | |
| | PORMants | PPM@15% O2, dry | ib/hour | PPM@15% O ₂ , dry | lb/hour | | | | | |
| | ROG | | | 1.0 | 1.9 | | | | | |
| | NOx | | | 2.0 | 10.7 | | | | | |
| | CO | | | 2.0 | 6.50 | | | | | |
| On-line Emissions Data | PM ₁₀ | | | | 4.5 | | | | | |
| | SOx | | | | 3.09 | | | | | |
| | NH ₃ | | | 5 | 9.9 | | | | | |
| | Reference (attach data): | _ | temperature, fuel consumption, sission Factors | and MW output. QMD Emission Factors | Source Test | | | | | |
| | Stack Height: | 120 _{ft} | O_in. Stack Diam | neter:18 | _ft0_in. | | | | | |
| Stack or Vent Data | Exhaust Temperature: | 412_°F | Exhaust Pressure: | | | | | | | |
| | Exhaust Flow Rate: | 1259905_CFM | Oxygen Level: | 13.69 % | | | | | | |

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.

| St | artup Data | No. of Startups per day: | 3 | No. of Startup | s per year: | 495 | Duration of each startup: | | 1.5 | hrs. |
|---|---|--|---|----------------------|-----------------------------------|---------------------------------------|------------------------------|----------|---------|------|
| Shu | tdown Data | No. of Shutdowns per day: | 3 | No. of Shutdo | wns per year: | 495 | Duration of each Shutdown:0. | | | hrs. |
| н., с., с., с., с., с., с., с., с., с., с | | Pollutants | | Startup Emi | ssions | | Shutdown Emissions | | | |
| | | Foliulants | PPM@15% | O ₂ , dry | lb/hor | ur | PPM@15% 02, dry | | lb/hour | |
| | | ROG | | | 27.3 | 3 | | | 32.6 | |
| Startup | and Shutdown | NOx | | | 25.8 | 5 | | | 18.0 | |
| | ssions Data | со | | | 113. | 9 | | | 50.8 | |
| | | PM10 | | | 4.5 | i | | | 4.5 | |
| | | SOx | | | 3.09 | 9 | | | 3.09 | |
| | | NH3 | | | | | | | | |
| Monitorin | g and Reporting | The following parameters will be continuously monitored: Image: NOx Image: O2 Image: Fuel Flow Rate Image: Ammonia Injection Rate Image: Other (specify): Image: Ammonia Stack Concentration: Ammonia CEMS Make: TBD Ammonia CEMS Model: TBD | | | | | | | | |
| Operation | ting Schedule | Normal: 24 | hours/da | | 7 | _days/week | 40 | weeks/yr | | |
| Opera | ung schedule | Maximum:24 | hours/da | ay | 7 | days/week | 52 | weeks/yr | | |
| And the second second second second | D - Authoriz | ation/Signature | | | | 1 | | | | |
| Section | | | | nitted with this | application is | true and corre | ect. | | | |
| Seasan Parts Parts | | nation contained herein and inf | and the second se | | | | | | | |
| CONTRACTOR POLICE | ertify that all inform Signature: Title: <u>Manager</u> Name: | Kare Company | Date: 12/20 | /2013 | Name: St Phone #: Email: | ephen O'l 562493784 ephen.okane | 40 Fax #: 56 | 52493773 | 37 | |

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

| Form 400 Gas Turt | | Mail To: SCAQMD P.O. Box 4944 Diamond Bar, CA 91765-0944 Tel: (909) 396-3385 www.agmd.gov |
|---|---|--|
| Section A - Operato | or Information | |
| | ne of Operator That Appears On Permit): Valid AQMD Facility ID (Available On Permit Or I | Invoice Issued By AQMD): |
| AES Alamitos, LLC | ; | 115394 |
| Address where the equipme | nt will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial lo | ocation site): |
| 690 N. Studebaker | Road, Long Beach, CA 90803 Fixed Locat | ion 🔿 Various Locations |
| Section B - Equipme | ent Description | |
| | Manufacturer: Model: Serial No.: | |
| | Mitsubishi Power System Americas 501DA TBD | |
| Turbine | Size (based on Higher Heating Value - HHV): | |
| | Manufacturer Maximum Input Rating: MMBTU/hr | kWh |
| | Manufacturer Maximum Output Rating: 1509 MMBTU/hr 1331 | |
| | Image: Comparison in the second se | <u> </u> |
| Function (Check all that apply) | Image: Steam Generation Image: Steam Generation Image: Steam Generation | |
| | O Simply Cycle O Regenerative Cycle | |
| Cycle Type | Combined Cycle Other (specify): | |
| Combustion Type | ⊖ Tubular | |
| Fuel (Turbine) | Image: Natural Gas LPG Digester Gas* Image: Landfill Gas* Propane Refinery Gas* Other*: | value and sulfur content). |
| Heat Recovery Steam Generator (HRSG) | Steam Turbine Capacity: 143 MW Low Pressure Steam Output Capacity: lb/hr @°F High Pressure Steam Output Capacity: 1230000 lb/hr @°F Superheated Steam Output Capacity: lb/hr @°F | |
| Duct Burner | Manufacturer: Model: Number of burners: | |
| Fuel (Duct Burner) | Natural Gas LPG Digester Gas* Landfill Gas* Propane Refinery Gas* Other*: | g value and sulfur content). |

Gas Turbine

| Section B - Equipme | ent Description (Con | t.) | | | | | | | | |
|--|--|--|---|--|--------------------------|--|--|--|--|--|
| | O Selective Catalytic R | Reduction (SCR)* | Selective Non-Catalytic Red | uction (SNCR)* | | | | | | |
| | Oxidation Catalyst* Other (specify)*: | | | | | | | | | |
| Air Pollution Control | O Steam/Water Injection * Separate application is rea | | lbs. water/lbs. | fuel, or | _ mole water/mole fuel | | | | | |
| | Capital Cost: \$595,000 | 0.00 Installation | Cost: \$45,000.00 | _ Annual Operating Cost | : | | | | | |
| | Manufacturer: | | Model: | | | | | | | |
| | Johnson Matthey | Incorporated | SC42 | 2 | | | | | | |
| | Catalyst Dimensions: L | ength:2 _{ft} | | _ft2 in. Height:_ | 2_ft2_in. | | | | | |
| Outleding Codebud Date | Catalyst Cell Density: | Catalyst Cell Density: cells/sq.in. Pressure Drop Across Catalyst: 2.0 | | | | | | | | |
| Oxidation Catalyst Data (if Applicable) | 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 ra | te/catalyst volume): 55239 | Area Velocity (g | as flow/wetted catalyst surface | _{area):_} 92071 | | | | | |
| | VOC Concentration into C | atalyst:1_PP | MVD@ 15%O2 CO Concer | ntration inot Catalyst: | 2_PPMVD@ 15%02 | | | | | |
| Section C - Operation | on Information | | | | | | | | | |
| | Pollutants | Maximum Emiss | ions Before Control * | Maximum Emiss | ions After Control | | | | | |
| | PORMants | PPM@15% O2, dry | ib/hour | PPM@15% O ₂ , dry | lb/hour | | | | | |
| | ROG | | | 1.0 | 1.9 | | | | | |
| | NOx | | | 2.0 | 10.7 | | | | | |
| | CO | | | 2.0 | 6.50 | | | | | |
| On-line Emissions Data | PM ₁₀ | | | | 4.5 | | | | | |
| | SOx | | | | 3.09 | | | | | |
| | NH ₃ | | | 5 | 9.9 | | | | | |
| | Reference (attach data): | _ | temperature, fuel consumption, sission Factors | and MW output. QMD Emission Factors | Source Test | | | | | |
| | Stack Height: | 120 _{ft} | O_in. Stack Diam | neter:18 | _ft0_in. | | | | | |
| Stack or Vent Data | Exhaust Temperature: | 412_°F | Exhaust Pressure: | | | | | | | |
| | Exhaust Flow Rate: | 1259905_CFM | Oxygen Level: | 13.69 % | | | | | | |

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.

| St | artup Data | No. of Startups per day: | 3 | No. of Startup | s per year: | 495 | Duration of each startup: | | 1.5 | hrs. |
|---|---|--|---|----------------------|-----------------------------------|---------------------------------------|------------------------------|----------|---------|------|
| Shu | tdown Data | No. of Shutdowns per day: | 3 | No. of Shutdo | wns per year: | 495 | Duration of each Shutdown:0. | | | hrs. |
| н., с., с., с., с., с., с., с., с., с., с | | Pollutants | | Startup Emi | ssions | | Shutdown Emissions | | | |
| | | Foliulants | PPM@15% | O ₂ , dry | lb/hor | ur | PPM@15% 02, dry | | lb/hour | |
| | | ROG | | | 27.3 | 3 | | | 32.6 | |
| Startup | and Shutdown | NOx | | | 25.8 | 5 | | | 18.0 | |
| | ssions Data | со | | | 113. | 9 | | | 50.8 | |
| | | PM10 | | | 4.5 | i | | | 4.5 | |
| | | SOx | | | 3.09 | 9 | | | 3.09 | |
| | | NH3 | | | | | | | | |
| Monitorin | g and Reporting | The following parameters will be continuously monitored: Image: NOx Image: O2 Image: Fuel Flow Rate Image: Ammonia Injection Rate Image: Other (specify): Image: Ammonia Stack Concentration: Ammonia CEMS Make: TBD Ammonia CEMS Model: TBD | | | | | | | | |
| Operation | ting Schedule | Normal: 24 | hours/da | | 7 | _days/week | 40 | weeks/yr | | |
| Opera | ung schedule | Maximum:24 | hours/da | ay | 7 | days/week | 52 | weeks/yr | | |
| And the second second second second | D - Authoriz | ation/Signature | | | | 1 | | | | |
| Section | | | | nitted with this | application is | true and corre | ect. | | | |
| Seasan Parts Parts | | nation contained herein and inf | and the second se | | | | | | | |
| CONTRACTOR POLICE | ertify that all inform Signature: Title: <u>Manager</u> Name: | Kare Company | Date: 12/20 | /2013 | Name: St Phone #: Email: | ephen O'l 562493784 ephen.okane | 40 Fax #: 56 | 52493773 | 37 | |

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

| Form 400 Gas Turt | | Mail To: SCAQMD P.O. Box 4944 Diamond Bar, CA 91765-0944 Tel: (909) 396-3385 www.agmd.gov |
|---|---|--|
| Section A - Operato | or Information | |
| | ne of Operator That Appears On Permit): Valid AQMD Facility ID (Available On Permit Or I | Invoice Issued By AQMD): |
| AES Alamitos, LLC | ; | 115394 |
| Address where the equipme | nt will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial lo | ocation site): |
| 690 N. Studebaker | Road, Long Beach, CA 90803 Fixed Locat | ion 🔿 Various Locations |
| Section B - Equipme | ent Description | |
| | Manufacturer: Model: Serial No.: | |
| | Mitsubishi Power System Americas 501DA TBD | |
| Turbine | Size (based on Higher Heating Value - HHV): | |
| | Manufacturer Maximum Input Rating: MMBTU/hr | kWh |
| | Manufacturer Maximum Output Rating: 1509 MMBTU/hr 1331 | |
| | Image: Comparison in the second se | <u> </u> |
| Function (Check all that apply) | Image: Steam Generation Image: Steam Generation Image: Steam Generation | |
| | O Simply Cycle O Regenerative Cycle | |
| Cycle Type | Combined Cycle Other (specify): | |
| Combustion Type | ⊖ Tubular | |
| Fuel (Turbine) | Image: Natural Gas LPG Digester Gas* Image: Landfill Gas* Propane Refinery Gas* Other*: | value and sulfur content). |
| Heat Recovery Steam Generator (HRSG) | Steam Turbine Capacity: 143 MW Low Pressure Steam Output Capacity: lb/hr @°F High Pressure Steam Output Capacity: 1230000 lb/hr @°F Superheated Steam Output Capacity: lb/hr @°F | |
| Duct Burner | Manufacturer: Model: Number of burners: | |
| Fuel (Duct Burner) | Natural Gas LPG Digester Gas* Landfill Gas* Propane Refinery Gas* Other*: | g value and sulfur content). |

Gas Turbine

| Section B - Equipme | ent Description (Con | t.) | | | |
|--|--|----------------------------|---|--|--------------------------|
| | O Selective Catalytic R | Reduction (SCR)* | Selective Non-Catalytic Red | uction (SNCR)* | |
| | Oxidation Catalyst* | 0 | Other (specify)*: | | |
| Air Pollution Control | O Steam/Water Injection * Separate application is rea | | lbs. water/lbs. | fuel, or | _ mole water/mole fuel |
| | Capital Cost: \$595,000 | 0.00 Installation | Cost: \$45,000.00 | _ Annual Operating Cost | : |
| | Manufacturer: | | Model: | | |
| | Johnson Matthey | Incorporated | SC42 | 2 | |
| | Catalyst Dimensions: L | ength:2 _{ft} | in. Width: | _ft2 in. Height:_ | 2_ft2_in. |
| Outleding Codebud Date | Catalyst Cell Density: | cells/sq.ii | n. Pressure Drop Acros | s Catalyst: 2.0 | |
| Oxidation Catalyst Data (If Applicable) | 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 ra | te/catalyst volume): 55239 | Area Velocity (g | as flow/wetted catalyst surface | _{area):_} 92071 |
| | VOC Concentration into C | atalyst:1_PP | MVD@ 15%O2 CO Concer | ntration inot Catalyst: | 2_PPMVD@ 15%02 |
| Section C - Operation | on Information | | | | |
| | Pollutants | Maximum Emiss | ions Before Control * | Maximum Emiss | ions After Control |
| | PORMants | PPM@15% O2, dry | ib/hour | PPM@15% O ₂ , dry | lb/hour |
| | ROG | | | 1.0 | 1.9 |
| | NOx | | | 2.0 | 10.7 |
| | CO | | | 2.0 | 6.50 |
| On-line Emissions Data | PM ₁₀ | | | | 4.5 |
| | SOx | | | | 3.09 |
| | NH ₃ | | | 5 | 9.9 |
| | Reference (attach data): | _ | temperature, fuel consumption, sission Factors | and MW output. QMD Emission Factors | Source Test |
| | Stack Height: | 120 _{ft} | O_in. Stack Diam | neter:18 | _ft0_in. |
| Stack or Vent Data | Exhaust Temperature: | 412_°F | Exhaust Pressure: | | |
| | Exhaust Flow Rate: | 1259905_CFM | Oxygen Level: | 13.69 % | |

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.

| St | artup Data | No. of Startups per day: | 3 | No. of Startup | s per year: | 495 | Duration of each s | tartup: | 1.5 | hrs. |
|---|---|---------------------------------|---|----------------------|-----------------------------------|---------------------------------------|--------------------|-------------|---------|------|
| Shu | tdown Data | No. of Shutdowns per day: | 3 | No. of Shutdo | wns per year: | 495 | Duration of each S | Shutdown: | 0.16 | hrs. |
| н., с., с., с., с., с., с., с., с., с., с | | Pollutants | | Startup Emi | ssions | | Shutde | own Emissio | ns | |
| | | Foliulants | PPM@15% | O ₂ , dry | lb/hor | ur | PPM@15% 02, dry | | lb/hour | |
| | | ROG | | | 27.3 | 3 | | | 32.6 | |
| Startup | and Shutdown | NOx | | | 25.8 | 5 | | | 18.0 | |
| | ssions Data | со | | | 113. | 9 | | | 50.8 | |
| | | PM10 | | | 4.5 | i | | | 4.5 | |
| | | SOx | | | 3.09 | 9 | | | 3.09 | |
| | | NH3 | | | | | | | | |
| Monitorin | g and Reporting | | CO CO Ammonia ntration: | | S Make: TB[| her (specify): D | | | | |
| Operation | ting Schedule | Normal: 24 | hours/da | | 7 | _days/week | 40 | weeks/yr | | |
| Opera | ung schedule | Maximum:24 | hours/da | ay | 7 | days/week | 52 | weeks/yr | | |
| And the second second second second | D - Authoriz | ation/Signature | | | | 1 | | | | |
| Section | | | | nitted with this | application is | true and corre | ect. | | | |
| Seasan Parts Parts | | nation contained herein and inf | and the second se | | | | | | | |
| CONTRACTOR POLICE | ertify that all inform Signature: Title: <u>Manager</u> Name: | Kare Company | Date: 12/20 | /2013 | Name: St Phone #: Email: | ephen O'l 562493784 ephen.okane | 40 Fax #: 56 | 52493773 | 37 | |

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| Form 400 Gas Turt | | Mail To: SCAQMD P.O. Box 4944 Diamond Bar, CA 91765-0944 Tel: (909) 396-3385 |
|---|---|--|
| Section A - Operato | r Information | www.aqmd.gov |
| A MARTINE COMPANY AND A MARTINE ADVANCES OF | e of Operator That Appears On Permit): Valid AQMD Facility ID (Available On Permit Or | Invoice Issued By AOMD): |
| AES Alamitos, LLC | | 115394 |
| Address where the equipment | nt will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial lo | ocation site): |
| 690 N. Studebaker | Road, Long Beach, CA 90803 Fixed Locat | tion 🔿 Various Locations |
| Section B - Equipme | ent Description | |
| | Manufacturer: Model: Serial No.: | |
| | Mitsubishi Power System Americas 501DA TBD | |
| Turbine | Size (based on Higher Heating Value - HHV): | |
| | Manufacturer Maximum Input Rating: MMBTU/hr | kWh |
| | | 160 _{kWh} |
| | | roo_kwn |
| Function (Check all that apply) | | |
| | Steam Generation Exhaust Gas Recovery Other (specify): | |
| Cycle Type | O Simply Cycle O Regenerative Cycle | |
| | Combined Cycle Other (specify): | |
| Combustion Type | 🔿 Tubular 💿 Can-Annular 🔿 Annular | |
| Fuel (Turbine) | Image: Natural Gas LPG Digester Gas* Image: Landfill Gas* Propane Refinery Gas* Other*: | g value and sulfur content). |
| | Steam Turbine Capacity:143_MW | |
| Heat Recovery Steam | Low Pressure Steam Output Capacity: lb/hr @ °F | |
| Generator (HRSG) | High Pressure Steam Output Capacity:1230000 lb/hr @976_°F | |
| | | |
| | Superheated Steam Output Capacity:lb/hr @°F | |
| | Manufacturer: Model: | |
| | Number of burners: Rating of each burner (HHV): | |
| Duct Burner | | |
| | Type: O Low NOx (please attach manufacturer's specifications) | |
| | Other: Show all heat transfer surface locations with the HRSG and temperature profile | |
| | O Natural Gas O LPG O Digester Gas* | |
| Fuel (Duct Burner) | ○ Landfill Gas* ○ Propane ○ Refinery Gas* ○ Other*: | |
| (pair partici) | * (If Digester Gas, Landfill Gas, Refinery Gas, and/or Other are checked, attach fuel analysis indicating higher heating | g value and sulfur content). |

Gas Turbine

| Section B - Equipme | ent Description (Cont |) | | | |
|-------------------------|---|-------------------------|-------------------------------|-----------------------------------|------------------------|
| | Selective Catalytic Re | duction (SCR)* | Selective Non-Catalytic Rec | luction (SNCR)* | |
| | O Oxidation Catalyst* | 0 | Other (specify)*: | | |
| Air Pollution Control | O Steam/Water Injection * Separate application is requ | | Ibs. water/Ibs | . fuel, or | _ mole water/mole fuel |
| | Capital Cost: \$506,000 | .00 Installation | Cost: \$50,000.00 | Annual Operating Cos | t: |
| | Manufacturer: | | Model: | | |
| | Catalyst Dimensions: Ler | n gth: ft | in. Width: | ft in. Helght:_ | ft in. |
| Oxidation Catalyst Data | Catalyst Cell Density: | cells/sq.ir | . Pressure Drop Acro | ss Catalyst: | |
| (If Applicable) | Manufacturer's Guarantee: | CO Control Efficiency: | | Catalyst Life: | yrs |
| | | VOC Control Efficiency: | % | Operating Temp. Range: | °F |
| | Space Velocity (gas flow rate | e/catalyst volume): | Area Velocity | (gas flow/wetted catalyst surface | e area): |
| | VOC Concentration into Cat | alyst: PP | MVD@ 15%O2 CO Conce | entration inot Catalyst: | PPMVD@ 15%O2 |
| Section C - Operation | on Information | | | | |
| | Pollutants | Maximum Emissi | ons Before Control * | Maximum Emis | sions After Control |
| | ronaians | PPM@15% 02, dry | lb/hour | PPM@15% O2, dry | lb/hour |
| | ROG | | | 1.0 | 1.9 |
| | NOx | | | 2.0 | 10.7 |
| | CO | | | 2.0 | 6.50 |
| On-line Emissions Data | PM ₁₀ | | | | 4.5 |
| | SOx | | | | 3.09 |
| | NH ₃ | | | 5 | 9.9 |
| | Reference (attach data): | | temperature, fuel consumption | n, and MW output. | Source Test |
| | | | 2011 | | |
| | Stack Height: | ft | in. Stack Dia | meter:18 | _ ft 0_ in. |
| Stack or Vent Data | Exhaust Temperature: | | Exhaust Pressure: | inches water | column |
| | Exhaust Flow Rate: | 1259905 _{CFM} | Oxygen Level: | <u>13.69</u> % | |

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.

| Startup Da | ata | No. of Startups per day: | 3 | No. of Start | tups per year: | 495 | Duration of each s | tartup: | 1.5 | hrs. |
|---|-------------------------------------|---|--|---|---|---|--------------------------|------------------------|---------|------|
| Shutdown [| Data | No. of Shutdowns per day: | 3 | No. of Shut | downs per year: | 495 | Duration of each S | Shutdown: | 0.16 | hrs. |
| | | Dellustrate | | Startup E | Emissions | and the state | Shutdo | own Emissio | ns | |
| | | Pollutants | PPM@1 | 5% O ₂ , dry | lb/ho | ur | PPM@15% O2, dry | | lb/hour | |
| | | ROG | | | 27. | 3 | | | 32.6 | |
| Startup and Sh | utdown | NOx | | | 25. | 5 | | | 18.0 | |
| Emissions (| | со | | | 113. | 9 | | | 50.8 | |
| | | PM ₁₀ | | | 4.5 | i | | | 4.5 | |
| | | SOx | | | 3.0 | 9 | | | 3.09 | |
| | | NH3 | | | | | | | | |
| | | Will the CEMS be used to me | | on-line and star | | | Yes O No | | | |
| Monitoring and F | Reporting | The following parameters wil | l be continu IXI CO IXI Ammor | on-line and star | tup/shutdown er d: E O2 | nissions? (C | Yes O No | | | |
| Monitoring and F | Reporting | The following parameters will X NOx X Fuel Flow Rate | l be continu IXI CO IXI Ammor | on-line and star lously monitore nia Injection Rat Ammonia CE | tup/shutdown er d: E O2 | nissions? (her (specify): | | | | |
| Monitoring and F | | The following parameters will Image: NOx Image: Fuel Flow Rate Image: Ammonia Stack Concert Normal: 24 | I be continu IX CO IX Ammor ntration: | on-line and star lously monitore nia Injection Rat Ammonia CE | tup/shutdown er d: \[2] O2 te [] Ot EMS Make: | nissions? (her (specify): | | weeks/yr | | |
| | | The following parameters will Image: Nox Image: Second state Image: Second state <tr< td=""><td>I be continu CO Ammor ntration: hour</td><td>on-line and star rously monitore nia Injection Rat Ammonia CE Ammonia CE</td><td>tup/shutdown er d: Iz O2 te Ot EMS Make: TBI EMS Model: TB</td><td>nissions? (her (specify): D</td><td></td><td></td><td></td><td></td></tr<> | I be continu CO Ammor ntration: hour | on-line and star rously monitore nia Injection Rat Ammonia CE Ammonia CE | tup/shutdown er d: Iz O2 te Ot EMS Make: TBI EMS Model: TB | nissions? (her (specify): D | | | | |
| Operating Sch | hedule | The following parameters will Image: Nox Image: Start start Image: Start start start Image: Normal: | I be continu CO Ammor ntration: hour | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day | tup/shutdown er d: Ite Dot EMS Make:TB EMS Model:TB 7 | nissions? (her (specify): D _days/week | 40 | weeks/yr | | |
| Operating Sch Section D - A hereby certify that | hedule Authoriz at all inform | The following parameters will Image: Nox Image: Fuel Flow Rate Image: Ammonia Stack Concern Normal: 24 Maximum: 24 cation/Signature | I be continu CO Ammor ntration: hour hour | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day | tup/shutdown er d: [X] O2 te [] Ott EMS Make:_TB EMS Model:_TE 7 7 7 | nissions? (her (specify): D days/week _days/week | <u>40</u> 52 | weeks/yr | | |
| Operating Sch Section D - A hereby certify tha Signat | hedule Authoriz at all inform | The following parameters will Image: Nox Image: Fuel Flow Rate Image: Ammonia Stack Concern Normal: 24 Maximum: 24 cation/Signature | I be continu CO Ammor ntration: hour hour formation su Date: | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day ubmitted with th | tup/shutdown er d: EMS Make: TBI MS Model: TE 7 7 7 1is application is Name: St | nissions? (her (specify): D days/week _days/week | 40 52 ect. Kane | weeks/yr | | |
| Operating Sch Section D - A hereby certify that | hedule Authoriz at all inform | The following parameters will Image: Nox Image: Fuel Flow Rate Image: Normal: 24 Maximum: 24 cation/Signature | I be continu CO Ammor ntration: hour hour formation si Date: 12/ | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day | tup/shutdown er d: IX O2 te Ott EMS Make: TBI EMS Model: TB T 7 7 7 7 7 Name: Si Phone #: | nissions? (her (specify): D | 40 52 ect. Kane | weeks/yr | | |
| Operating Sch Section D - 4 hereby certify that Preparer Info | hedule Authoriz at all inform | The following parameters will Image: Second state state Image: Second state state state Image: Second state state state Normal: 24 Maximum: 24 Station/Signature nation contained herein and inf Image: State state state Image: State state state state Image: State state state state state Image: State state <td>I be continu CO Ammor ntration: hour hour formation si Date: 12/</td> <td>on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day ubmitted with th 20/2013</td> <td>tup/shutdown er d: [X] O₂ te [] Ot EMS Make: TB EMS Make: TB EMS Make: TB EMS Make: TB TB EMS Make: St 7 7 7 7 7 8 8 8 9 9 9 9 9 9 9 9 9 9 9 9</td> <td>nissions? (her (specify):</td> <td>40 52 ect. Kane</td> <td>_weeks/yr _weeks/yr</td> <td></td> <td></td> | I be continu CO Ammor ntration: hour hour formation si Date: 12/ | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day ubmitted with th 20/2013 | tup/shutdown er d: [X] O ₂ te [] Ot EMS Make: TB EMS Make: TB EMS Make: TB EMS Make: TB TB EMS Make: St 7 7 7 7 7 8 8 8 9 9 9 9 9 9 9 9 9 9 9 9 | nissions? (her (specify): | 40 52 ect. Kane | _weeks/yr _weeks/yr | | |

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

| Form 400 Gas Turt | | Mail To: SCAQMD P.O. Box 4944 Diamond Bar, CA 91765-0944 Tel: (909) 396-3385 |
|---|---|--|
| Section A - Operato | r Information | www.aqmd.gov |
| A MARTINE COMPANY AND A MARTINE ADVANCES OF | e of Operator That Appears On Permit): Valid AQMD Facility ID (Available On Permit Or | Invoice Issued By AOMD): |
| AES Alamitos, LLC | | 115394 |
| Address where the equipment | nt will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial lo | ocation site): |
| 690 N. Studebaker | Road, Long Beach, CA 90803 Fixed Locat | tion 🔿 Various Locations |
| Section B - Equipme | ent Description | |
| | Manufacturer: Model: Serial No.: | |
| | Mitsubishi Power System Americas 501DA TBD | |
| Turbine | Size (based on Higher Heating Value - HHV): | |
| | Manufacturer Maximum Input Rating: MMBTU/hr | kWh |
| | | 160 _{kWh} |
| | | roo_kwn |
| Function (Check all that apply) | | |
| | Steam Generation Exhaust Gas Recovery Other (specify): | |
| Cycle Type | O Simply Cycle O Regenerative Cycle | |
| | Combined Cycle Other (specify): | |
| Combustion Type | 🔿 Tubular 💿 Can-Annular 🔿 Annular | |
| Fuel (Turbine) | Image: Natural Gas LPG Digester Gas* Image: Landfill Gas* Propane Refinery Gas* Other*: | g value and sulfur content). |
| | Steam Turbine Capacity:143_MW | |
| Heat Recovery Steam | Low Pressure Steam Output Capacity: lb/hr @ °F | |
| Generator (HRSG) | High Pressure Steam Output Capacity:1230000 lb/hr @976_°F | |
| | | |
| | Superheated Steam Output Capacity:lb/hr @°F | |
| | Manufacturer: Model: | |
| | Number of burners: Rating of each burner (HHV): | |
| Duct Burner | | |
| | Type: O Low NOx (please attach manufacturer's specifications) | |
| | Other: Show all heat transfer surface locations with the HRSG and temperature profile | |
| | O Natural Gas O LPG O Digester Gas* | |
| Fuel (Duct Burner) | ○ Landfill Gas* ○ Propane ○ Refinery Gas* ○ Other*: | |
| (pair partici) | * (If Digester Gas, Landfill Gas, Refinery Gas, and/or Other are checked, attach fuel analysis indicating higher heating | g value and sulfur content). |

Gas Turbine

| Section B - Equipme | ent Description (Cont |) | | | |
|-------------------------|---|-------------------------|-------------------------------|-----------------------------------|------------------------|
| | Selective Catalytic Re | duction (SCR)* | Selective Non-Catalytic Rec | luction (SNCR)* | |
| | O Oxidation Catalyst* | 0 | Other (specify)*: | | |
| Air Pollution Control | O Steam/Water Injection * Separate application is requ | | Ibs. water/Ibs | . fuel, or | _ mole water/mole fuel |
| | Capital Cost: \$506,000 | .00 Installation | Cost: \$50,000.00 | Annual Operating Cos | t: |
| | Manufacturer: | | Model: | | |
| | Catalyst Dimensions: Ler | n gth: ft | in. Width: | ft in. Helght:_ | ft in. |
| Oxidation Catalyst Data | Catalyst Cell Density: | cells/sq.ir | . Pressure Drop Acro | ss Catalyst: | |
| (If Applicable) | Manufacturer's Guarantee: | CO Control Efficiency: | | Catalyst Life: | yrs |
| | | VOC Control Efficiency: | % | Operating Temp. Range: | °F |
| | Space Velocity (gas flow rate | e/catalyst volume): | Area Velocity | (gas flow/wetted catalyst surface | e area): |
| | VOC Concentration into Cat | alyst: PP | MVD@ 15%O2 CO Conce | entration inot Catalyst: | PPMVD@ 15%O2 |
| Section C - Operation | on Information | | | | |
| | Pollutants | Maximum Emissi | ons Before Control * | Maximum Emis | sions After Control |
| | ronaians | PPM@15% 02, dry | lb/hour | PPM@15% O2, dry | lb/hour |
| | ROG | | | 1.0 | 1.9 |
| | NOx | | | 2.0 | 10.7 |
| | СО | | | 2.0 | 6.50 |
| On-line Emissions Data | PM ₁₀ | | | | 4.5 |
| | SOx | | | | 3.09 |
| | NH ₃ | | | 5 | 9.9 |
| | Reference (attach data): | | temperature, fuel consumption | n, and MW output. | Source Test |
| | | | 2011 | | |
| | Stack Height: | ft | in. Stack Dia | meter:18 | _ ft 0_ in. |
| Stack or Vent Data | Exhaust Temperature: | | Exhaust Pressure: | inches water | column |
| | Exhaust Flow Rate: | 1259905 _{CFM} | Oxygen Level: | <u>13.69</u> % | |

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.

| Startup Da | ata | No. of Startups per day: | 3 | No. of Start | tups per year: | 495 | Duration of each s | tartup: | 1.5 | hrs. |
|---|-------------------------------------|---|--|---|---|--|--------------------------|------------------------|---------|------|
| Shutdown [| Data | No. of Shutdowns per day: | 3 | No. of Shut | downs per year: | 495 | Duration of each S | Shutdown: | 0.16 | hrs. |
| | | Dellustrate | | Startup E | Emissions | and the state | Shutdo | own Emissio | ns | |
| | | Pollutants | PPM@1 | 5% O ₂ , dry | lb/ho | ur | PPM@15% O2, dry | | lb/hour | |
| | | ROG | | | 27. | 3 | | | 32.6 | |
| Startup and Sh | utdown | NOx | | | 25. | 5 | | | 18.0 | |
| Emissions (| | со | | | 113. | 9 | | | 50.8 | |
| | | PM ₁₀ | | | 4.5 | i | | | 4.5 | |
| | | SOx | | | 3.0 | 9 | | | 3.09 | |
| | | NH3 | | | | | | | | |
| | | Will the CEMS be used to me | | on-line and star | | | Yes O No | | | |
| Monitoring and F | Reporting | The following parameters wil | l be continu 🔀 CO 🔀 Ammor | on-line and star | tup/shutdown er d: Xe D2 | nissions? (C | Yes O No | | | |
| Monitoring and F | Reporting | The following parameters will X NOx X Fuel Flow Rate | l be continu 🔀 CO 🔀 Ammor | on-line and star lously monitore nia Injection Rat Ammonia CE | tup/shutdown er d: Xe D2 | nissions? (her (specify): | | | | |
| Monitoring and F | | The following parameters will Image: NOx Image: Fuel Flow Rate Image: Ammonia Stack Concert Normal: 24 | I be continu IX CO IX Ammor ntration: | on-line and star lously monitore nia Injection Rat Ammonia CE | tup/shutdown er d: \[2] O2 te [] Ot EMS Make: | nissions? (her (specify): | | weeks/yr | | |
| | | The following parameters will Image: Nox Image: Start Start Image: Start Start Start Image: Start Start Start | I be continu CO Ammor ntration: hour | on-line and star rously monitore nia Injection Rat Ammonia CE Ammonia CE | tup/shutdown er d: Iz O2 te Ott EMS Make: TBI EMS Model: TB | nissions? (her (specify): D | | | | |
| Operating Sch | hedule | The following parameters will Image: Nox Image: Stack Concernation Normal: | I be continu CO Ammor ntration: hour | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day | tup/shutdown er d: Ite Dot EMS Make:TB EMS Model:TB 7 | nissions? (her (specify): D _days/week | 40 | weeks/yr | | |
| Operating Sch Section D - A hereby certify that | hedule Authoriz at all inform | The following parameters will Image: Nox Image: Fuel Flow Rate Image: Ammonia Stack Concern Normal: 24 Maximum: 24 cation/Signature | I be continu CO Ammor ntration: hour hour | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day | tup/shutdown er d: [X] O2 te [] Ott EMS Make:_TBI EMS Model:_TE 7 7 7 | nissions? (her (specify): D days/week _days/week | <u>40</u> 52 | weeks/yr | | |
| Operating Sch Section D - A hereby certify tha Signat | hedule Authoriz at all inform | The following parameters will Image: Nox Image: Fuel Flow Rate Image: Ammonia Stack Concern Normal: 24 Maximum: 24 cation/Signature | I be continu CO Ammor ntration: hour hour formation su Date: | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day ubmitted with th | tup/shutdown er d: EMS Make: TBI MS Model: TE 7 7 7 1is application is Name: St | nissions? (her (specify): D days/week _days/week | 40 52 ect. Kane | weeks/yr | | |
| Operating Sch Section D - A hereby certify that | hedule Authoriz at all inform | The following parameters will Image: Nox Image: Fuel Flow Rate Image: Normal: 24 Maximum: 24 cation/Signature | I be continu CO Ammor ntration: hour hour formation si Date: 12/ | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day | tup/shutdown er d: IX O2 te Ott EMS Make: TBI EMS Model: TB T 7 7 7 7 7 Name: Si Phone #: | nissions? (her (specify): D days/weekdays/week true and corre | 40 52 ect. Kane | weeks/yr | | |
| Operating Sch Section D - 4 hereby certify that Preparer Info | hedule Authoriz at all inform | The following parameters will Image: Second state state Image: Second state state state Image: Second state state state Normal: 24 Maximum: 24 Station/Signature nation contained herein and inf Image: State state state Image: State state state state Image: State state state state state Image: State state <td>I be continu CO Ammor ntration: hour hour formation si Date: 12/</td> <td>on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day ubmitted with th 20/2013</td> <td>tup/shutdown er d: [X] O₂ te [] Ot EMS Make: TB EMS Make: TB EMS Make: TB EMS Make: TB TB EMS Make: St 7 7 7 7 7 8 8 8 9 9 9 9 9 9 9 9 9 9 9 9</td> <td>nissions? (her (specify):</td> <td>40 52 ect. Kane</td> <td>_weeks/yr _weeks/yr</td> <td></td> <td></td> | I be continu CO Ammor ntration: hour hour formation si Date: 12/ | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day ubmitted with th 20/2013 | tup/shutdown er d: [X] O ₂ te [] Ot EMS Make: TB EMS Make: TB EMS Make: TB EMS Make: TB TB EMS Make: St 7 7 7 7 7 8 8 8 9 9 9 9 9 9 9 9 9 9 9 9 | nissions? (her (specify): | 40 52 ect. Kane | _weeks/yr _weeks/yr | | |

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

| Form 400 Gas Turt | | Mail To: SCAQMD P.O. Box 4944 Diamond Bar, CA 91765-0944 Tel: (909) 396-3385 |
|---|---|--|
| Section A - Operato | r Information | www.aqmd.gov |
| A MARTINE COMPANY AND A MARTINE ADVANCES OF | e of Operator That Appears On Permit): Valid AQMD Facility ID (Available On Permit Or | Invoice Issued By AOMD): |
| AES Alamitos, LLC | | 115394 |
| Address where the equipment | nt will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial lo | ocation site): |
| 690 N. Studebaker | Road, Long Beach, CA 90803 Fixed Locat | tion 🔿 Various Locations |
| Section B - Equipme | ent Description | |
| | Manufacturer: Model: Serial No.: | |
| | Mitsubishi Power System Americas 501DA TBD | |
| Turbine | Size (based on Higher Heating Value - HHV): | |
| | Manufacturer Maximum Input Rating: MMBTU/hr | kWh |
| | | 160 _{kWh} |
| | | roo_kwn |
| Function (Check all that apply) | | |
| | Steam Generation Exhaust Gas Recovery Other (specify): | |
| Cycle Type | O Simply Cycle O Regenerative Cycle | |
| | Combined Cycle Other (specify): | |
| Combustion Type | 🔿 Tubular 💿 Can-Annular 🔿 Annular | |
| Fuel (Turbine) | Image: Natural Gas LPG Digester Gas* Image: Landfill Gas* Propane Refinery Gas* Other*: | g value and sulfur content). |
| | Steam Turbine Capacity:143_MW | |
| Heat Recovery Steam | Low Pressure Steam Output Capacity: lb/hr @ °F | |
| Generator (HRSG) | High Pressure Steam Output Capacity:1230000 lb/hr @976_°F | |
| | | |
| | Superheated Steam Output Capacity:lb/hr @°F | |
| | Manufacturer: Model: | |
| | Number of burners: Rating of each burner (HHV): | |
| Duct Burner | | |
| | Type: O Low NOx (please attach manufacturer's specifications) | |
| | Other: Show all heat transfer surface locations with the HRSG and temperature profile | |
| | O Natural Gas O LPG O Digester Gas* | |
| Fuel (Duct Burner) | ○ Landfill Gas* ○ Propane ○ Refinery Gas* ○ Other*: | |
| (pair partici) | * (If Digester Gas, Landfill Gas, Refinery Gas, and/or Other are checked, attach fuel analysis indicating higher heating | g value and sulfur content). |

Gas Turbine

| Section B - Equipme | ent Description (Cont |) | | | |
|-------------------------|---|-------------------------|-------------------------------|-----------------------------------|------------------------|
| | Selective Catalytic Re | duction (SCR)* | Selective Non-Catalytic Rec | luction (SNCR)* | |
| | O Oxidation Catalyst* | 0 | Other (specify)*: | | |
| Air Pollution Control | O Steam/Water Injection * Separate application is requ | | Ibs. water/Ibs | . fuel, or | _ mole water/mole fuel |
| | Capital Cost: \$506,000 | .00 Installation | Cost: \$50,000.00 | Annual Operating Cos | t: |
| | Manufacturer: | | Model: | | |
| | Catalyst Dimensions: Ler | n gth: ft | in. Width: | ft in. Helght:_ | ft in. |
| Oxidation Catalyst Data | Catalyst Cell Density: | cells/sq.ir | . Pressure Drop Acro | ss Catalyst: | |
| (If Applicable) | Manufacturer's Guarantee: | CO Control Efficiency: | | Catalyst Life: | yrs |
| | | VOC Control Efficiency: | % | Operating Temp. Range: | °F |
| | Space Velocity (gas flow rate | e/catalyst volume): | Area Velocity | (gas flow/wetted catalyst surface | e area): |
| | VOC Concentration into Cat | alyst: PP | MVD@ 15%O2 CO Conce | entration inot Catalyst: | PPMVD@ 15%O2 |
| Section C - Operation | on Information | | | | |
| | Pollutants | Maximum Emissi | ons Before Control * | Maximum Emis | sions After Control |
| | ronaians | PPM@15% 02, dry | lb/hour | PPM@15% O2, dry | lb/hour |
| | ROG | | | 1.0 | 1.9 |
| | NOx | | | 2.0 | 10.7 |
| | CO | | | 2.0 | 6.50 |
| On-line Emissions Data | PM ₁₀ | | | | 4.5 |
| | SOx | | | | 3.09 |
| | NH ₃ | | | 5 | 9.9 |
| | Reference (attach data): | | temperature, fuel consumption | n, and MW output. | Source Test |
| | | | 2011 | | |
| | Stack Height: | ft | in. Stack Dia | meter:18 | _ ft 0_ in. |
| Stack or Vent Data | Exhaust Temperature: | | Exhaust Pressure: | inches water | column |
| | Exhaust Flow Rate: | 1259905 _{CFM} | Oxygen Level: | <u>13.69</u> % | |

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.

| Startup Da | ata | No. of Startups per day: | 3 | No. of Start | tups per year: | 495 | Duration of each s | tartup: | 1.5 | hrs. |
|---|-------------------------------------|--|--|---|---|---|--------------------------|------------------------|---------|------|
| Shutdown [| Data | No. of Shutdowns per day: | 3 | No. of Shut | downs per year: | 495 | Duration of each S | Shutdown: | 0.16 | hrs. |
| | | Dellustrate | | Startup E | Emissions | and the state | Shutdo | own Emissio | ns | |
| | | Pollutants | PPM@1 | 5% O ₂ , dry | lb/ho | ur | PPM@15% O2, dry | | lb/hour | |
| | | ROG | | | 27. | 3 | | | 32.6 | |
| Startup and Sh | utdown | NOx | | | 25. | 5 | | | 18.0 | |
| Emissions (| | со | | | 113. | 9 | | | 50.8 | |
| | | PM ₁₀ | | | 4.5 | i | | | 4.5 | |
| | | SOx | | | 3.0 | 9 | | | 3.09 | |
| | | NH3 | | | | | | | | |
| | | Will the CEMS be used to me | | on-line and star | | | Yes O No | | | |
| Monitoring and F | Reporting | The following parameters wil | l be continu X CO X Ammor | on-line and star | tup/shutdown er d: Xe D2 | nissions? (C | Yes O No | | | |
| Monitoring and F | Reporting | The following parameters will X NOx X Fuel Flow Rate | l be continu X CO X Ammor | on-line and star lously monitore nia Injection Rat Ammonia CE | tup/shutdown er d: Xe D2 | nissions? (her (specify): | | | | |
| Monitoring and F | | The following parameters will Image: NOx Image: Fuel Flow Rate Image: Ammonia Stack Concert Normal: 24 | I be continu IX CO IX Ammor ntration: | on-line and star lously monitore nia Injection Rat Ammonia CE | tup/shutdown er d: \[2] O2 te [] Ot EMS Make: | nissions? (her (specify): | | weeks/yr | | |
| | | The following parameters will Image: Nox Image: Start Start Image: Start Start Start Image: Start Start Start | I be continu CO Ammor ntration: hour | on-line and star rously monitore nia Injection Rat Ammonia CE Ammonia CE | tup/shutdown er d: IX O2 te Ot EMS Make: TBI EMS Model: TB | nissions? (her (specify): D | | | | |
| Operating Sch | hedule | The following parameters will Image: Nox Image: Stack Concernation Normal: | I be continu CO Ammor ntration: hour | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day | tup/shutdown er d: Ite Dot EMS Make:TB EMS Model:TB 7 | nissions? (her (specify): D _days/week | 40 | weeks/yr | | |
| Operating Sch Section D - A hereby certify that | hedule Authoriz at all inform | The following parameters will Image: Nox Image: Fuel Flow Rate Image: Ammonia Stack Concern Normal: 24 Maximum: 24 cation/Signature | I be continu CO Ammor ntration: hour hour | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day | tup/shutdown er d: [X] O2 te [] Ott EMS Make:_TBI EMS Model:_TE 7 7 7 | nissions? (her (specify): D days/week _days/week | <u>40</u> 52 | weeks/yr | | |
| Operating Sch Section D - A hereby certify tha Signat | hedule Authoriz at all inform | The following parameters will Image: Nox Image: Fuel Flow Rate Image: Ammonia Stack Concern Normal: 24 Maximum: 24 cation/Signature | I be continu CO Ammor ntration: hour hour formation su Date: | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day ubmitted with th | tup/shutdown er d: EMS Make: TBI MS Model: TE 7 7 7 1is application is Name: St | nissions? (her (specify): D days/week _days/week | 40 52 ect. Kane | weeks/yr | | |
| Operating Sch Section D - A hereby certify that | hedule Authoriz at all inform | The following parameters will Image: Nox Image: Fuel Flow Rate Image: Normal: 24 Maximum: 24 cation/Signature | I be continu CO Ammor ntration: hour hour formation si Date: 12/ | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day | tup/shutdown er d: IX O2 te Ott EMS Make: TBI EMS Model: TB T 7 7 7 7 7 Name: Si Phone #: | nissions? (her (specify): D | 40 52 ect. Kane | weeks/yr | | |
| Operating Sch Section D - 4 hereby certify that Preparer Info | hedule Authoriz at all inform | The following parameters will Image: Nox Image: Fuel Flow Rate Image: Provide the stack concerns Normal: 24 Maximum: 24 Ration/Signature nation contained herein and inf Image: Provide the stack concerns Normal: 24 Company | I be continu CO Ammor ntration: hour hour formation si Date: 12/ | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day ubmitted with th 20/2013 | tup/shutdown er d: [X] O ₂ te [] Ot EMS Make: TB EMS Make: TB EMS Make: TB EMS Make: TB TB EMS Make: St 7 7 7 7 7 8 8 8 9 9 9 9 9 9 9 9 9 9 9 9 | nissions? (her (specify): | 40 52 ect. Kane | _weeks/yr _weeks/yr | | |

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

| Form 400 Gas Turt | | Mail To: SCAQMD P.O. Box 4944 Diamond Bar, CA 91765-0944 Tel: (909) 396-3385 |
|---|---|--|
| Section A - Operato | r Information | www.aqmd.gov |
| A MARTINE COMPANY AND A MARTINE ADVANCES OF | e of Operator That Appears On Permit): Valid AQMD Facility ID (Available On Permit Or | Invoice Issued By AOMD): |
| AES Alamitos, LLC | | 115394 |
| Address where the equipment | nt will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial lo | ocation site): |
| 690 N. Studebaker | Road, Long Beach, CA 90803 Fixed Locat | tion 🔿 Various Locations |
| Section B - Equipme | ent Description | |
| | Manufacturer: Model: Serial No.: | |
| | Mitsubishi Power System Americas 501DA TBD | |
| Turbine | Size (based on Higher Heating Value - HHV): | |
| | Manufacturer Maximum Input Rating: MMBTU/hr | kWh |
| | | 160 _{kWh} |
| | | roo_kwn |
| Function (Check all that apply) | | |
| | Steam Generation Exhaust Gas Recovery Other (specify): | |
| Cycle Type | O Simply Cycle O Regenerative Cycle | |
| | Combined Cycle Other (specify): | |
| Combustion Type | 🔿 Tubular 💿 Can-Annular 🔿 Annular | |
| Fuel (Turbine) | Image: Natural Gas LPG Digester Gas* Image: Landfill Gas* Propane Refinery Gas* Other*: | g value and sulfur content). |
| | Steam Turbine Capacity:143_MW | |
| Heat Recovery Steam | Low Pressure Steam Output Capacity: lb/hr @ °F | |
| Generator (HRSG) | High Pressure Steam Output Capacity:1230000 lb/hr @976_°F | |
| | | |
| | Superheated Steam Output Capacity:lb/hr @°F | |
| | Manufacturer: Model: | |
| | Number of burners: Rating of each burner (HHV): | |
| Duct Burner | | |
| | Type: O Low NOx (please attach manufacturer's specifications) | |
| | Other: Show all heat transfer surface locations with the HRSG and temperature profile | |
| | O Natural Gas O LPG O Digester Gas* | |
| Fuel (Duct Burner) | ○ Landfill Gas* ○ Propane ○ Refinery Gas* ○ Other*: | |
| (pair partici) | * (If Digester Gas, Landfill Gas, Refinery Gas, and/or Other are checked, attach fuel analysis indicating higher heating | g value and sulfur content). |

Gas Turbine

| Section B - Equipme | ent Description (Cont |) | | | |
|-------------------------|---|-------------------------|-------------------------------|-----------------------------------|------------------------|
| | Selective Catalytic Re | duction (SCR)* | Selective Non-Catalytic Rec | luction (SNCR)* | |
| | O Oxidation Catalyst* | 0 | Other (specify)*: | | |
| Air Pollution Control | O Steam/Water Injection * Separate application is requ | | Ibs. water/Ibs | . fuel, or | _ mole water/mole fuel |
| | Capital Cost: \$506,000 | .00 Installation | Cost: \$50,000.00 | Annual Operating Cos | t: |
| | Manufacturer: | | Model: | | |
| | Catalyst Dimensions: Ler | n gth: ft | in. Width: | ft in. Helght:_ | ft in. |
| Oxidation Catalyst Data | Catalyst Cell Density: | cells/sq.ir | . Pressure Drop Acro | ss Catalyst: | |
| (If Applicable) | Manufacturer's Guarantee: | CO Control Efficiency: | | Catalyst Life: | yrs |
| | | VOC Control Efficiency: | % | Operating Temp. Range: | °F |
| | Space Velocity (gas flow rate | e/catalyst volume): | Area Velocity | (gas flow/wetted catalyst surface | e area): |
| | VOC Concentration into Cat | alyst: PP | MVD@ 15%O2 CO Conce | entration inot Catalyst: | PPMVD@ 15%O2 |
| Section C - Operation | on Information | | | | |
| | Pollutants | Maximum Emissi | ons Before Control * | Maximum Emis | sions After Control |
| | ronaians | PPM@15% 02, dry | lb/hour | PPM@15% O2, dry | lb/hour |
| | ROG | | | 1.0 | 1.9 |
| | NOx | | | 2.0 | 10.7 |
| | СО | | | 2.0 | 6.50 |
| On-line Emissions Data | PM ₁₀ | | | | 4.5 |
| | SOx | | | | 3.09 |
| | NH ₃ | | | 5 | 9.9 |
| | Reference (attach data): | | temperature, fuel consumption | n, and MW output. | Source Test |
| | | | 2011 | | |
| | Stack Height: | ft | in. Stack Dia | meter:18 | _ ft 0_ in. |
| Stack or Vent Data | Exhaust Temperature: | | Exhaust Pressure: | inches water | column |
| | Exhaust Flow Rate: | 1259905 _{CFM} | Oxygen Level: | <u>13.69</u> % | |

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.

| Startup Da | ata | No. of Startups per day: | 3 | No. of Start | tups per year: | 495 | Duration of each s | tartup: | 1.5 | hrs. |
|---|-------------------------------------|--|--|---|---|--|--------------------------|------------------------|---------|------|
| Shutdown [| Data | No. of Shutdowns per day: | 3 | No. of Shut | downs per year: | 495 | Duration of each S | Shutdown: | 0.16 | hrs. |
| | | Dellustrate | | Startup E | Emissions | and the state | Shutdo | own Emissio | ns | |
| | | Pollutants | PPM@1 | 5% O ₂ , dry | lb/ho | ur | PPM@15% O2, dry | | lb/hour | |
| | | ROG | | | 27. | 3 | | | 32.6 | |
| Startup and Sh | utdown | NOx | | | 25. | 5 | | | 18.0 | |
| Emissions (| | со | | | 113. | 9 | | | 50.8 | |
| | | PM ₁₀ | | | 4.5 | i | | | 4.5 | |
| | | SOx | | | 3.0 | 9 | | | 3.09 | |
| | | NH3 | | | | | | | | |
| | | Will the CEMS be used to me | | on-line and star | | | Yes O No | | | |
| Monitoring and F | Reporting | The following parameters wil | l be continu 🔀 CO 🔀 Ammor | on-line and star | tup/shutdown er d: Xe D2 | nissions? (C | Yes O No | | | |
| Monitoring and F | Reporting | The following parameters will X NOx X Fuel Flow Rate | l be continu X CO X Ammor | on-line and star lously monitore nia Injection Rat Ammonia CE | tup/shutdown er d: Xe D2 | nissions? (her (specify): | | | | |
| Monitoring and F | | The following parameters will X NOx Fuel Flow Rate Ammonia Stack Concernation Normal: | I be continu IX CO IX Ammor ntration: | on-line and star lously monitore nia Injection Rat Ammonia CE | tup/shutdown er d: \[2] O2 te [] Ot EMS Make: | nissions? (her (specify): | | weeks/yr | | |
| | | The following parameters will Image: Nox Image: Start Start Image: Start Start Start Image: Start Start Start | I be continu CO Ammor ntration: hour | on-line and star rously monitore nia Injection Rat Ammonia CE Ammonia CE | tup/shutdown er d: IX O2 te Ot EMS Make: TBI EMS Model: TB | nissions? (her (specify): D | | | | |
| Operating Sch | hedule | The following parameters will Image: Nox Image: Stack Concernation Normal: | I be continu CO Ammor ntration: hour | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day | tup/shutdown er d: Ite Dot EMS Make:TB EMS Model:TB 7 | nissions? (her (specify): D _days/week | 40 | weeks/yr | | |
| Operating Sch Section D - A hereby certify that | hedule Authoriz at all inform | The following parameters will Image: Nox Image: Fuel Flow Rate Image: Ammonia Stack Concern Normal: 24 Maximum: 24 cation/Signature | I be continu CO Ammor ntration: hour hour | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day | tup/shutdown er d: [X] O2 te [] Ott EMS Make:_TBI EMS Model:_TE 7 7 7 | nissions? (her (specify): D days/week _days/week | <u>40</u> 52 | weeks/yr | | |
| Operating Sch Section D - A hereby certify tha Signat | hedule Authoriz at all inform | The following parameters will Image: Nox Image: Fuel Flow Rate Image: Ammonia Stack Concern Normal: 24 Maximum: 24 cation/Signature | I be continu CO Ammor ntration: hour hour formation su Date: | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day ubmitted with th | tup/shutdown er d: EMS Make: TBI MS Model: TB 7 7 7 1is application is Name: St | nissions? (her (specify): D days/week _days/week | 40 52 ect. Kane | weeks/yr | | |
| Operating Sch Section D - A hereby certify that | hedule Authoriz at all inform | The following parameters will Image: Nox Image: Fuel Flow Rate Image: Normal: 24 Maximum: 24 cation/Signature | I be continu CO Ammor ntration: hour hour formation si Date: 12/ | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day | tup/shutdown er d: IX O2 te Ott EMS Make: TBI EMS Model: TB T 7 7 7 7 7 Name: Si Phone #: | nissions? (her (specify): D days/weekdays/week true and corre | 40 52 ect. Kane | weeks/yr | | |
| Operating Sch Section D - 4 hereby certify that Preparer Info | hedule Authoriz at all inform | The following parameters will Image: Nox Image: Fuel Flow Rate Image: Provide the stack concerns Normal: 24 Maximum: 24 Ration/Signature nation contained herein and inf Image: Provide the stack concerns Normal: 24 Company | I be continu CO Ammor ntration: hour hour formation si Date: 12/ | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day ubmitted with th 20/2013 | tup/shutdown er d: [X] O ₂ te [] Ot EMS Make: TB EMS Make: TB EMS Make: TB EMS Make: TB TB EMS Make: St 7 7 7 7 7 8 8 8 9 9 9 9 9 9 9 9 9 9 9 9 | nissions? (her (specify): | 40 52 ect. Kane | _weeks/yr _weeks/yr | | |

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 <u>at the time of submittal</u> to the District.

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

| Form 400 Gas Turt | | Mail To: SCAQMD P.O. Box 4944 Diamond Bar, CA 91765-0944 Tel: (909) 396-3385 |
|---|---|--|
| Section A - Operato | r Information | www.aqmd.gov |
| A MARTINE COMPANY AND A MARTINE ADVANCES OF | e of Operator That Appears On Permit): Valid AQMD Facility ID (Available On Permit Or | Invoice Issued By AOMD): |
| AES Alamitos, LLC | | 115394 |
| Address where the equipment | nt will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial lo | ocation site): |
| 690 N. Studebaker | Road, Long Beach, CA 90803 Fixed Locat | tion 🔿 Various Locations |
| Section B - Equipme | ent Description | |
| | Manufacturer: Model: Serial No.: | |
| | Mitsubishi Power System Americas 501DA TBD | |
| Turbine | Size (based on Higher Heating Value - HHV): | |
| | Manufacturer Maximum Input Rating: MMBTU/hr | kWh |
| | | 160 _{kWh} |
| | | roo_kwn |
| Function (Check all that apply) | | |
| | Steam Generation Exhaust Gas Recovery Other (specify): | |
| Cycle Type | O Simply Cycle O Regenerative Cycle | |
| | Combined Cycle Other (specify): | |
| Combustion Type | 🔿 Tubular 💿 Can-Annular 🔿 Annular | |
| Fuel (Turbine) | Image: Natural Gas LPG Digester Gas* Image: Landfill Gas* Propane Refinery Gas* Other*: | g value and sulfur content). |
| | Steam Turbine Capacity:143_MW | |
| Heat Recovery Steam | Low Pressure Steam Output Capacity: lb/hr @ °F | |
| Generator (HRSG) | High Pressure Steam Output Capacity:1230000 lb/hr @976_°F | |
| | | |
| | Superheated Steam Output Capacity:lb/hr @°F | |
| | Manufacturer: Model: | |
| | Number of burners: Rating of each burner (HHV): | |
| Duct Burner | | |
| | Type: O Low NOx (please attach manufacturer's specifications) | |
| | Other: Show all heat transfer surface locations with the HRSG and temperature profile | |
| | O Natural Gas O LPG O Digester Gas* | |
| Fuel (Duct Burner) | ○ Landfill Gas* ○ Propane ○ Refinery Gas* ○ Other*: | |
| (pair partici) | * (If Digester Gas, Landfill Gas, Refinery Gas, and/or Other are checked, attach fuel analysis indicating higher heating | g value and sulfur content). |

Gas Turbine

| Section B - Equipme | ent Description (Cont |) | | | |
|-------------------------|---|-------------------------|-------------------------------|-----------------------------------|------------------------|
| | Selective Catalytic Re | duction (SCR)* | Selective Non-Catalytic Rec | luction (SNCR)* | |
| | O Oxidation Catalyst* | 0 | Other (specify)*: | | |
| Air Pollution Control | O Steam/Water Injection * Separate application is requ | | Ibs. water/Ibs | . fuel, or | _ mole water/mole fuel |
| | Capital Cost: \$506,000 | .00 Installation | Cost: \$50,000.00 | Annual Operating Cos | t: |
| | Manufacturer: | | Model: | | |
| | Catalyst Dimensions: Ler | n gth: ft | in. Width: | ft in. Helght:_ | ft in. |
| Oxidation Catalyst Data | Catalyst Cell Density: | cells/sq.ir | . Pressure Drop Acro | ss Catalyst: | |
| (If Applicable) | Manufacturer's Guarantee: | CO Control Efficiency: | | Catalyst Life: | yrs |
| | | VOC Control Efficiency: | % | Operating Temp. Range: | °F |
| | Space Velocity (gas flow rate | e/catalyst volume): | Area Velocity | (gas flow/wetted catalyst surface | e area): |
| | VOC Concentration into Cat | alyst: PP | MVD@ 15%O2 CO Conce | entration inot Catalyst: | PPMVD@ 15%O2 |
| Section C - Operation | on Information | | | | |
| | Pollutants | Maximum Emissi | ons Before Control * | Maximum Emis | sions After Control |
| | ronaians | PPM@15% 02, dry | lb/hour | PPM@15% O2, dry | lb/hour |
| | ROG | | | 1.0 | 1.9 |
| | NOx | | | 2.0 | 10.7 |
| | СО | | | 2.0 | 6.50 |
| On-line Emissions Data | PM ₁₀ | | | | 4.5 |
| | SOx | | | | 3.09 |
| | NH ₃ | | | 5 | 9.9 |
| | Reference (attach data): | | temperature, fuel consumption | n, and MW output. | Source Test |
| | | | 2011 | | |
| | Stack Height: | ft | in. Stack Dia | meter:18 | _ ft 0_ in. |
| Stack or Vent Data | Exhaust Temperature: | | Exhaust Pressure: | inches water | column |
| | Exhaust Flow Rate: | 1259905 _{CFM} | Oxygen Level: | <u>13.69</u> % | |

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.

| Startup Da | ata | No. of Startups per day: | 3 | No. of Start | tups per year: | 495 | Duration of each s | tartup: | 1.5 | hrs. |
|---|-------------------------------------|---|--|---|---|---|--------------------------|------------------------|---------|------|
| Shutdown [| Data | No. of Shutdowns per day: | 3 | No. of Shut | downs per year: | 495 | Duration of each S | Shutdown: | 0.16 | hrs. |
| | | Dellustrate | | Startup E | Emissions | and the state | Shutdo | own Emissio | ns | |
| | | Pollutants | PPM@1 | 5% O ₂ , dry | lb/ho | ur | PPM@15% O2, dry | | lb/hour | |
| | | ROG | | | 27. | 3 | | | 32.6 | |
| Startup and Sh | utdown | NOx | | | 25. | 5 | | | 18.0 | |
| Emissions (| | со | | | 113. | 9 | | | 50.8 | |
| | | PM ₁₀ | | | 4.5 | i | | | 4.5 | |
| | | SOx | | | 3.0 | 9 | | | 3.09 | |
| | | NH3 | | | | | | | | |
| | | Will the CEMS be used to me | | on-line and star | | | Yes O No | | | |
| Monitoring and F | Reporting | The following parameters wil | l be continu X CO X Ammor | on-line and star | tup/shutdown er d: Xe D2 | nissions? (C | Yes O No | | | |
| Monitoring and F | Reporting | The following parameters will X NOx X Fuel Flow Rate | l be continu X CO X Ammor | on-line and star lously monitore nia Injection Rat Ammonia CE | tup/shutdown er d: Xe D2 | nissions? (her (specify): | | | | |
| Monitoring and F | | The following parameters will Image: NOx Image: Fuel Flow Rate Image: Ammonia Stack Concert Normal: 24 | I be continu IX CO IX Ammor ntration: | on-line and star lously monitore nia Injection Rat Ammonia CE | tup/shutdown er d: \[2] O2 te [] Ot EMS Make: | nissions? (her (specify): | | weeks/yr | | |
| | | The following parameters will Image: Nox Image: Second state Image: Second state Image: Ammonia Stack Concert | I be continu CO Ammor ntration: hour | on-line and star rously monitore nia Injection Rat Ammonia CE Ammonia CE | tup/shutdown er d: IX O2 te Ot EMS Make: TBI EMS Model: TB | nissions? (her (specify): D | | | | |
| Operating Sch | hedule | The following parameters will Image: Nox Image: Start start Image: Start start start Image: Normal: | I be continu CO Ammor ntration: hour | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day | tup/shutdown er d: Ite Dot EMS Make:TB EMS Model:TB 7 | nissions? (her (specify): D _days/week | 40 | weeks/yr | | |
| Operating Sch Section D - A hereby certify that | hedule Authoriz at all inform | The following parameters will Image: Nox Image: Fuel Flow Rate Image: Ammonia Stack Concern Normal: 24 Maximum: 24 cation/Signature | I be continu CO Ammor ntration: hour hour | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day | tup/shutdown er d: [X] O2 te [] Ott EMS Make:_TBI EMS Model:_TE 7 7 7 | nissions? (her (specify): D days/week _days/week | <u>40</u> 52 | weeks/yr | | |
| Operating Sch Section D - A hereby certify tha Signat | hedule Authoriz at all inform | The following parameters will Image: Nox Image: Fuel Flow Rate Image: Ammonia Stack Concern Normal: 24 Maximum: 24 cation/Signature | I be continu CO Ammor ntration: hour hour formation su Date: | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day ubmitted with th | tup/shutdown er d: EMS Make: TBI MS Model: TE 7 7 7 1is application is Name: St | nissions? (her (specify): D days/week _days/week | 40 52 ect. Kane | weeks/yr | | |
| Operating Sch Section D - A hereby certify that | hedule Authoriz at all inform | The following parameters will Image: Nox Image: Fuel Flow Rate Image: Normal: 24 Maximum: 24 cation/Signature | I be continu CO Ammor ntration: hour hour formation si Date: 12/ | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day | tup/shutdown er d: IX O2 te Ott EMS Make: TBI EMS Model: TB T 7 7 7 7 7 Name: Si Phone #: | nissions? (her (specify): D | 40 52 ect. Kane | weeks/yr | | |
| Operating Sch Section D - 4 hereby certify that Preparer Info | hedule Authoriz at all inform | The following parameters will Image: Second state state Image: Second state state state Image: Second state state state Normal: 24 Maximum: 24 Station/Signature nation contained herein and inf Image: State state state Image: State state state state Image: State state state state state Image: State state <td>I be continu CO Ammor ntration: hour hour formation si Date: 12/</td> <td>on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day ubmitted with th 20/2013</td> <td>tup/shutdown er d: [X] O₂ te [] Ot EMS Make: TB EMS Make: TB EMS Make: TB EMS Make: TB TB EMS Make: St 7 7 7 7 7 8 8 8 9 9 9 9 9 9 9 9 9 9 9 9</td> <td>nissions? (her (specify):</td> <td>40 52 ect. Kane</td> <td>_weeks/yr _weeks/yr</td> <td></td> <td></td> | I be continu CO Ammor ntration: hour hour formation si Date: 12/ | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day ubmitted with th 20/2013 | tup/shutdown er d: [X] O ₂ te [] Ot EMS Make: TB EMS Make: TB EMS Make: TB EMS Make: TB TB EMS Make: St 7 7 7 7 7 8 8 8 9 9 9 9 9 9 9 9 9 9 9 9 | nissions? (her (specify): | 40 52 ect. Kane | _weeks/yr _weeks/yr | | |

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 <u>at the time of submittal</u> to the District.

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

| Form 400 Gas Turt | | Mail To: SCAQMD P.O. Box 4944 Diamond Bar, CA 91765-0944 Tel: (909) 396-3385 |
|---|---|--|
| Section A - Operato | r Information | www.aqmd.gov |
| A MARTINE COMPANY AND A MARTINE ADVANCES OF | e of Operator That Appears On Permit): Valid AQMD Facility ID (Available On Permit Or | Invoice Issued By AOMD): |
| AES Alamitos, LLC | | 115394 |
| Address where the equipment | nt will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial lo | ocation site): |
| 690 N. Studebaker | Road, Long Beach, CA 90803 Fixed Locat | tion 🔿 Various Locations |
| Section B - Equipme | ent Description | |
| | Manufacturer: Model: Serial No.: | |
| | Mitsubishi Power System Americas 501DA TBD | |
| Turbine | Size (based on Higher Heating Value - HHV): | |
| | Manufacturer Maximum Input Rating: MMBTU/hr | kWh |
| | | 160 _{kWh} |
| | | roo_kwn |
| Function (Check all that apply) | | |
| | Steam Generation Exhaust Gas Recovery Other (specify): | |
| Cycle Type | O Simply Cycle O Regenerative Cycle | |
| | Combined Cycle Other (specify): | |
| Combustion Type | 🔿 Tubular 💿 Can-Annular 🔿 Annular | |
| Fuel (Turbine) | Image: Natural Gas LPG Digester Gas* Image: Landfill Gas* Propane Refinery Gas* Other*: | g value and sulfur content). |
| | Steam Turbine Capacity:143_MW | |
| Heat Recovery Steam | Low Pressure Steam Output Capacity: lb/hr @ °F | |
| Generator (HRSG) | High Pressure Steam Output Capacity:1230000 lb/hr @976_°F | |
| | | |
| | Superheated Steam Output Capacity:lb/hr @°F | |
| | Manufacturer: Model: | |
| | Number of burners: Rating of each burner (HHV): | |
| Duct Burner | | |
| | Type: O Low NOx (please attach manufacturer's specifications) | |
| | Other: Show all heat transfer surface locations with the HRSG and temperature profile | |
| | O Natural Gas O LPG O Digester Gas* | |
| Fuel (Duct Burner) | ○ Landfill Gas* ○ Propane ○ Refinery Gas* ○ Other*: | |
| (pair partici) | * (If Digester Gas, Landfill Gas, Refinery Gas, and/or Other are checked, attach fuel analysis indicating higher heating | g value and sulfur content). |

Gas Turbine

| Section B - Equipme | ent Description (Cont |) | | | |
|-------------------------|---|-------------------------|-------------------------------|-----------------------------------|------------------------|
| | Selective Catalytic Re | duction (SCR)* | Selective Non-Catalytic Rec | luction (SNCR)* | |
| | O Oxidation Catalyst* | 0 | Other (specify)*: | | |
| Air Pollution Control | O Steam/Water Injection * Separate application is requ | | Ibs. water/Ibs | . fuel, or | _ mole water/mole fuel |
| | Capital Cost: \$506,000 | .00 Installation | Cost: \$50,000.00 | Annual Operating Cos | t: |
| | Manufacturer: | | Model: | | |
| | Catalyst Dimensions: Ler | n gth: ft | in. Width: | ft in. Helght:_ | ft in. |
| Oxidation Catalyst Data | Catalyst Cell Density: | cells/sq.ir | . Pressure Drop Acro | ss Catalyst: | |
| (If Applicable) | Manufacturer's Guarantee: | CO Control Efficiency: | | Catalyst Life: | yrs |
| | | VOC Control Efficiency: | % | Operating Temp. Range: | °F |
| | Space Velocity (gas flow rate | e/catalyst volume): | Area Velocity | (gas flow/wetted catalyst surface | e area): |
| | VOC Concentration into Cat | alyst: PP | MVD@ 15%O2 CO Conce | entration inot Catalyst: | PPMVD@ 15%O2 |
| Section C - Operation | on Information | | | | |
| | Pollutants | Maximum Emissi | ons Before Control * | Maximum Emis | sions After Control |
| | ronaians | PPM@15% 02, dry | lb/hour | PPM@15% O2, dry | lb/hour |
| | ROG | | | 1.0 | 1.9 |
| | NOx | | | 2.0 | 10.7 |
| | CO | | | 2.0 | 6.50 |
| On-line Emissions Data | PM ₁₀ | | | | 4.5 |
| | SOx | | | | 3.09 |
| | NH ₃ | | | 5 | 9.9 |
| | Reference (attach data): | | temperature, fuel consumption | n, and MW output. | Source Test |
| | | | 2011 | | |
| | Stack Height: | ft | in. Stack Dia | meter:18 | _ ft 0_ in. |
| Stack or Vent Data | Exhaust Temperature: | | Exhaust Pressure: | inches water | column |
| | Exhaust Flow Rate: | 1259905 _{CFM} | Oxygen Level: | <u>13.69</u> % | |

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.

| Startup Da | ata | No. of Startups per day: | 3 | No. of Start | tups per year: | 495 | Duration of each s | tartup: | 1.5 | hrs. |
|---|-------------------------------------|---|--|---|---|---|--------------------------|------------------------|---------|------|
| Shutdown [| Data | No. of Shutdowns per day: | 3 | No. of Shut | downs per year: | 495 | Duration of each S | Shutdown: | 0.16 | hrs. |
| | | Dellustrate | | Startup E | Emissions | and the state | Shutdo | own Emissio | ns | |
| | | Pollutants | PPM@1 | 5% O ₂ , dry | lb/ho | ur | PPM@15% O2, dry | | lb/hour | |
| | | ROG | | | 27. | 3 | | | 32.6 | |
| Startup and Sh | utdown | NOx | | | 25. | 5 | | | 18.0 | |
| Emissions (| | со | | | 113. | 9 | | | 50.8 | |
| | | PM ₁₀ | | | 4.5 | i | | | 4.5 | |
| | | SOx | | | 3.0 | 9 | | | 3.09 | |
| | | NH3 | | | | | | | | |
| | | Will the CEMS be used to me | | on-line and star | | | Yes O No | | | |
| Monitoring and F | Reporting | The following parameters wil | l be continu IXI CO IXI Ammor | on-line and star | tup/shutdown er d: E O2 te Ot | nissions? (C | Yes O No | | | |
| Monitoring and F | Reporting | The following parameters will X NOx X Fuel Flow Rate | l be continu IXI CO IXI Ammor | on-line and star lously monitore nia Injection Rat Ammonia CE | tup/shutdown er d: E O2 te Ot | nissions? (her (specify): | | | | |
| Monitoring and F | | The following parameters will Image: NOx Image: Fuel Flow Rate Image: Ammonia Stack Concert Normal: 24 | I be continu IX CO IX Ammor ntration: | on-line and star lously monitore nia Injection Rat Ammonia CE | tup/shutdown er d: \[2] O2 te [] Ot EMS Make: | nissions? (her (specify): | | weeks/yr | | |
| | | The following parameters will Image: Nox Image: Second state Image: Second state Image: Ammonia Stack Concert | I be continu CO Ammor ntration: hour | on-line and star rously monitore nia Injection Rat Ammonia CE Ammonia CE | tup/shutdown er d: IX O2 te Ot EMS Make: TBI EMS Model: TB | nissions? (her (specify): D | | | | |
| Operating Sch | hedule | The following parameters will Image: Nox Image: Start start Image: Start start start Image: Normal: | I be continu CO Ammor ntration: hour | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day | tup/shutdown er d: Ite Dot EMS Make:TB EMS Model:TB 7 | nissions? (her (specify): D _days/week | 40 | weeks/yr | | |
| Operating Sch Section D - A hereby certify that | hedule Authoriz at all inform | The following parameters will Image: Nox Image: Fuel Flow Rate Image: Ammonia Stack Concern Normal: 24 Maximum: 24 cation/Signature | I be continu CO Ammor ntration: hour hour | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day | tup/shutdown er d: [X] O2 te [] Ott EMS Make:_TB EMS Model:_TE 7 7 7 | nissions? (her (specify): D days/week _days/week | <u>40</u> 52 | weeks/yr | | |
| Operating Sch Section D - A hereby certify tha Signat | hedule Authoriz at all inform | The following parameters will Image: Nox Image: Fuel Flow Rate Image: Ammonia Stack Concern Normal: 24 Maximum: 24 cation/Signature | I be continu CO Ammor ntration: hour hour formation su Date: | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day ubmitted with th | tup/shutdown er d: EMS Make: TBI MS Model: TE 7 7 7 1is application is Name: St | nissions? (her (specify): D days/week _days/week | 40 52 ect. Kane | weeks/yr | | |
| Operating Sch Section D - A hereby certify that | hedule Authoriz at all inform | The following parameters will Image: Nox Image: Fuel Flow Rate Image: Normal: 24 Maximum: 24 cation/Signature | I be continu CO Ammor ntration: hour hour formation si Date: 12/ | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day | tup/shutdown er d: IX O2 te Ott EMS Make: TBI EMS Model: TB T 7 7 7 7 7 Name: Si Phone #: | nissions? (her (specify): D | 40 52 ect. Kane | weeks/yr | | |
| Operating Sch Section D - 4 hereby certify that Preparer Info | hedule Authoriz at all inform | The following parameters will Image: Second state state Image: Second state state state Image: Second state state state Normal: 24 Maximum: 24 Station/Signature nation contained herein and inf Image: State state state Image: State state state state Image: State state state state state Image: State state <td>I be continu CO Ammor ntration: hour hour formation si Date: 12/</td> <td>on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day ubmitted with th 20/2013</td> <td>tup/shutdown er d: [X] O₂ te [] Ot EMS Make: TB EMS Make: TB EMS Make: TB EMS Make: TB TB EMS Make: St 7 7 7 7 7 8 8 8 9 9 9 9 9 9 9 9 9 9 9 9</td> <td>nissions? (her (specify):</td> <td>40 52 ect. Kane</td> <td>_weeks/yr _weeks/yr</td> <td></td> <td></td> | I be continu CO Ammor ntration: hour hour formation si Date: 12/ | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day ubmitted with th 20/2013 | tup/shutdown er d: [X] O ₂ te [] Ot EMS Make: TB EMS Make: TB EMS Make: TB EMS Make: TB TB EMS Make: St 7 7 7 7 7 8 8 8 9 9 9 9 9 9 9 9 9 9 9 9 | nissions? (her (specify): | 40 52 ect. Kane | _weeks/yr _weeks/yr | | |

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

| Form 400 Gas Turt | | Mail To: SCAQMD P.O. Box 4944 Diamond Bar, CA 91765-0944 Tel: (909) 396-3385 |
|---|---|--|
| Section A - Operato | r Information | www.aqmd.gov |
| A MARTINE COMPANY AND A MARTINE ADVANCES OF | e of Operator That Appears On Permit): Valid AQMD Facility ID (Available On Permit Or | Invoice Issued By AOMD): |
| AES Alamitos, LLC | | 115394 |
| Address where the equipment | nt will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial lo | ocation site): |
| 690 N. Studebaker | Road, Long Beach, CA 90803 Fixed Locat | tion 🔿 Various Locations |
| Section B - Equipme | ent Description | |
| | Manufacturer: Model: Serial No.: | |
| | Mitsubishi Power System Americas 501DA TBD | |
| Turbine | Size (based on Higher Heating Value - HHV): | |
| | Manufacturer Maximum Input Rating: MMBTU/hr | kWh |
| | | 160 _{kWh} |
| | | roo_kwn |
| Function (Check all that apply) | | |
| | Steam Generation Exhaust Gas Recovery Other (specify): | |
| Cycle Type | O Simply Cycle O Regenerative Cycle | |
| | Combined Cycle Other (specify): | |
| Combustion Type | 🔿 Tubular 💿 Can-Annular 🔿 Annular | |
| Fuel (Turbine) | Image: Natural Gas LPG Digester Gas* Image: Landfill Gas* Propane Refinery Gas* Other*: | g value and sulfur content). |
| | Steam Turbine Capacity:143_MW | |
| Heat Recovery Steam | Low Pressure Steam Output Capacity: lb/hr @ °F | |
| Generator (HRSG) | High Pressure Steam Output Capacity:1230000 lb/hr @976_°F | |
| | | |
| | Superheated Steam Output Capacity:lb/hr @°F | |
| | Manufacturer: Model: | |
| | Number of burners: Rating of each burner (HHV): | |
| Duct Burner | | |
| | Type: O Low NOx (please attach manufacturer's specifications) | |
| | Other: Show all heat transfer surface locations with the HRSG and temperature profile | |
| | O Natural Gas O LPG O Digester Gas* | |
| Fuel (Duct Burner) | ○ Landfill Gas* ○ Propane ○ Refinery Gas* ○ Other*: | |
| (pair partici) | * (If Digester Gas, Landfill Gas, Refinery Gas, and/or Other are checked, attach fuel analysis indicating higher heating | g value and sulfur content). |

Gas Turbine

| Section B - Equipme | ent Description (Cont |) | | | |
|-------------------------|---|-------------------------|-------------------------------|-----------------------------------|------------------------|
| | Selective Catalytic Re | duction (SCR)* | Selective Non-Catalytic Rec | luction (SNCR)* | |
| | O Oxidation Catalyst* | 0 | Other (specify)*: | | |
| Air Pollution Control | O Steam/Water Injection * Separate application is requ | | Ibs. water/Ibs | . fuel, or | _ mole water/mole fuel |
| | Capital Cost: \$506,000 | .00 Installation | Cost: \$50,000.00 | Annual Operating Cos | t: |
| | Manufacturer: | | Model: | | |
| | Catalyst Dimensions: Ler | n gth: ft | in. Width: | ft in. Helght:_ | ft in. |
| Oxidation Catalyst Data | Catalyst Cell Density: | cells/sq.ir | . Pressure Drop Acro | ss Catalyst: | |
| (If Applicable) | Manufacturer's Guarantee: | CO Control Efficiency: | | Catalyst Life: | yrs |
| | | VOC Control Efficiency: | % | Operating Temp. Range: | °F |
| | Space Velocity (gas flow rate | e/catalyst volume): | Area Velocity | (gas flow/wetted catalyst surface | e area): |
| | VOC Concentration into Cat | alyst: PP | MVD@ 15%O2 CO Conce | entration inot Catalyst: | PPMVD@ 15%O2 |
| Section C - Operation | on Information | | | | |
| | Pollutants | Maximum Emissi | ons Before Control * | Maximum Emis | sions After Control |
| | ronaians | PPM@15% 02, dry | lb/hour | PPM@15% O2, dry | lb/hour |
| | ROG | | | 1.0 | 1.9 |
| | NOx | | | 2.0 | 10.7 |
| | CO | | | 2.0 | 6.50 |
| On-line Emissions Data | PM ₁₀ | | | | 4.5 |
| | SOx | | | | 3.09 |
| | NH ₃ | | | 5 | 9.9 |
| | Reference (attach data): | | temperature, fuel consumption | n, and MW output. | Source Test |
| | | | 2011 | | |
| | Stack Height: | ft | in. Stack Dia | meter:18 | _ ft 0_ in. |
| Stack or Vent Data | Exhaust Temperature: | | Exhaust Pressure: | inches water | column |
| | Exhaust Flow Rate: | 1259905 _{CFM} | Oxygen Level: | <u>13.69</u> % | |

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.

| Startup Da | ata | No. of Startups per day: | 3 | No. of Start | tups per year: | 495 | Duration of each s | tartup: | 1.5 | hrs. |
|---|-------------------------------------|---|--|---|---|---|--------------------------|------------------------|---------|------|
| Shutdown [| Data | No. of Shutdowns per day: | 3 | No. of Shut | downs per year: | 495 | Duration of each S | Shutdown: | 0.16 | hrs. |
| | | Dellustrate | | Startup E | Emissions | and the state | Shutdo | own Emissio | ns | |
| | | Pollutants | PPM@1 | 5% O ₂ , dry | lb/ho | ur | PPM@15% O2, dry | | lb/hour | |
| | | ROG | | | 27. | 3 | | | 32.6 | |
| Startup and Sh | utdown | NOx | | | 25. | 5 | | | 18.0 | |
| Emissions (| | со | | | 113. | 9 | | | 50.8 | |
| | | PM ₁₀ | | | 4.5 | i | | | 4.5 | |
| | | SOx | | | 3.0 | 9 | | | 3.09 | |
| | | NH3 | | | | | | | | |
| | | Will the CEMS be used to me | | on-line and star | | | Yes O No | | | |
| Monitoring and F | Reporting | The following parameters wil | l be continu 🔀 CO 🔀 Ammor | on-line and star | tup/shutdown er d: E O2 te Ot | nissions? (C | Yes O No | | | |
| Monitoring and F | Reporting | The following parameters will X NOx X Fuel Flow Rate | l be continu 🔀 CO 🔀 Ammor | on-line and star lously monitore nia Injection Rat Ammonia CE | tup/shutdown er d: E O2 te Ot | nissions? (her (specify): | | | | |
| Monitoring and F | | The following parameters will Image: NOx Image: Fuel Flow Rate Image: Ammonia Stack Concert Normal: 24 | I be continu IX CO IX Ammor ntration: | on-line and star lously monitore nia Injection Rat Ammonia CE | tup/shutdown er d: \[2] O2 te [] Ot EMS Make: | nissions? (her (specify): | | weeks/yr | | |
| | | The following parameters will Image: Nox Image: Second state Image: Second state Image: Ammonia Stack Concert | I be continu CO Ammor ntration: hour | on-line and star rously monitore nia Injection Rat Ammonia CE Ammonia CE | tup/shutdown er d: Iz O2 te Ot EMS Make: TBI EMS Model: TB | nissions? (her (specify): D | | | | |
| Operating Sch | hedule | The following parameters will Image: Nox Image: Start start Image: Start start start Image: Normal: | I be continu CO Ammor ntration: hour | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day | tup/shutdown er d: Ite Dot EMS Make:TB EMS Model:TB 7 | nissions? (her (specify): D _days/week | 40 | weeks/yr | | |
| Operating Sch Section D - A hereby certify that | hedule Authoriz at all inform | The following parameters will Image: Nox Image: Fuel Flow Rate Image: Ammonia Stack Concern Normal: 24 Maximum: 24 cation/Signature | I be continu CO Ammor ntration: hour hour | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day | tup/shutdown er d: [X] O2 te [] Ott EMS Make:_TBI EMS Model:_TE 7 7 7 | nissions? (her (specify): D days/week _days/week | <u>40</u> 52 | weeks/yr | | |
| Operating Sch Section D - A hereby certify tha Signat | hedule Authoriz at all inform | The following parameters will Image: Nox Image: Fuel Flow Rate Image: Ammonia Stack Concern Normal: 24 Maximum: 24 cation/Signature | I be continu CO Ammor ntration: hour hour formation su Date: | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day ubmitted with th | tup/shutdown er d: EMS Make: TBI MS Model: TE 7 7 7 1is application is Name: St | nissions? (her (specify): D days/week _days/week | 40 52 ect. Kane | weeks/yr | | |
| Operating Sch Section D - A hereby certify that | hedule Authoriz at all inform | The following parameters will Image: Nox Image: Fuel Flow Rate Image: Normal: 24 Maximum: 24 cation/Signature | I be continu CO Ammor ntration: hour hour formation si Date: 12/ | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day | tup/shutdown er d: IX O2 te Ott EMS Make: TBI EMS Model: TB T 7 7 7 7 7 Name: Si Phone #: | nissions? (her (specify): D | 40 52 ect. Kane | weeks/yr | | |
| Operating Sch Section D - 4 hereby certify that Preparer Info | hedule Authoriz at all inform | The following parameters will Image: Second state state Image: Second state state state Image: Second state state state Normal: 24 Maximum: 24 Station/Signature nation contained herein and inf Image: State state state Image: State state state state Image: State state state state state Image: State state <td>I be continu CO Ammor ntration: hour hour formation si Date: 12/</td> <td>on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day ubmitted with th 20/2013</td> <td>tup/shutdown er d: [X] O₂ te [] Ot EMS Make: TB EMS Make: TB EMS Make: TB EMS Make: TB TB EMS Make: St 7 7 7 7 7 8 8 8 9 9 9 9 9 9 9 9 9 9 9 9</td> <td>nissions? (her (specify):</td> <td>40 52 ect. Kane</td> <td>_weeks/yr _weeks/yr</td> <td></td> <td></td> | I be continu CO Ammor ntration: hour hour formation si Date: 12/ | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day ubmitted with th 20/2013 | tup/shutdown er d: [X] O ₂ te [] Ot EMS Make: TB EMS Make: TB EMS Make: TB EMS Make: TB TB EMS Make: St 7 7 7 7 7 8 8 8 9 9 9 9 9 9 9 9 9 9 9 9 | nissions? (her (specify): | 40 52 ect. Kane | _weeks/yr _weeks/yr | | |

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

| Form 400 Gas Turt | | Mail To: SCAQMD P.O. Box 4944 Diamond Bar, CA 91765-0944 Tel: (909) 396-3385 |
|---|---|--|
| Section A - Operato | r Information | www.aqmd.gov |
| A MARTINE COMPANY AND A MARTINE ADVANCES OF | e of Operator That Appears On Permit): Valid AQMD Facility ID (Available On Permit Or | Invoice Issued By AOMD): |
| AES Alamitos, LLC | | 115394 |
| Address where the equipment | nt will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial lo | ocation site): |
| 690 N. Studebaker | Road, Long Beach, CA 90803 Fixed Locat | tion 🔿 Various Locations |
| Section B - Equipme | ent Description | |
| | Manufacturer: Model: Serial No.: | |
| | Mitsubishi Power System Americas 501DA TBD | |
| Turbine | Size (based on Higher Heating Value - HHV): | |
| | Manufacturer Maximum Input Rating: MMBTU/hr | kWh |
| | | 160 _{kWh} |
| | | roo_kwn |
| Function (Check all that apply) | | |
| | Steam Generation Exhaust Gas Recovery Other (specify): | |
| Cycle Type | O Simply Cycle O Regenerative Cycle | |
| | Combined Cycle Other (specify): | |
| Combustion Type | 🔿 Tubular 💿 Can-Annular 🔿 Annular | |
| Fuel (Turbine) | Image: Natural Gas LPG Digester Gas* Image: Landfill Gas* Propane Refinery Gas* Other*: | g value and sulfur content). |
| | Steam Turbine Capacity:143_MW | |
| Heat Recovery Steam | Low Pressure Steam Output Capacity: lb/hr @ °F | |
| Generator (HRSG) | High Pressure Steam Output Capacity:1230000 lb/hr @976_°F | |
| | | |
| | Superheated Steam Output Capacity:lb/hr @°F | |
| | Manufacturer: Model: | |
| | Number of burners: Rating of each burner (HHV): | |
| Duct Burner | | |
| | Type: O Low NOx (please attach manufacturer's specifications) | |
| | Other: Show all heat transfer surface locations with the HRSG and temperature profile | |
| | O Natural Gas O LPG O Digester Gas* | |
| Fuel (Duct Burner) | ○ Landfill Gas* ○ Propane ○ Refinery Gas* ○ Other*: | |
| (pair partici) | * (If Digester Gas, Landfill Gas, Refinery Gas, and/or Other are checked, attach fuel analysis indicating higher heating | g value and sulfur content). |

Gas Turbine

| Section B - Equipme | ent Description (Cont |) | | | |
|-------------------------|---|-------------------------|-------------------------------|-----------------------------------|------------------------|
| | Selective Catalytic Re | duction (SCR)* | Selective Non-Catalytic Rec | luction (SNCR)* | |
| | O Oxidation Catalyst* | 0 | Other (specify)*: | | |
| Air Pollution Control | O Steam/Water Injection * Separate application is requ | | Ibs. water/Ibs | . fuel, or | _ mole water/mole fuel |
| | Capital Cost: \$506,000 | .00 Installation | Cost: \$50,000.00 | Annual Operating Cos | t: |
| | Manufacturer: | | Model: | | |
| | Catalyst Dimensions: Ler | n gth: ft | in. Width: | ft in. Helght:_ | ft in. |
| Oxidation Catalyst Data | Catalyst Cell Density: | cells/sq.ir | . Pressure Drop Acro | ss Catalyst: | |
| (If Applicable) | Manufacturer's Guarantee: | CO Control Efficiency: | | Catalyst Life: | yrs |
| | | VOC Control Efficiency: | % | Operating Temp. Range: | °F |
| | Space Velocity (gas flow rate | e/catalyst volume): | Area Velocity | (gas flow/wetted catalyst surface | e area): |
| | VOC Concentration into Cat | alyst: PP | MVD@ 15%O2 CO Conce | entration inot Catalyst: | PPMVD@ 15%O2 |
| Section C - Operation | on Information | | | | |
| | Pollutants | Maximum Emissi | ons Before Control * | Maximum Emis | sions After Control |
| | ronaians | PPM@15% 02, dry | lb/hour | PPM@15% O2, dry | lb/hour |
| | ROG | | | 1.0 | 1.9 |
| | NOx | | | 2.0 | 10.7 |
| | СО | | | 2.0 | 6.50 |
| On-line Emissions Data | PM ₁₀ | | | | 4.5 |
| | SOx | | | | 3.09 |
| | NH ₃ | | | 5 | 9.9 |
| | Reference (attach data): | | temperature, fuel consumption | n, and MW output. | Source Test |
| | | | 2011 | | |
| | Stack Height: | ft | in. Stack Dia | meter:18 | _ ft 0_ in. |
| Stack or Vent Data | Exhaust Temperature: | | Exhaust Pressure: | inches water | column |
| | Exhaust Flow Rate: | 1259905 _{CFM} | Oxygen Level: | <u>13.69</u> % | |

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.

| Startup Da | ata | No. of Startups per day: | 3 | No. of Start | tups per year: | 495 | Duration of each s | tartup: | 1.5 | hrs. |
|---|-------------------------------------|---|--|---|---|---|--------------------------|------------------------|---------|------|
| Shutdown [| Data | No. of Shutdowns per day: | 3 | No. of Shut | downs per year: | 495 | Duration of each S | Shutdown: | 0.16 | hrs. |
| | | Dellustrate | | Startup E | Emissions | and the state | Shutdo | own Emissio | ns | |
| | | Pollutants | PPM@1 | 5% O ₂ , dry | lb/ho | ur | PPM@15% O2, dry | | lb/hour | |
| | | ROG | | | 27. | 3 | | | 32.6 | |
| Startup and Sh | utdown | NOx | | | 25. | 5 | | | 18.0 | |
| Emissions (| | со | | | 113. | 9 | | | 50.8 | |
| | | PM ₁₀ | | | 4.5 | i | | | 4.5 | |
| | | SOx | | | 3.0 | 9 | | | 3.09 | |
| | | NH3 | | | | | | | | |
| | | Will the CEMS be used to me | | on-line and star | | | Yes O No | | | |
| Monitoring and F | Reporting | The following parameters wil | l be continu 🔀 CO 🔀 Ammor | on-line and star | tup/shutdown er d: E O2 te Ot | nissions? (C | Yes O No | | | |
| Monitoring and F | Reporting | The following parameters will X NOx X Fuel Flow Rate | l be continu 🔀 CO 🔀 Ammor | on-line and star lously monitore nia Injection Rat Ammonia CE | tup/shutdown er d: E O2 te Ot | nissions? (her (specify): | | | | |
| Monitoring and F | | The following parameters will Image: NOx Image: Fuel Flow Rate Image: Ammonia Stack Concert Normal: 24 | I be continu IX CO IX Ammor ntration: | on-line and star lously monitore nia Injection Rat Ammonia CE | tup/shutdown er d: \[2] O2 te [] Ot EMS Make: | nissions? (her (specify): | | weeks/yr | | |
| | | The following parameters will Image: Nox Image: Second state Image: Second state Image: Ammonia Stack Concert | I be continu CO Ammor ntration: hour | on-line and star rously monitore nia Injection Rat Ammonia CE Ammonia CE | tup/shutdown er d: IX O2 te Ot EMS Make: TBI EMS Model: TB | nissions? (her (specify): D | | | | |
| Operating Sch | hedule | The following parameters will Image: Nox Image: Start start Image: Start start start Image: Normal: | I be continu CO Ammor ntration: hour | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day | tup/shutdown er d: Ite Dot EMS Make:TB EMS Model:TB 7 | nissions? (her (specify): D _days/week | 40 | weeks/yr | | |
| Operating Sch Section D - A hereby certify that | hedule Authoriz at all inform | The following parameters will Image: Nox Image: Fuel Flow Rate Image: Ammonia Stack Concern Normal: 24 Maximum: 24 cation/Signature | I be continu CO Ammor ntration: hour hour | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day | tup/shutdown er d: [X] O2 te [] Ott EMS Make:_TB EMS Model:_TE 7 7 7 | nissions? (her (specify): D days/week _days/week | <u>40</u> 52 | weeks/yr | | |
| Operating Sch Section D - A hereby certify tha Signat | hedule Authoriz at all inform | The following parameters will Image: Nox Image: Fuel Flow Rate Image: Ammonia Stack Concern Normal: 24 Maximum: 24 cation/Signature | I be continu CO Ammor ntration: hour hour formation su Date: | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day ubmitted with th | tup/shutdown er d: EMS Make: TBI MS Model: TE 7 7 7 1is application is Name: St | nissions? (her (specify): D days/week _days/week | 40 52 ect. Kane | weeks/yr | | |
| Operating Sch Section D - A hereby certify that | hedule Authoriz at all inform | The following parameters will Image: Nox Image: Fuel Flow Rate Image: Normal: 24 Maximum: 24 cation/Signature | I be continu CO Ammor ntration: hour hour formation si Date: 12/ | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day | tup/shutdown er d: IX O2 te Ott EMS Make: TBI EMS Model: TB T 7 7 7 7 7 Name: Si Phone #: | nissions? (her (specify): D | 40 52 ect. Kane | weeks/yr | | |
| Operating Sch Section D - 4 hereby certify that Preparer Info | hedule Authoriz at all inform | The following parameters will Image: Second state state Image: Second state state state Image: Second state state state Normal: 24 Maximum: 24 Station/Signature nation contained herein and inf Image: State state state Image: State state state state Image: State state state state state Image: State state <td>I be continu CO Ammor ntration: hour hour formation si Date: 12/</td> <td>on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day ubmitted with th 20/2013</td> <td>tup/shutdown er d: [X] O₂ te [] Ot EMS Make: TB EMS Make: TB EMS Make: TB EMS Make: TB TB EMS Make: St 7 7 7 7 7 8 8 8 9 9 9 9 9 9 9 9 9 9 9 9</td> <td>nissions? (her (specify):</td> <td>40 52 ect. Kane</td> <td>_weeks/yr _weeks/yr</td> <td></td> <td></td> | I be continu CO Ammor ntration: hour hour formation si Date: 12/ | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day ubmitted with th 20/2013 | tup/shutdown er d: [X] O ₂ te [] Ot EMS Make: TB EMS Make: TB EMS Make: TB EMS Make: TB TB EMS Make: St 7 7 7 7 7 8 8 8 9 9 9 9 9 9 9 9 9 9 9 9 | nissions? (her (specify): | 40 52 ect. Kane | _weeks/yr _weeks/yr | | |

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

| Form 400 Gas Turt | | Mail To: SCAQMD P.O. Box 4944 Diamond Bar, CA 91765-0944 Tel: (909) 396-3385 |
|---|---|--|
| Section A - Operato | r Information | www.aqmd.gov |
| A MARTINE COMPANY AND A MARTINE ADVANCES OF | e of Operator That Appears On Permit): Valid AQMD Facility ID (Available On Permit Or | Invoice Issued By AOMD): |
| AES Alamitos, LLC | | 115394 |
| Address where the equipment | nt will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial lo | ocation site): |
| 690 N. Studebaker | Road, Long Beach, CA 90803 Fixed Locat | tion 🔿 Various Locations |
| Section B - Equipme | ent Description | |
| | Manufacturer: Model: Serial No.: | |
| | Mitsubishi Power System Americas 501DA TBD | |
| Turbine | Size (based on Higher Heating Value - HHV): | |
| | Manufacturer Maximum Input Rating: MMBTU/hr | kWh |
| | | 160 _{kWh} |
| | | roo_kwn |
| Function (Check all that apply) | | |
| | Steam Generation Exhaust Gas Recovery Other (specify): | |
| Cycle Type | O Simply Cycle O Regenerative Cycle | |
| | Combined Cycle Other (specify): | |
| Combustion Type | 🔿 Tubular 💿 Can-Annular 🔿 Annular | |
| Fuel (Turbine) | Image: Natural Gas LPG Digester Gas* Image: Landfill Gas* Propane Refinery Gas* Other*: | g value and sulfur content). |
| | Steam Turbine Capacity:143_MW | |
| Heat Recovery Steam | Low Pressure Steam Output Capacity: lb/hr @ °F | |
| Generator (HRSG) | High Pressure Steam Output Capacity:1230000 lb/hr @976_°F | |
| | | |
| | Superheated Steam Output Capacity:lb/hr @°F | |
| | Manufacturer: Model: | |
| | Number of burners: Rating of each burner (HHV): | |
| Duct Burner | | |
| | Type: O Low NOx (please attach manufacturer's specifications) | |
| | Other: Show all heat transfer surface locations with the HRSG and temperature profile | |
| | O Natural Gas O LPG O Digester Gas* | |
| Fuel (Duct Burner) | ○ Landfill Gas* ○ Propane ○ Refinery Gas* ○ Other*: | |
| (pain partici) | * (If Digester Gas, Landfill Gas, Refinery Gas, and/or Other are checked, attach fuel analysis indicating higher heating | g value and sulfur content). |

Gas Turbine

| Section B - Equipme | ent Description (Cont |) | | | |
|-------------------------|---|-------------------------|-------------------------------|-----------------------------------|------------------------|
| | Selective Catalytic Re | duction (SCR)* | Selective Non-Catalytic Rec | luction (SNCR)* | |
| | O Oxidation Catalyst* | 0 | Other (specify)*: | | |
| Air Pollution Control | O Steam/Water Injection * Separate application is requ | | Ibs. water/Ibs | . fuel, or | _ mole water/mole fuel |
| | Capital Cost: \$506,000 | .00 Installation | Cost: \$50,000.00 | Annual Operating Cos | t: |
| | Manufacturer: | | Model: | | |
| | Catalyst Dimensions: Ler | n gth: ft | in. Width: | ft in. Helght:_ | ft in. |
| Oxidation Catalyst Data | Catalyst Cell Density: | cells/sq.ir | . Pressure Drop Acro | ss Catalyst: | |
| (If Applicable) | Manufacturer's Guarantee: | CO Control Efficiency: | | Catalyst Life: | yrs |
| | | VOC Control Efficiency: | % | Operating Temp. Range: | °F |
| | Space Velocity (gas flow rate | e/catalyst volume): | Area Velocity | (gas flow/wetted catalyst surface | e area): |
| | VOC Concentration into Cat | alyst: PP | MVD@ 15%O2 CO Conce | entration inot Catalyst: | PPMVD@ 15%O2 |
| Section C - Operation | on Information | | | | |
| | Pollutants | Maximum Emissi | ons Before Control * | Maximum Emis | sions After Control |
| | ronaians | PPM@15% 02, dry | lb/hour | PPM@15% O2, dry | lb/hour |
| | ROG | | | 1.0 | 1.9 |
| | NOx | | | 2.0 | 10.7 |
| | СО | | | 2.0 | 6.50 |
| On-line Emissions Data | PM ₁₀ | | | | 4.5 |
| | SOx | | | | 3.09 |
| | NH ₃ | | | 5 | 9.9 |
| | Reference (attach data): | | temperature, fuel consumption | n, and MW output. | Source Test |
| | | | 2011 | | |
| | Stack Height: | ft | in. Stack Dia | meter:18 | _ ft 0_ in. |
| Stack or Vent Data | Exhaust Temperature: | | Exhaust Pressure: | inches water | column |
| | Exhaust Flow Rate: | 1259905 _{CFM} | Oxygen Level: | <u>13.69</u> % | |

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.

| Startup Da | ata | No. of Startups per day: | 3 | No. of Start | tups per year: | 495 | Duration of each s | tartup: | 1.5 | hrs. |
|---|-------------------------------------|---|--|---|---|---|--------------------------|------------------------|---------|------|
| Shutdown [| Data | No. of Shutdowns per day: | 3 | No. of Shut | downs per year: | 495 | Duration of each S | Shutdown: | 0.16 | hrs. |
| | | Dellustrate | | Startup E | Emissions | and the state | Shutdo | own Emissio | ns | |
| | | Pollutants | PPM@1 | 5% O ₂ , dry | lb/ho | ur | PPM@15% O2, dry | | lb/hour | |
| | | ROG | | | 27. | 3 | | | 32.6 | |
| Startup and Sh | utdown | NOx | | | 25. | 5 | | | 18.0 | |
| Emissions (| | со | | | 113. | 9 | | | 50.8 | |
| | | PM ₁₀ | | | 4.5 | i | | | 4.5 | |
| | | SOx | | | 3.0 | 9 | | | 3.09 | |
| | | NH3 | | | | | | | | |
| | | Will the CEMS be used to me | | on-line and star | | | Yes O No | | | |
| Monitoring and F | Reporting | The following parameters wil | l be continu 🔀 CO 🔀 Ammor | on-line and star | tup/shutdown er d: Xe D2 | nissions? (C | Yes O No | | | |
| Monitoring and F | Reporting | The following parameters will X NOx X Fuel Flow Rate | l be continu IXI CO IXI Ammor | on-line and star lously monitore nia Injection Rat Ammonia CE | tup/shutdown er d: Xe D2 | nissions? (her (specify): | | | | |
| Monitoring and F | | The following parameters will Image: NOx Image: Fuel Flow Rate Image: Ammonia Stack Concert Normal: 24 | I be continu IX CO IX Ammor ntration: | on-line and star lously monitore nia Injection Rat Ammonia CE | tup/shutdown er d: \[2] O2 te [] Ot EMS Make: | nissions? (her (specify): | | weeks/yr | | |
| | | The following parameters will Image: Nox Image: Start Start Image: Start Start Start Image: Start Start Start | I be continu CO Ammor ntration: hour | on-line and star rously monitore nia Injection Rat Ammonia CE Ammonia CE | tup/shutdown er d: IX O2 te Ot EMS Make: TBI EMS Model: TB | nissions? (her (specify): D | | | | |
| Operating Sch | hedule | The following parameters will Image: Nox Image: Start start Image: Start start start Image: Normal: | I be continu CO Ammor ntration: hour | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day | tup/shutdown er d: Ite Dot EMS Make:TB EMS Model:TB 7 | nissions? (her (specify): D _days/week | 40 | weeks/yr | | |
| Operating Sch Section D - A hereby certify that | hedule Authoriz at all inform | The following parameters will Image: Nox Image: Fuel Flow Rate Image: Ammonia Stack Concern Normal: 24 Maximum: 24 cation/Signature | I be continu CO Ammor ntration: hour hour | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day | tup/shutdown er d: [X] O2 te [] Ott EMS Make:_TBI EMS Model:_TE 7 7 7 | nissions? (her (specify): D days/week _days/week | <u>40</u> 52 | weeks/yr | | |
| Operating Sch Section D - A hereby certify tha Signat | hedule Authoriz at all inform | The following parameters will Image: Nox Image: Fuel Flow Rate Image: Ammonia Stack Concern Normal: 24 Maximum: 24 cation/Signature | I be continu CO Ammor ntration: hour hour formation su Date: | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day ubmitted with th | tup/shutdown er d: EMS Make: TBI MS Model: TE 7 7 7 1is application is Name: St | nissions? (her (specify): D days/week _days/week | 40 52 ect. Kane | weeks/yr | | |
| Operating Sch Section D - A hereby certify that | hedule Authoriz at all inform | The following parameters will Image: Nox Image: Fuel Flow Rate Image: Normal: 24 Maximum: 24 cation/Signature | I be continu CO Ammor ntration: hour hour formation si Date: 12/ | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day | tup/shutdown er d: IX O2 te Ott EMS Make: TBI EMS Model: TB T 7 7 7 7 7 Name: Si Phone #: | nissions? (her (specify): D | 40 52 ect. Kane | weeks/yr | | |
| Operating Sch Section D - 4 hereby certify that Preparer Info | hedule Authoriz at all inform | The following parameters will Image: Second state state Image: Second state state state Image: Second state state state Normal: 24 Maximum: 24 Station/Signature nation contained herein and inf Image: State state state Image: State state state state Image: State state state state state Image: State state <td>I be continu CO Ammor ntration: hour hour formation si Date: 12/</td> <td>on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day ubmitted with th 20/2013</td> <td>tup/shutdown er d: [X] O₂ te [] Ot EMS Make: TB EMS Make: TB EMS Make: TB EMS Make: TB TB EMS Make: St 7 7 7 7 7 8 8 8 9 9 9 9 9 9 9 9 9 9 9 9</td> <td>nissions? (her (specify):</td> <td>40 52 ect. Kane</td> <td>_weeks/yr _weeks/yr</td> <td></td> <td></td> | I be continu CO Ammor ntration: hour hour formation si Date: 12/ | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day ubmitted with th 20/2013 | tup/shutdown er d: [X] O ₂ te [] Ot EMS Make: TB EMS Make: TB EMS Make: TB EMS Make: TB TB EMS Make: St 7 7 7 7 7 8 8 8 9 9 9 9 9 9 9 9 9 9 9 9 | nissions? (her (specify): | 40 52 ect. Kane | _weeks/yr _weeks/yr | | |

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 <u>at the time of submittal</u> to the District.

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

| Form 400 Gas Turt | | Mail To: SCAQMD P.O. Box 4944 Diamond Bar, CA 91765-0944 Tel: (909) 396-3385 |
|---|---|--|
| Section A - Operato | r Information | www.aqmd.gov |
| A MARTINE COMPANY AND A MARTINE ADVANCES OF | e of Operator That Appears On Permit): Valid AQMD Facility ID (Available On Permit Or | Invoice Issued By AOMD): |
| AES Alamitos, LLC | | 115394 |
| Address where the equipment | nt will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial lo | ocation site): |
| 690 N. Studebaker | Road, Long Beach, CA 90803 Fixed Locat | tion 🔿 Various Locations |
| Section B - Equipme | ent Description | |
| | Manufacturer: Model: Serial No.: | |
| | Mitsubishi Power System Americas 501DA TBD | |
| Turbine | Size (based on Higher Heating Value - HHV): | |
| | Manufacturer Maximum Input Rating: MMBTU/hr | kWh |
| | | 160 _{kWh} |
| | | roo_kwn |
| Function (Check all that apply) | | |
| | Steam Generation Exhaust Gas Recovery Other (specify): | |
| Cycle Type | O Simply Cycle O Regenerative Cycle | |
| | Combined Cycle Other (specify): | |
| Combustion Type | 🔿 Tubular 💿 Can-Annular 🔿 Annular | |
| Fuel (Turbine) | Image: Natural Gas LPG Digester Gas* Image: Landfill Gas* Propane Refinery Gas* Other*: | g value and sulfur content). |
| | Steam Turbine Capacity:143_MW | |
| Heat Recovery Steam | Low Pressure Steam Output Capacity: lb/hr @ °F | |
| Generator (HRSG) | High Pressure Steam Output Capacity:1230000 lb/hr @976_°F | |
| | | |
| | Superheated Steam Output Capacity:lb/hr @°F | |
| | Manufacturer: Model: | |
| | Number of burners: Rating of each burner (HHV): | |
| Duct Burner | | |
| | Type: O Low NOx (please attach manufacturer's specifications) | |
| | Other: Show all heat transfer surface locations with the HRSG and temperature profile | |
| | O Natural Gas O LPG O Digester Gas* | |
| Fuel (Duct Burner) | ○ Landfill Gas* ○ Propane ○ Refinery Gas* ○ Other*: | |
| (pair partici) | * (If Digester Gas, Landfill Gas, Refinery Gas, and/or Other are checked, attach fuel analysis indicating higher heating | g value and sulfur content). |

Gas Turbine

| Section B - Equipme | ent Description (Cont |) | | | |
|-------------------------|---|-------------------------|-------------------------------|-----------------------------------|------------------------|
| | Selective Catalytic Re | duction (SCR)* | Selective Non-Catalytic Rec | luction (SNCR)* | |
| | O Oxidation Catalyst* | 0 | Other (specify)*: | | |
| Air Pollution Control | O Steam/Water Injection * Separate application is requ | | Ibs. water/Ibs | . fuel, or | _ mole water/mole fuel |
| | Capital Cost: \$506,000 | .00 Installation | Cost: \$50,000.00 | Annual Operating Cos | t: |
| | Manufacturer: | | Model: | | |
| | Catalyst Dimensions: Ler | n gth: ft | in. Width: | ft in. Helght:_ | ft in. |
| Oxidation Catalyst Data | Catalyst Cell Density: | cells/sq.ir | . Pressure Drop Acro | ss Catalyst: | |
| (If Applicable) | Manufacturer's Guarantee: | CO Control Efficiency: | | Catalyst Life: | yrs |
| | | VOC Control Efficiency: | % | Operating Temp. Range: | °F |
| | Space Velocity (gas flow rate | e/catalyst volume): | Area Velocity | (gas flow/wetted catalyst surface | e area): |
| | VOC Concentration into Cat | alyst: PP | MVD@ 15%O2 CO Conce | entration inot Catalyst: | PPMVD@ 15%O2 |
| Section C - Operation | on Information | | | | |
| | Pollutants | Maximum Emissi | ons Before Control * | Maximum Emis | sions After Control |
| | ronaians | PPM@15% 02, dry | lb/hour | PPM@15% O2, dry | lb/hour |
| | ROG | | | 1.0 | 1.9 |
| | NOx | | | 2.0 | 10.7 |
| | CO | | | 2.0 | 6.50 |
| On-line Emissions Data | PM ₁₀ | | | | 4.5 |
| | SOx | | | | 3.09 |
| | NH ₃ | | | 5 | 9.9 |
| | Reference (attach data): | | temperature, fuel consumption | n, and MW output. | Source Test |
| | | | 2011 | | |
| | Stack Height: | ft | in. Stack Dia | meter:18 | _ ft 0_ in. |
| Stack or Vent Data | Exhaust Temperature: | | Exhaust Pressure: | inches water | column |
| | Exhaust Flow Rate: | 1259905 _{CFM} | Oxygen Level: | <u>13.69</u> % | |

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.

| Startup Da | ata | No. of Startups per day: | 3 | No. of Start | tups per year: | 495 | Duration of each s | tartup: | 1.5 | hrs. |
|---|-------------------------------------|---|--|---|---|---|--------------------------|------------------------|---------|------|
| Shutdown [| Data | No. of Shutdowns per day: | 3 | No. of Shut | downs per year: | 495 | Duration of each S | Shutdown: | 0.16 | hrs. |
| | | Dellustrate | | Startup E | Emissions | and the state | Shutdo | own Emissio | ns | |
| | | Pollutants | PPM@1 | 5% O ₂ , dry | lb/ho | ur | PPM@15% O2, dry | | lb/hour | |
| | | ROG | | | 27. | 3 | | | 32.6 | |
| Startup and Sh | utdown | NOx | | | 25. | 5 | | | 18.0 | |
| Emissions (| | со | | | 113. | 9 | | | 50.8 | |
| | | PM ₁₀ | | | 4.5 | i | | | 4.5 | |
| | | SOx | | | 3.0 | 9 | | | 3.09 | |
| | | NH3 | | | | | | | | |
| | | Will the CEMS be used to me | | on-line and star | | | Yes O No | | | |
| Monitoring and F | Reporting | The following parameters wil | l be continu 🔀 CO 🔀 Ammor | on-line and star | tup/shutdown er d: Xe D2 | nissions? (C | Yes O No | | | |
| Monitoring and F | Reporting | The following parameters will X NOx X Fuel Flow Rate | l be continu 🔀 CO 🔀 Ammor | on-line and star lously monitore nia Injection Rat Ammonia CE | tup/shutdown er d: Xe D2 | nissions? (her (specify): | | | | |
| Monitoring and F | | The following parameters will Image: NOx Image: Fuel Flow Rate Image: Ammonia Stack Concert Normal: 24 | I be continu IX CO IX Ammor ntration: | on-line and star lously monitore nia Injection Rat Ammonia CE | tup/shutdown er d: \[2] O2 te [] Ot EMS Make: | nissions? (her (specify): | | weeks/yr | | |
| | | The following parameters will Image: Nox Image: Start Start Image: Start Start Start Image: Start Start Start | I be continu CO Ammor ntration: hour | on-line and star rously monitore nia Injection Rat Ammonia CE Ammonia CE | tup/shutdown er d: Iz O2 te Ot EMS Make: TBI EMS Model: TB | nissions? (her (specify): D | | | | |
| Operating Sch | hedule | The following parameters will Image: Nox Image: Stack Concernation Normal: | I be continu CO Ammor ntration: hour | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day | tup/shutdown er d: Ite Dot EMS Make:TB EMS Model:TB 7 | nissions? (her (specify): D _days/week | 40 | weeks/yr | | |
| Operating Sch Section D - A hereby certify that | hedule Authoriz at all inform | The following parameters will Image: Nox Image: Fuel Flow Rate Image: Ammonia Stack Concern Normal: 24 Maximum: 24 cation/Signature | I be continu CO Ammor ntration: hour hour | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day | tup/shutdown er d: [X] O2 te [] Ott EMS Make:_TB EMS Model:_TE 7 7 7 | nissions? (her (specify): D days/week _days/week | <u>40</u> 52 | weeks/yr | | |
| Operating Sch Section D - A hereby certify tha Signat | hedule Authoriz at all inform | The following parameters will Image: Nox Image: Fuel Flow Rate Image: Ammonia Stack Concern Normal: 24 Maximum: 24 cation/Signature | I be continu CO Ammor ntration: hour hour formation su Date: | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day ubmitted with th | tup/shutdown er d: EMS Make: TBI MS Model: TE 7 7 7 1is application is Name: St | nissions? (her (specify): D days/week _days/week | 40 52 ect. Kane | weeks/yr | | |
| Operating Sch Section D - A hereby certify that | hedule Authoriz at all inform | The following parameters will Image: Nox Image: Fuel Flow Rate Image: Normal: 24 Maximum: 24 cation/Signature | I be continu CO Ammor ntration: hour hour formation si Date: 12/ | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day | tup/shutdown er d: IX O2 te Ott EMS Make: TBI EMS Model: TB T 7 7 7 7 7 Name: Si Phone #: | nissions? (her (specify): D | 40 52 ect. Kane | weeks/yr | | |
| Operating Sch Section D - 4 hereby certify that Preparer Info | hedule Authoriz at all inform | The following parameters will Image: Second state state Image: Second state state state Image: Second state state state Normal: 24 Maximum: 24 Station/Signature nation contained herein and inf Image: State state state Image: State state state state Image: State state state state state Image: State state <td>I be continu CO Ammor ntration: hour hour formation si Date: 12/</td> <td>on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day ubmitted with th 20/2013</td> <td>tup/shutdown er d: [X] O₂ te [] Ot EMS Make: TB EMS Make: TB EMS Make: TB EMS Make: TB TB EMS Make: St 7 7 7 7 7 8 8 8 9 9 9 9 9 9 9 9 9 9 9 9</td> <td>nissions? (her (specify):</td> <td>40 52 ect. Kane</td> <td>_weeks/yr _weeks/yr</td> <td></td> <td></td> | I be continu CO Ammor ntration: hour hour formation si Date: 12/ | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day ubmitted with th 20/2013 | tup/shutdown er d: [X] O ₂ te [] Ot EMS Make: TB EMS Make: TB EMS Make: TB EMS Make: TB TB EMS Make: St 7 7 7 7 7 8 8 8 9 9 9 9 9 9 9 9 9 9 9 9 | nissions? (her (specify): | 40 52 ect. Kane | _weeks/yr _weeks/yr | | |

THIS IS A PUBLIC DOCUMENT

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

| Form 400 Gas Turt | | Mail To: SCAQMD P.O. Box 4944 Diamond Bar, CA 91765-0944 Tel: (909) 396-3385 |
|---|---|--|
| Section A - Operato | r Information | www.aqmd.gov |
| A MARTINE COMPANY AND A MARTINE ADVANCES OF | e of Operator That Appears On Permit): Valid AQMD Facility ID (Available On Permit Or | Invoice Issued By AOMD): |
| AES Alamitos, LLC | | 115394 |
| Address where the equipment | nt will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial lo | ocation site): |
| 690 N. Studebaker | Road, Long Beach, CA 90803 Fixed Locat | tion 🔿 Various Locations |
| Section B - Equipme | ent Description | |
| | Manufacturer: Model: Serial No.: | |
| | Mitsubishi Power System Americas 501DA TBD | |
| Turbine | Size (based on Higher Heating Value - HHV): | |
| | Manufacturer Maximum Input Rating: MMBTU/hr | kWh |
| | | 160 _{kWh} |
| | | roo_kwn |
| Function (Check all that apply) | | |
| | Steam Generation Exhaust Gas Recovery Other (specify): | |
| Cycle Type | O Simply Cycle O Regenerative Cycle | |
| | Combined Cycle Other (specify): | |
| Combustion Type | 🔿 Tubular 💿 Can-Annular 🔿 Annular | |
| Fuel (Turbine) | Image: Natural Gas LPG Digester Gas* Image: Landfill Gas* Propane Refinery Gas* Other*: | g value and sulfur content). |
| | Steam Turbine Capacity:143_MW | |
| Heat Recovery Steam | Low Pressure Steam Output Capacity: lb/hr @ °F | |
| Generator (HRSG) | High Pressure Steam Output Capacity:1230000 lb/hr @976_°F | |
| | | |
| | Superheated Steam Output Capacity:lb/hr @°F | |
| | Manufacturer: Model: | |
| | Number of burners: Rating of each burner (HHV): | |
| Duct Burner | | |
| | Type: O Low NOx (please attach manufacturer's specifications) | |
| | Other: Show all heat transfer surface locations with the HRSG and temperature profile | |
| | O Natural Gas O LPG O Digester Gas* | |
| Fuel (Duct Burner) | ○ Landfill Gas* ○ Propane ○ Refinery Gas* ○ Other*: | |
| (pair partici) | * (If Digester Gas, Landfill Gas, Refinery Gas, and/or Other are checked, attach fuel analysis indicating higher heating | g value and sulfur content). |

Gas Turbine

| Section B - Equipme | ent Description (Cont |) | | | |
|-------------------------|---|-------------------------|-------------------------------|-----------------------------------|------------------------|
| | Selective Catalytic Re | duction (SCR)* | Selective Non-Catalytic Rec | luction (SNCR)* | |
| | O Oxidation Catalyst* | 0 | Other (specify)*: | | |
| Air Pollution Control | O Steam/Water Injection * Separate application is requ | | Ibs. water/Ibs | . fuel, or | _ mole water/mole fuel |
| | Capital Cost: \$506,000 | .00 Installation | Cost: \$50,000.00 | Annual Operating Cos | t: |
| | Manufacturer: | | Model: | | |
| | Catalyst Dimensions: Ler | n gth: ft | in. Width: | ft in. Helght:_ | ft in. |
| Oxidation Catalyst Data | Catalyst Cell Density: | cells/sq.ir | . Pressure Drop Acro | ss Catalyst: | |
| (If Applicable) | Manufacturer's Guarantee: | CO Control Efficiency: | | Catalyst Life: | yrs |
| | | VOC Control Efficiency: | % | Operating Temp. Range: | °F |
| | Space Velocity (gas flow rate | e/catalyst volume): | Area Velocity | (gas flow/wetted catalyst surface | e area): |
| | VOC Concentration into Cat | alyst: PP | MVD@ 15%O2 CO Conce | entration inot Catalyst: | PPMVD@ 15%O2 |
| Section C - Operation | on Information | | | | |
| | Pollutants | Maximum Emissi | ons Before Control * | Maximum Emis | sions After Control |
| | ronaians | PPM@15% 02, dry | lb/hour | PPM@15% O2, dry | lb/hour |
| | ROG | | | 1.0 | 1.9 |
| | NOx | | | 2.0 | 10.7 |
| | CO | | | 2.0 | 6.50 |
| On-line Emissions Data | PM ₁₀ | | | | 4.5 |
| | SOx | | | | 3.09 |
| | NH ₃ | | | 5 | 9.9 |
| | Reference (attach data): | | temperature, fuel consumption | n, and MW output. | Source Test |
| | | | 2011 | | |
| | Stack Height: | ft | in. Stack Dia | meter:18 | _ ft 0_ in. |
| Stack or Vent Data | Exhaust Temperature: | | Exhaust Pressure: | inches water | column |
| | Exhaust Flow Rate: | 1259905 _{CFM} | Oxygen Level: | <u>13.69</u> % | |

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.

| Startup Da | ata | No. of Startups per day: | 3 | No. of Start | tups per year: | 495 | Duration of each s | tartup: | 1.5 | hrs. |
|---|-------------------------------------|---|--|---|---|---|--------------------------|------------------------|---------|------|
| Shutdown [| Data | No. of Shutdowns per day: | 3 | No. of Shut | downs per year: | 495 | Duration of each S | Shutdown: | 0.16 | hrs. |
| | | Dellustrate | | Startup E | Emissions | and the state | Shutdo | own Emissio | ns | |
| | | Pollutants | PPM@1 | 5% O ₂ , dry | lb/ho | ur | PPM@15% O2, dry | | lb/hour | |
| | | ROG | | | 27. | 3 | | | 32.6 | |
| Startup and Sh | utdown | NOx | | | 25. | 5 | | | 18.0 | |
| Emissions (| | со | | | 113. | 9 | | | 50.8 | |
| | | PM ₁₀ | | | 4.5 | i | | | 4.5 | |
| | | SOx | | | 3.0 | 9 | | | 3.09 | |
| | | NH3 | | | | | | | | |
| | | Will the CEMS be used to me | | on-line and star | | | Yes O No | | | |
| Monitoring and F | Reporting | The following parameters wil | l be continu 🔀 CO 🔀 Ammor | on-line and star | tup/shutdown er d: E O2 | nissions? (C | Yes O No | | | |
| Monitoring and F | Reporting | The following parameters will X NOx X Fuel Flow Rate | l be continu IXI CO IXI Ammor | on-line and star lously monitore nia Injection Rat Ammonia CE | tup/shutdown er d: E O2 | nissions? (her (specify): | | | | |
| Monitoring and F | | The following parameters will Image: NOx Image: Fuel Flow Rate Image: Ammonia Stack Concert Normal: 24 | I be continu IX CO IX Ammor ntration: | on-line and star lously monitore nia Injection Rat Ammonia CE | tup/shutdown er d: \[2] O2 te [] Ot EMS Make: | nissions? (her (specify): | | weeks/yr | | |
| | | The following parameters will Image: Nox Image: Start Start Image: Start Start Start Image: Start Start Start | I be continu CO Ammor ntration: hour | on-line and star rously monitore nia Injection Rat Ammonia CE Ammonia CE | tup/shutdown er d: Iz O2 te Ott EMS Make: TBI EMS Model: TB | nissions? (her (specify): D | | | | |
| Operating Sch | hedule | The following parameters will Image: Nox Image: Stack Concernation Normal: | I be continu CO Ammor ntration: hour | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day | tup/shutdown er d: Ite Dot EMS Make:TB EMS Model:TB 7 | nissions? (her (specify): D _days/week | 40 | weeks/yr | | |
| Operating Sch Section D - A hereby certify that | hedule Authoriz at all inform | The following parameters will Image: Nox Image: Fuel Flow Rate Image: Ammonia Stack Concern Normal: 24 Maximum: 24 cation/Signature | I be continu CO Ammor ntration: hour hour | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day | tup/shutdown er d: [X] O2 te [] Ott EMS Make:_TBI EMS Model:_TE 7 7 7 | nissions? (her (specify): D days/week _days/week | <u>40</u> 52 | weeks/yr | | |
| Operating Sch Section D - A hereby certify tha Signat | hedule Authoriz at all inform | The following parameters will Image: Nox Image: Fuel Flow Rate Image: Ammonia Stack Concern Normal: 24 Maximum: 24 cation/Signature | I be continu CO Ammor ntration: hour hour formation su Date: | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day ubmitted with th | tup/shutdown er d: EMS Make: TBI MS Model: TE 7 7 7 1is application is Name: St | nissions? (her (specify): D days/week _days/week | 40 52 ect. Kane | weeks/yr | | |
| Operating Sch Section D - A hereby certify that | hedule Authoriz at all inform | The following parameters will Image: Nox Image: Fuel Flow Rate Image: Normal: 24 Maximum: 24 cation/Signature | I be continu CO Ammor ntration: hour hour formation si Date: 12/ | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day | tup/shutdown er d: IX O2 te Ott EMS Make: TBI EMS Model: TB T 7 7 7 7 7 Name: Si Phone #: | nissions? (her (specify): D | 40 52 ect. Kane | weeks/yr | | |
| Operating Sch Section D - 4 hereby certify that Preparer Info | hedule Authoriz at all inform | The following parameters will Image: Second state state Image: Second state state state Image: Second state state state Normal: 24 Maximum: 24 Station/Signature nation contained herein and inf Image: State state state Image: State state state state Image: State state state state state Image: State state <td>I be continu CO Ammor ntration: hour hour formation si Date: 12/</td> <td>on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day ubmitted with th 20/2013</td> <td>tup/shutdown er d: [X] O₂ te [] Ot EMS Make: TB EMS Make: TB EMS Make: TB EMS Make: TB TB EMS Make: St 7 7 7 7 7 8 8 8 9 9 9 9 9 9 9 9 9 9 9 9</td> <td>nissions? (her (specify):</td> <td>40 52 ect. Kane</td> <td>_weeks/yr _weeks/yr</td> <td></td> <td></td> | I be continu CO Ammor ntration: hour hour formation si Date: 12/ | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day ubmitted with th 20/2013 | tup/shutdown er d: [X] O ₂ te [] Ot EMS Make: TB EMS Make: TB EMS Make: TB EMS Make: TB TB EMS Make: St 7 7 7 7 7 8 8 8 9 9 9 9 9 9 9 9 9 9 9 9 | nissions? (her (specify): | 40 52 ect. Kane | _weeks/yr _weeks/yr | | |

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

| Form 400 Gas Turt | | Mail To: SCAQMD P.O. Box 4944 Diamond Bar, CA 91765-0944 Tel: (909) 396-3385 |
|---|---|--|
| Section A - Operato | r Information | www.aqmd.gov |
| A MARTINE COMPANY AND A MARTINE ADVANCES OF | e of Operator That Appears On Permit): Valid AQMD Facility ID (Available On Permit Or | Invoice Issued By AOMD): |
| AES Alamitos, LLC | | 115394 |
| Address where the equipment | nt will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial lo | ocation site): |
| 690 N. Studebaker | Road, Long Beach, CA 90803 Fixed Locat | tion 🔿 Various Locations |
| Section B - Equipme | ent Description | |
| | Manufacturer: Model: Serial No.: | |
| | Mitsubishi Power System Americas 501DA TBD | |
| Turbine | Size (based on Higher Heating Value - HHV): | |
| | Manufacturer Maximum Input Rating: MMBTU/hr | kWh |
| | | 160 _{kWh} |
| | | roo_kwn |
| Function (Check all that apply) | | |
| | Steam Generation Exhaust Gas Recovery Other (specify): | |
| Cycle Type | O Simply Cycle O Regenerative Cycle | |
| | Combined Cycle Other (specify): | |
| Combustion Type | 🔿 Tubular 💿 Can-Annular 🔿 Annular | |
| Fuel (Turbine) | Image: Natural Gas LPG Digester Gas* Image: Landfill Gas* Propane Refinery Gas* Other*: | g value and sulfur content). |
| | Steam Turbine Capacity:143_MW | |
| Heat Recovery Steam | Low Pressure Steam Output Capacity: lb/hr @ °F | |
| Generator (HRSG) | High Pressure Steam Output Capacity:1230000 lb/hr @976_°F | |
| | | |
| | Superheated Steam Output Capacity:lb/hr @°F | |
| | Manufacturer: Model: | |
| | Number of burners: Rating of each burner (HHV): | |
| Duct Burner | | |
| | Type: O Low NOx (please attach manufacturer's specifications) | |
| | Other: Show all heat transfer surface locations with the HRSG and temperature profile | |
| | O Natural Gas O LPG O Digester Gas* | |
| Fuel (Duct Burner) | ○ Landfill Gas* ○ Propane ○ Refinery Gas* ○ Other*: | |
| (pair partici) | * (If Digester Gas, Landfill Gas, Refinery Gas, and/or Other are checked, attach fuel analysis indicating higher heating | g value and sulfur content). |

Gas Turbine

| Section B - Equipme | ent Description (Cont |) | | | | | | |
|-------------------------|--|-------------------------|-------------------------------|--------------------------|------------------------|--|--|--|
| | Selective Catalytic Re | duction (SCR)* | Selective Non-Catalytic Rec | luction (SNCR)* | | | | |
| | O Oxidation Catalyst* O Other (specify)*: | | | | | | | |
| Air Pollution Control | O Steam/Water Injection * Separate application is requ | | Ibs. water/Ibs | . fuel, or | _ mole water/mole fuel | | | |
| | Capital Cost: \$506,000 | .00 Installation | Cost: \$50,000.00 | Annual Operating Cos | t: | | | |
| | Manufacturer: | | Model: | | | | | |
| | Catalyst Dimensions: Ler | n gth: ft | in. Width: | ft in. Helght:_ | ft in. | | | |
| Oxidation Catalyst Data | Catalyst Cell Density: | cells/sq.ir | . Pressure Drop Acro | ss Catalyst: | | | | |
| (If Applicable) | 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 Cat | alyst: PP | MVD@ 15%O2 CO Conce | entration inot Catalyst: | PPMVD@ 15%O2 | | | |
| Section C - Operation | on Information | | | | | | | |
| | Pollutants | Maximum Emissi | ons Before Control * | Maximum Emis | sions After Control | | | |
| | ronaians | PPM@15% 02, dry | lb/hour | PPM@15% O2, dry | lb/hour | | | |
| | ROG | | | 1.0 | 1.9 | | | |
| | NOx | | | 2.0 | 10.7 | | | |
| | CO | | | 2.0 | 6.50 | | | |
| On-line Emissions Data | PM ₁₀ | | | | 4.5 | | | |
| | SOx | | | | 3.09 | | | |
| | NH ₃ | | | 5 | 9.9 | | | |
| | Reference (attach data): | | temperature, fuel consumption | n, and MW output. | Source Test | | | |
| | | | 2011 | | | | | |
| | Stack Height: | ft | in. Stack Dia | meter:18 | _ ft 0_ in. | | | |
| Stack or Vent Data | Exhaust Temperature: | | Exhaust Pressure: | inches water | column | | | |
| | Exhaust Flow Rate: | 1259905 _{CFM} | Oxygen Level: | <u>13.69</u> % | | | | |

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.

| Startup Da | ata | No. of Startups per day:3No. of Startups per year:495 | | Duration of each startup: | | 1.5 | hrs. | | | |
|---|-------------------------------------|--|--|---|---|---|--------------------------|------------------------|---------|------|
| Shutdown [| Data | No. of Shutdowns per day: | 3 | No. of Shut | downs per year: | 495 | Duration of each S | Shutdown: | 0.16 | hrs. |
| | | Dellustrate | | Startup E | Emissions | and the state | Shutdo | own Emissio | ns | |
| | | Pollutants | PPM@1 | 5% O ₂ , dry | lb/ho | ur | PPM@15% O2, dry | | lb/hour | |
| | | ROG | | | 27. | 3 | | | 32.6 | |
| Startup and Sh | utdown | NOx | | | 25. | 5 | | | 18.0 | |
| Emissions (| | со | | | 113. | 9 | | | 50.8 | |
| | | PM ₁₀ | | | 4.5 | i | | | 4.5 | |
| | | SOx | | | 3.0 | 9 | | | 3.09 | |
| | | NH3 | | | | | | | | |
| | | Will the CEMS be used to me | | on-line and star | | | Yes O No | | | |
| Monitoring and F | Reporting | The following parameters wil | l be continu IXI CO IXI Ammor | on-line and star | tup/shutdown er d: E O2 | nissions? (C | Yes O No | | | |
| Monitoring and F | Reporting | The following parameters will X NOx X Fuel Flow Rate | l be continu IXI CO IXI Ammor | on-line and star lously monitore nia Injection Rat Ammonia CE | tup/shutdown er d: E O2 | nissions? (her (specify): | | | | |
| Monitoring and F | | The following parameters will Image: NOx Image: Fuel Flow Rate Image: Ammonia Stack Concert Normal: 24 | I be continu IX CO IX Ammor ntration: | on-line and star lously monitore nia Injection Rat Ammonia CE | tup/shutdown er d: \[2] O2 te [] Ot EMS Make: | nissions? (her (specify): | | weeks/yr | | |
| | | The following parameters will Image: Nox Image: Start Start Image: Start Start Start Image: Start Start Start | I be continu CO Ammor ntration: hour | on-line and star rously monitore nia Injection Rat Ammonia CE Ammonia CE | tup/shutdown er d: IX O2 te Ot EMS Make: TBI EMS Model: TB | nissions? (her (specify): D | | | | |
| Operating Sch | hedule | The following parameters will Image: Nox Image: Stack Concernation Normal: | I be continu CO Ammor ntration: hour | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day | tup/shutdown er d: Ite Dot EMS Make:TB EMS Model:TB 7 | nissions? (her (specify): D _days/week | 40 | weeks/yr | | |
| Operating Sch Section D - A hereby certify that | hedule Authoriz at all inform | The following parameters will Image: Nox Image: Fuel Flow Rate Image: Ammonia Stack Concern Normal: 24 Maximum: 24 cation/Signature | I be continu CO Ammor ntration: hour hour | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day | tup/shutdown er d: [X] O2 te [] Ott EMS Make:_TBI EMS Model:_TE 7 7 7 | nissions? (her (specify): D days/week _days/week | <u>40</u> 52 | weeks/yr | | |
| Operating Sch Section D - A hereby certify tha Signat | hedule Authoriz at all inform | The following parameters will Image: Nox Image: Fuel Flow Rate Image: Ammonia Stack Concern Normal: 24 Maximum: 24 cation/Signature | I be continu CO Ammor ntration: hour hour formation su Date: | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day ubmitted with th | tup/shutdown er d: EMS Make: TBI MS Model: TE 7 7 7 1is application is Name: St | nissions? (her (specify): D days/week _days/week | 40 52 ect. Kane | weeks/yr | | |
| Operating Sch Section D - A hereby certify that | hedule Authoriz at all inform | The following parameters will Image: Nox Image: Fuel Flow Rate Image: Normal: 24 Maximum: 24 cation/Signature | I be continu CO Ammor ntration: hour hour formation si Date: 12/ | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day | tup/shutdown er d: IX O2 te Ott EMS Make: TBI EMS Model: TB T 7 7 7 7 7 Name: Si Phone #: | nissions? (her (specify): D | 40 52 ect. Kane | weeks/yr | | |
| Operating Sch Section D - 4 hereby certify that Preparer Info | hedule Authoriz at all inform | The following parameters will Image: Nox Image: Fuel Flow Rate Image: Provide the stack concerns Normal: 24 Maximum: 24 Ration/Signature nation contained herein and inf Image: Provide the stack concerns Normal: 24 Company | I be continu CO Ammor ntration: hour hour formation si Date: 12/ | on-line and star nously monitore nia Injection Rat Ammonia CE Ammonia CE s/day s/day ubmitted with th 20/2013 | tup/shutdown er d: [X] O ₂ te [] Ot EMS Make: TB EMS Make: TB EMS Make: TB EMS Make: TB TB EMS Make: St 7 7 7 7 7 8 8 8 9 9 9 9 9 9 9 9 9 9 9 9 | nissions? (her (specify): | 40 52 ect. Kane | _weeks/yr _weeks/yr | | |

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

| South Coast Air Form 400 Storage | | | | | | Mail To: SCAQMD P.O. Box 4944 Diamond Bar, CA 91765-0944 |
|--|---|----------------------------|--|--|---------------------------|--|
| AQMD This form must Form 400-PS. | be accompanied by a completed Applic | ation for a Permit to | Construct/Operate | e - Forms 400-A, For | m 400-CEQA, and | Tel: (909) 396-3385 www.aqmd.gov |
| Section A - Operato | r Information | | | | | |
| Facility Name (Business Nam | e of Operator That Appears On Permit |): | Valid A | QMD Facility ID (A | vailable On Permit O | r Invoice Issued By AQMD): |
| AES Alamitos, LLC | ; | | | | | 115394 |
| | nt will be operated (for equipment whi Road, Long Beach, CA 9 | | various locations ir | AQMD's jurisdiction | n, please list the initia | - |
| Tank Type (Select ONE) | External Floating Roof Tank Vertical Fixed Roof Tank (VF | • • | nternal Floating R Domed External R | oof Tank (IFRT) oof Tank (DEFRT) | Horizontal | Tank (HT) |
| Identification | Tank Identification Number: TBD | | contents/Product | | | |
| Section B - Tank Inf | ormation | | | | | |
| | Shell Diameter (ft.): 12 | Shell Length (ft.) 28.4 | | Shell Height (ft.): | T | urnovers Per Year: 21 |
| | Is Tank Heated? | ls Tank Undergro | ound? | Net Throughput (g | gal/year): S | Self Support Roof: |
| | 🔿 Yes 💿 No | OYes ⊙ | - | 504000 | _ | O Yes O No |
| | Number of Columns? | Effective Column | | | | |
| | External Shell Condition: | Internal Shell Co | t Up Column - 1.1 | - | | Jnknown - 1 |
| Carl Provide Action | Good | C Light Rust | | Aluminum/Specular Gr Aluminum/Diffuse Re Working Volume (gal.) | | Gray/Light |
| Tank Characteristics | O Poor | O Dense Rust | | | | Gray/Medium |
| | | O Gunite Linir | | | | Red/Primer |
| | Average Liquid Height (ft.) | Maximum Liquid | Height (ft.) | | | ctual Volume (gal.) |
| | (Vertical Only): | (Vertical Only): | | (Vertical Only): | C | Vertical Only): |
| | Paint Condition: | Paint Color/Shad | e: | | | |
| | Good | White/White | - | Gray/Light | 0 0 | Gray/Medium |
| | O Poor | O Aluminum/D | iffuse O | Aluminum/Specula | r OF | Red/Primer |
| | Roof Type: | | | Roof Fitting | Category: F | Roof Height (ft.): |
| | O Pontoon O | Dome Roof (Heig | nt ft.) | 🔿 Typica | ม _ | |
| Roof Characteristics | O Double Deck O | Cone Roof (Heigh | | O Detail | | |
| (Floating Roof Tank) | Roof Paint Condition: | Roof Color/Shad | - | | | |
| | O Good | O White/White | - | | | Gray/Medium |
| | O Poor | O Aluminum/I | | Aluminum/Specula | | Red/Primer |
| | Deck Type: Welded O Bolted | Deck Fitting Cha | | mplete Deck Seam) | | |
| | O Weided O Boiled | O Typical | A REAL PROPERTY AND ADDRESS | A MARKEN CARAPANA | Constraint or Constraint | |
| Deck Characteristics (Floating Roof Tank) | | Construction: | Deck Seam Len | gth (ft.): | Deck Seam: | |
| | | O Sheet | | | O 5 ft. wide | O 6 ft. wide O 7 ft. wide |
| | | O Panel | | | O 5 x 7.5 ft. | ○ 5 x 12 ft. |
| Tank Construction and Rim | Tank Construction: | Primary Seal: | | | Secondar | y Seal: |
| -Seal System | O Welded | O Mechanical | Shoe O | Liquid Mounted | | Mounted O None |
| (Floating Roof Tank) | O Riveted | O Vapor Mou | nted | | 🔿 Sho | e Mounted |
| Breather Vent Setting | Vacuum Setting (psig): -1.25 | Pre 5 | ssure Setting (psi O | g): | | |

 * Section D of the application MUST be completed.

S

S

S

South Coast Air Quality Management District

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

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

> Tel: (909) 396-3385 md.gov

| Form 400-PS. | | | | | | | www.aqmd.gov |
|---------------------------|---|---|--|---|--|--|-----------------|
| ection B - Tank In | formation (cor | nt.) | | | | | |
| Site Selection | Daily Average Ar Annual Average | • | | Average V | verage Minimum Ter Wind Speed (mph): | nperature (*F): <u>55.4</u> 5.1 | |
| Tank Contents | Liquid: 💿 Sing | ry: Organic gle Organic elect Speciation C | iple Option: 〇 Full Specia | 0 | oum Distillates Partial Speciati None | on | |
| ection C - Operation | on Information | | | | | | |
| Vapor Control | | | Inloading: Sparge Vented APC equipment is alrea | to Air Pollution Contr | rol Equipment ¹ | Vapor Return Line umber: | |
| | Indicate Type of | Setting and Vapor | Disposal | | | | |
| | | Number | Pressure Setting | Vaccum Setting | Discharg | ing to (Check Approp | riate Box) |
| | | area de sources | | | Atmosphere | Vapor Control | Flare |
| Vent Valve Data | Combination | | | | | | |
| | Pressure | 1 | 50 | -1.25 | × | | |
| | Vaccum | | | | | | |
| | Open | | | | | | |
| | 19% aqueo | ous ammonia | | | s tank: | | |
| Materials | If material is stor Name of Solvent: | | | ormation: me of Materials Disso | olved: <u>Ammonia</u> | | |
| | Concentration of | Materials Dissolv | ed:19.00 | % by Weight OR | % by | Volume OR | ibs/gal |
| ection D - Roof/De | eck Fitting | | | | | | |
| Section D is requ | uired for the followi | ng tanks: Externa | I Floating Roof Tank, In | ternal Floating Roof 1 | Tanks, or Domed Ext | ternal Floating Roof Ta | anks. |
| Select the numb | er of fittings for eac | h applicable ques | tion. Examples: | 3 Unbolted Cov Unbolted Cov | er, Ungasketed er, Gasketed | | |
| Roof/Deck Fitting Details | Boited | (24" diameter well Cover, Gasketed ed Cover, UnGask | (20" diam E | Gauge Float Well ater well) olted Cover, Gaskete Inbolted Cover, Ungas | d | n Well (24" diameter w _Built-Up Col - Sliding _Built-Up Col - Sliding | Cover, Gasketed |

Unbolted Cover, Gasketed

Unbolted Cover, Gasketed

Pipe Col - Flex, Fabric Sleeve Seal Pipe Col - Sliding Cover, Gasketed Pipe Col - Sliding Cover, Ungasketed

South Coast Air Quality Management District

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/De | ck Fitting (cont.) | | | | |
|---------------------------|--------------------|---|--------------------------------|---|--|--|
| | | 4. Gauge Hatch/Sample Well (8" diameter well) | | 5. Ladder Well (36° diameter) | | |
| | | Weighted Mechanical Actuation, Gasketed | | Sliding Cover, Gasketed | | |
| | | Weighted Mechanical Actuation, Ungaskete | d | Sliding Cover, Ungasketed | | |
| | | 6. Rim Vent (6" diameter) | 7. Roof Drain (3" diameter) | | | |
| | | Weighted Mechanical Actuation, Gasketed | | Open | | |
| | | Weighted Mechanical Actuation, Ungasketed | t i | 90% Close | | |
| | | 8. Roof Leg (3" diameter leg) | | 9. Roof Leg or Hang Well | | |
| | | Adjustable, Pontoon Area, Ungasketed | | Adjustable | | |
| | | Adjustable, Center Area, Ungasketed | | Fixed | | |
| | | Adjustable, Double-Deck Roofs | 10. Sampte Pipe (24" diameter) | | | |
| | | Fixed | | Slotted Pipe Sliding Cover, Gasketed | | |
| | | Adjustable, Pontoon Area, Gasketed | | Slotted Pipe Sliding Cover, Ungasketed | | |
| | k Fitting Details | Adjustable, Pontoon Area, Sock | | Slit Fabric Seal, 10% Open | | |
| | (cont.) | Adjustable, Center Area, Gasketed | | | | |
| | | Adjustable, Center Area, Sock | | | | |
| | | 11. Guided Pole/Sample Well | 12Stub Drain (1" diameter) | | | |
| | | Ungasketed, Sliding Cover, Without Float | | 13. Unslotted Guide – Pole Well | | |
| | | Ungasketed Sliding Cover, With Float | | Ungasketed, Sliding Cover | | |
| | | Gasketed Sliding Cover, Without Float | | Gasketed Sliding Cover | | |
| | | Gasketed Sliding Cover, With Float | | Ungasketed Sliding Cover with Sleeve | | |
| | | Gasketed Sliding Cover, With Pole Sleeve | | Gasketed Sliding Cover with Sleeve | | |
| | | Gasketed Sliding Cover, With Pole Wiper | | Gasketed Sliding Cover with Wiper | | |
| | | Gasketed Sliding Cover, With Float, Wiper | | 14. Vacuum Breaker (10" diameter well) | | |
| | | Gasketed Sliding Cover, With Float, Sleeve | e, Wiper | Weighted Mechanical Actuation, Gasketed | | |
| | | Gasketed Sliding Cover, With Pole Sleeve, | Wiper | Weighted Mechanical Actuation, Ungasketed | | |
| Section | D - Authoriz | zation/Signature | | | | |
| I hereby ce | | nation contained herein and information submitted with this | application | n is true and correct. | | |
| | Signature: | Date: | Name: | Stephen O'Kane | | |
| Preparer | $\square \bigcirc$ | 12/20/2013 | Phone # | E Fax #: | | |
| Info | Title: | Company Name: | Email: | (562) 493-7840 (562) 493-7737 | | |
| and a state of the second | Manager | AES Alamitos, LLC | | stephen.okane@AES.com | | |
| Contract | Name: Same | as Preparer | Phone # | #: Fax #: | | |
| Contact Info | Title: | Company Name: | Email: | | | |

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| South Coast Air Form 400 Storage | | | | | | Mail To: SCAQMD P.O. Box 4944 Diamond Bar, CA 91765-0944 |
|--|---|----------------------------|--|--|---------------------------|--|
| AQMD This form must Form 400-PS. | be accompanied by a completed Applic | ation for a Permit to | Construct/Operate | e - Forms 400-A, For | m 400-CEQA, and | Tel: (909) 396-3385 www.aqmd.gov |
| Section A - Operato | r Information | | | | | |
| Facility Name (Business Nam | e of Operator That Appears On Permit |): | Valid A | QMD Facility ID (A | vailable On Permit O | r Invoice Issued By AQMD): |
| AES Alamitos, LLC | ; | | | | | 115394 |
| | nt will be operated (for equipment whi Road, Long Beach, CA 9 | | various locations ir | AQMD's jurisdiction | n, please list the initia | - |
| Tank Type (Select ONE) | External Floating Roof Tank Vertical Fixed Roof Tank (VF | • • | nternal Floating R Domed External R | oof Tank (IFRT) oof Tank (DEFRT) | Horizontal | Tank (HT) |
| Identification | Tank Identification Number: TBD | | Contents/Product | | | |
| Section B - Tank Inf | ormation | | | | | |
| | Shell Diameter (ft.): 12 | Shell Length (ft.) 28.4 | | Shell Height (ft.): | T | urnovers Per Year: 21 |
| | Is Tank Heated? | ls Tank Undergro | ound? | Net Throughput (g | gal/year): S | Self Support Roof: |
| | 🔿 Yes 💿 No | OYes ⊙ | - | 504000 | _ | O Yes O No |
| | Number of Columns? | Effective Column | | | | |
| | External Shell Condition: | internal Shell Co | t Up Column - 1.1 | - | | Jnknown - 1 |
| Carl Provide Action | Good | C Light Rust | | Aluminum/Specular Gr Aluminum/Diffuse Re Working Volume (gal.) | | Gray/Light |
| Tank Characteristics | O Poor | O Dense Rust | | | | Gray/Medium |
| | | O Gunite Linir | | | | Red/Primer |
| | Average Liquid Height (ft.) | Maximum Liquid | Height (ft.) | | | ctual Volume (gal.) |
| | (Vertical Only): | (Vertical Only): | | (Vertical Only): | C | Vertical Only): |
| | Paint Condition: | Paint Color/Shad | e: | | | |
| | Good | White/White | - | Gray/Light | 0 0 | Gray/Medium |
| | O Poor | O Aluminum/D | iffuse O | Aluminum/Specula | r OF | Red/Primer |
| | Roof Type: | | | Roof Fitting | Category: F | Roof Height (ft.): |
| | O Pontoon O | Dome Roof (Heig | nt ft.) | 🔿 Typica | ม _ | |
| Roof Characteristics | O Double Deck O | Cone Roof (Heigh | | O Detail | | |
| (Floating Roof Tank) | Roof Paint Condition: | Roof Color/Shad | - | | | |
| | O Good | O White/White | | | | Gray/Medium |
| | O Poor | O Aluminum/I | | Aluminum/Specula | | Red/Primer |
| | Deck Type: Welded O Bolted | Deck Fitting Cha | | mplete Deck Seam) | | |
| | O Weided O Boiled | O Typical | A REAL PROPERTY AND ADDRESS | A MARKEN CARAPANA | Constraint or Constraint | |
| Deck Characteristics (Floating Roof Tank) | | Construction: | Deck Seam Len | gth (ft.): | Deck Seam: | |
| | | O Sheet | | | O 5 ft. wide | O 6 ft. wide O 7 ft. wide |
| | | O Panel | | | O 5 x 7.5 ft. | ○ 5 x 12 ft. |
| Tank Construction and Rim | Tank Construction: | Primary Seal: | | | Secondar | y Seal: |
| -Seal System | O Welded | O Mechanical | Shoe O | Liquid Mounted | | Mounted O None |
| (Floating Roof Tank) | O Riveted | O Vapor Mou | nted | | 🔿 Sho | e Mounted |
| Breather Vent Setting | Vacuum Setting (psig): -1.25 | Pre 5 | ssure Setting (psi O | g): | | |

 * Section D of the application MUST be completed.

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South Coast Air Quality Management District

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

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

> Tel: (909) 396-3385 md.gov

| Form 400-PS. | | | | | | | www.aqmd.gov |
|---------------------------|---|---|--|---|--|--|-----------------|
| ection B - Tank In | formation (cor | nt.) | | | | | |
| Site Selection | Daily Average Ar Annual Average | • | | Average V | verage Minimum Ter Wind Speed (mph): | nperature (*F): <u>55.4</u> 5.1 | |
| Tank Contents | Liquid: 💿 Sing | ry: Organic gle Organic elect Speciation C | iple Option: 〇 Full Specia | 0 | oum Distillates Partial Speciati None | on | |
| ection C - Operation | on Information | | | | | | |
| Vapor Control | | | Inloading: Sparge Vented APC equipment is alrea | to Air Pollution Contr | rol Equipment ¹ | Vapor Return Line umber: | |
| | Indicate Type of | Setting and Vapor | Disposal | | | | |
| | | Number | Pressure Setting | Vaccum Setting | Discharg | ing to (Check Approp | riate Box) |
| | | area de sources | | | Atmosphere | Vapor Control | Flare |
| Vent Valve Data | Combination | | | | | | |
| | Pressure | 1 | 50 | -1.25 | × | | |
| | Vaccum | | | | | | |
| | Open | | | | | | |
| | 19% aqueo | ous ammonia | | | s tank: | | |
| Materials | If material is stor Name of Solvent: | | | ormation: me of Materials Disso | olved: <u>Ammonia</u> | | |
| | Concentration of | Materials Dissolv | ed:19.00 | % by Weight OR | % by | Volume OR | ibs/gal |
| ection D - Roof/De | eck Fitting | | | | | | |
| Section D is requ | uired for the followi | ng tanks: Externa | I Floating Roof Tank, In | ternal Floating Roof 1 | Tanks, or Domed Ext | ternal Floating Roof Ta | anks. |
| Select the numb | er of fittings for eac | h applicable ques | tion. Examples: | 3 Unbolted Cov Unbolted Cov | er, Ungasketed er, Gasketed | | |
| Roof/Deck Fitting Details | Boited | (24" diameter well Cover, Gasketed ed Cover, UnGask | (20" diam E | Gauge Float Well ater well) olted Cover, Gaskete Inbolted Cover, Ungas | d | n Well (24" diameter w _Built-Up Col - Sliding _Built-Up Col - Sliding | Cover, Gasketed |

Unbolted Cover, Gasketed

Unbolted Cover, Gasketed

Pipe Col - Flex, Fabric Sleeve Seal Pipe Col - Sliding Cover, Gasketed Pipe Col - Sliding Cover, Ungasketed

South Coast Air Quality Management District

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/De | ck Fitting (cont.) | | | | |
|---------------------------|--------------------|---|--------------------------------|---|--|--|
| | | 4. Gauge Hatch/Sample Well (8" diameter well) | | 5. Ladder Well (36° diameter) | | |
| | | Weighted Mechanical Actuation, Gasketed | | Sliding Cover, Gasketed | | |
| | | Weighted Mechanical Actuation, Ungaskete | d | Sliding Cover, Ungasketed | | |
| | | 6. Rim Vent (6" diameter) | 7. Roof Drain (3" diameter) | | | |
| | | Weighted Mechanical Actuation, Gasketed | | Open | | |
| | | Weighted Mechanical Actuation, Ungasketed | t i | 90% Close | | |
| | | 8. Roof Leg (3" diameter leg) | | 9. Roof Leg or Hang Well | | |
| | | Adjustable, Pontoon Area, Ungasketed | | Adjustable | | |
| | | Adjustable, Center Area, Ungasketed | | Fixed | | |
| | | Adjustable, Double-Deck Roofs | 10. Sampte Pipe (24" diameter) | | | |
| | | Fixed | | Slotted Pipe Sliding Cover, Gasketed | | |
| | | Adjustable, Pontoon Area, Gasketed | | Slotted Pipe Sliding Cover, Ungasketed | | |
| | k Fitting Details | Adjustable, Pontoon Area, Sock | | Slit Fabric Seal, 10% Open | | |
| | (cont.) | Adjustable, Center Area, Gasketed | | | | |
| | | Adjustable, Center Area, Sock | | | | |
| | | 11. Guided Pole/Sample Well | 12Stub Drain (1" diameter) | | | |
| | | Ungasketed, Sliding Cover, Without Float | | 13. Unslotted Guide – Pole Well | | |
| | | Ungasketed Sliding Cover, With Float | | Ungasketed, Sliding Cover | | |
| | | Gasketed Sliding Cover, Without Float | | Gasketed Sliding Cover | | |
| | | Gasketed Sliding Cover, With Float | | Ungasketed Sliding Cover with Sleeve | | |
| | | Gasketed Sliding Cover, With Pole Sleeve | | Gasketed Sliding Cover with Sleeve | | |
| | | Gasketed Sliding Cover, With Pole Wiper | | Gasketed Sliding Cover with Wiper | | |
| | | Gasketed Sliding Cover, With Float, Wiper | | 14. Vacuum Breaker (10" diameter well) | | |
| | | Gasketed Sliding Cover, With Float, Sleeve | e, Wiper | Weighted Mechanical Actuation, Gasketed | | |
| | | Gasketed Sliding Cover, With Pole Sleeve, | Wiper | Weighted Mechanical Actuation, Ungasketed | | |
| Section | D - Authoriz | zation/Signature | | | | |
| I hereby ce | | nation contained herein and information submitted with this | application | n is true and correct. | | |
| | Signature: | Date: | Name: | Stephen O'Kane | | |
| Preparer | $\square \bigcirc$ | 12/20/2013 | Phone # | E Fax #: | | |
| Info | Title: | Company Name: | Email: | (562) 493-7840 (562) 493-7737 | | |
| and a state of the second | Manager | AES Alamitos, LLC | | stephen.okane@AES.com | | |
| Contract | Name: Same | as Preparer | Phone # | #: Fax #: | | |
| Contact Info | 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 Storage | Tank | | | Mail To: SCAQMD P.O. Box 4944 Diamond Bar, CA 91765-0944 | |
|--|--|---|--|---|--|
| AQMD This form must I Form 400-PS. | be accompanied by a completed Applic | ation for a Permit to Construct/Operate | - Forms 400-A, Form 400-CEQA, and | Tel: (909) 396-3385 www.aqmd.gov | |
| Section A - Operato | r Information | | | | |
| Facility Name (Business Nam | e of Operator That Appears On Permit) | : Valid A | QMD Facility ID (Available On Permit Or | Invoice Issued By AQMD): | |
| AES Alamitos, LLC | ; | | | 115394 | |
| | nt will be operated (for equipment whi Road, Long Beach, CA 9 | | AQMD's jurisdiction, please list the initial Fixed Locat Fixed Locat | , | |
| Tank Type (Select ONE) | O External Floating Roof Tank O Vertical Fixed Roof Tank (VF | | | Fank (HT) | |
| Identification | Tank Identification Number: OWS01 | Tank Contents/Product (Water and petrol | include MSDS): leum residue from Power Bl | ocks 1 and 2 | |
| Section B - Tank Inf | ormation | | | | |
| | Shell Diameter (ft.): 5 | Shell Length (ft.): 18 | Shell Height (ft.): Tu 5 | rnovers Per Year: 75 | |
| | Is Tank Heated? | is Tank Underground? | | If Support Roof: | |
| | O Yes No | O Yes | 223846 | 🖲 Yes 🔿 No | |
| | Number of Columns? | Effective Column Diameter: | O 9" Diamatar Bina 0.7 O Lla | | |
| | External Shell Condition: | 9" by 7" Built Up Column - 1.1 Internal Shell Color: | 8" Diameter Pipe - 0.7 O Un External Shell Color: | iknown - 1 | |
| Taul Changetaintin | Good | O Light Rust | <u> </u> | Gray/Light | |
| Tank Characteristics | O Poor | O Dense Rust | | Gray/Medium | |
| | | O Gunite Lining | _ | ed/Primer | |
| | Average Liquid Height (ft.) (Vertical Only): | Maximum Liquid Height (ft.) (Vertical Only): | | ctual Volume (gal.) ertical Only): | |
| | Paint Condition: | Paint Color/Shade: | | | |
| | Good Good O Poor | White/White Aluminum/Diffuse | | ay/Medium | |
| | | | | ed/Primer | |
| | Roof Type: O Pontoon | Dome Roof (Heightft.) | Roof Fitting Category: Ro | oof Height (ft.): | |
| Roof Characteristics | O Double Deck | Cone Roof (Heightft.) | O Detail | | |
| (Floating Roof Tank) | Roof Paint Condition: | Roof Color/Shade: | | | |
| | O Good | O White/White O | Gray/Light O Gr | ay/Medium | |
| | O Poor | O Aluminum/Diffuse O | Aluminum/Specular O Re | ed/Primer | |
| | Deck Type: | Deck Fitting Characteristics: | | | |
| | O Welded O Bolted | O Typical O Detailed (Co | mplete Deck Seam) | | |
| Deck Characteristics (Floating Roof Tank) | | Construction: Deck Seam Leng | yth (ft.): Deck Seam: | | |
| | | O Sheet | O 5 ft. wide (| 6 ft. wide 7 ft. wide | |
| | | O Panel | O 5x7.5ft. (| ○ 5 x 12 ft. | |
| Tank Construction and Rim | Tank Construction: | Primary Seal: | Secondary | Seal: | |
| -Seal System (Floating Roof Tank) | O Welded | O Mechanical Shoe O | Liquid Mounted O Rim M | None O None | |
| (Floading Roof Tallik) | O Riveted | O Vapor Mounted | | Mounted | |
| Breather Vent Setting | Vacuum Setting (psig): | Pressure Setting (psi | a): | | |

 * Section D of the application MUST be completed.

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| AQMD |

South Coast Air Quality Management District

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.

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

| ction B - Tank In | formation (cor | nt.) | | | | | | | | |
|-------------------------|--|---------------------|---|--|---|--|----------------|--|--|--|
| | Nearest Major Cit | y: Long Bead | ch | | | | | | | |
| | Daily Average An | nbient Temperatur | e("F): <u>64.7</u> | Annual Av | verage Minimum Ten | nperature (°F): 55.4 | | | | |
| Site Selection | Annual Average Maximum Temperature (°F): Average Wind Speed (mph): 6.1 | | | | | | | | | |
| | Annual Average | Solar Insulation Fa | ctor (Btu / (ft ³ * ft * da | y)): | | | | | | |
| Tank Contents | Liquid: 💿 Sing | | • | tion | um Distillates Partial Speciation None | on | | | | |
| ction C - Operati | on Information | | | | | | | | | |
| Vapor Control | | | nloading: Sparge Vented NPC equipment is alrea | to Air Pollution Contr | ol Equipment ¹ | Vapor Return Line | | | | |
| | Indicate Type of S | Setting and Vapor | Disposal | | | | | | | |
| | | | Dragoung Catting | | Discharg | ate Box) | | | | |
| | | Number | Pressure Setting | Vaccum Setting | Atmosphere | Vapor Control | Flare | | | |
| Vent Valve Data | Combination | | | | | | | | | |
| | Pressure | | | | | | | | | |
| | Vaccum | | | | | | | | | |
| | Open | 1 | | | × | | | | | |
| | 8 | | mixtures of such mate contain primarily | | | | | | | |
| Materials | Name of Solvent: | | | ormation: me of Materials Disso . % by Weight OR | | volume OR | Ibs/gal | | | |
| ction D - Roof/De | eck Fitting | | | | | | | | | |
| | | | Floating Roof Tank, In tion. Examples: | Section States and | er, Ungasketed | ernal Floating Roof Tar | iks. | | | |
| | 1. Access Hatch (| (24" diameter well) | 2. Automatic (20" diam | Gauge Float Well | | n Well (24" diameter we | n) | | | |
| | Bolted | Cover, Gasketed | • | eter weit) lolted Cover, Gaskete | d | Built-Up Col - Sliding (| over. Gasketed | | | |
| of/Deck Fitting Details | | ed Cover, UnGaske | | Inbolted Cover, Ungas | | _Built-Up Col - Sliding C | | | | |
| | Unboite | ed Cover, Gaskete | dU | Inbolted Cover, Gaske | eted | Pipe Col - Flex, Fabric Pipe Col - Sliding Cove | | | | |

Pipe Col - Sliding Cover, Ungasketed

South Coast Air Quality Management District

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.) | | | | |
|---|---|--|----------|---|
| | 4. Gauge Hatch/Sample Well (8" diameter well) | | | 5. Ladder Well (36" diameter) |
| | | Weighted Mechanical Actuation, Gasketed | | Sliding Cover, Gasketed |
| | | Weighted Mechanical Actuation, Ungasketer | d | Sliding Cover, Ungasketed |
| | 6. Rim Vent (6" diameter) | | | 7. Roof Drain (3" diameter) |
| | | Weighted Mechanical Actuation, Gasketed | | Open |
| | | Weighted Mechanical Actuation, Ungasketed | t | 90% Close |
| | | 8. Roof Leg (3" diameter leg) | | 9. Roof Leg or Hang Well |
| Roof/Deck Fitting Details (cont.) | | Adjustable, Pontoon Area, Ungasketed | | Adjustable |
| | | Adjustable, Center Area, Ungasketed | | Fixed |
| | | Adjustable, Double-Deck Roofs | | 10. Sample Pipe (24' diameter) |
| | | Fixed | | Slotted Pipe – Sliding Cover, Gasketed |
| | | Adjustable, Pontoon Area, Gasketed | | Slotted Pipe - Sliding Cover, Ungasketed |
| | | Adjustable, Pontoon Area, Sock | | Slit Fabric Seal, 10% Open |
| | | Adjustable, Center Area, Gasketed | | |
| | | Adjustable, Center Area, Sock | | |
| | | 11. Guided Pole/Sample Well | | 12Stub Drain (1" diameter) |
| | | Ungasketed, Sliding Cover, Without Float | | 13. Unsiotted Guide – Pole Well |
| | | Ungasketed Sliding Cover, With Float | | Ungasketed, Sliding Cover |
| | | Gasketed Sliding Cover, Without Float | | Gasketed Sliding Cover |
| | | Gasketed Sliding Cover, With Float | | Ungasketed Sliding Cover with Sleeve |
| | | Gasketed Sliding Cover, With Pole Sleeve | | Gasketed Sliding Cover with Sleeve |
| | | Gasketed Sliding Cover, With Pole Wiper | | Gasketed Sliding Cover with Wiper |
| | | Gasketed Sliding Cover, With Float, Wiper | | 14. Vacuum Breaker (10" diameter well) |
| | | Gasketed Sliding Cover, With Float, Sleeve |), Wiper | Weighted Mechanical Actuation, Gasketed |
| | | Gasketed Sliding Cover, With Pole Sleeve, | Wiper | Weighted Mechanical Actuation, Ungasketed |
| Section D - Authorization/Signature | | | | |
| I hereby certify that all information contaised herein and information submitted with this application is true and correct. | | | | |
| Preparer Info | Signature: | Date: | Name: | Stephen O'Kane |
| | C | 12/20/2013 | Phone # | Fax #: |
| | Title: | Company Name: | | 5624937840 5624937737 |
| | Manager | AES Alamitos, LLC | Email: | stephen.okane@AES.com |
| | Name: | as Preparer | Phone # | : Fax #: |
| Contact | Jame Title: | Company Name: | Email: | |

THIS IS A PUBLIC DOCUMENT

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

| Form 40 Storage | th Coast Air Quality Management District The second | | | | | |
|--|---|--|--|--------------------------------------|--|--|
| Form 400-PS. | | cation for a Permit to Construct/Operate | - Forms 400-A, Form 400-CEQA, and | Tel: (909) 396-33 www.aqmd.g | | |
| Section A - Operato | | | | | | |
| | ne of Operator That Appears On Permit |): Valid A | QMD Facility ID (Available On Permit Or | • • | | |
| AES Alamitos, LLC | | | | 115394 | | |
| | nt will be operated (for equipment wh Road, Long Beach, CA 9 | | AQMD's jurisdiction, please list the initial l | | | |
| Tank Type (Select ONE) | External Floating Roof Tank Vertical Fixed Roof Tank (VF | • | | ank (HT) | | |
| Identification | Tank Identification Number: OWS02 | Tank Contents/Product (i Water and petrol | nclude MSDS): eum residue from Power Bl | ock 3 | | |
| Section B - Tank In | formation | | | | | |
| | Shell Diameter (ft.): 5 | Shell Length (fL): 18 | Shell Height (ft.): Tu | rnovers Per Year: 38 | | |
| | Is Tank Heated? | Is Tank Underground? O Yes No | | If Support Roof: Yes O No | | |
| | Number of Columns? | Effective Column Diameter: 9" by 7" Built Up Column - 1.1 | | known - 1 | | |
| | External Shell Condition: | Internal Shell Color: | External Shell Color: | | | |
| Tank Characteristics | Good Poor | Light Rust Dense Rust | | ay/Light ay/Medium | | |
| | | O Gunite Lining | | d/Primer | | |
| | Average Liquid Height (ft.) (Vertical Only): | Maximum Liquid Height (ft.) | Working Volume (gal.) Ac | tual Volume (gal.) ertical Only): | | |
| | Paint Condition: | Paint Color/Shade: | | | | |
| | O Poor | - | | ay/Medium d/Primer | | |
| | Roof Type: | | · · · · · · · · · · · · · · · · · · · | | | |
| | O Pontoon O | Dome Roof (Height ft.) | O Typical | oof Height (ft.): | | |
| Roof Characteristics | O Double Deck O | Cone Roof (Height ft.) | O Detail | | | |
| (Floating Roof Tank) | Roof Paint Condition: | Roof Color/Shade: | | | | |
| | O Good | O White/White O | Gray/Light O Gr | ay/Medium | | |
| | O Poor | O Aluminum/Diffuse O | Aluminum/Specular O Re | d/Primer | | |
| | Deck Type: | Deck Fitting Characteristics: | | | | |
| | O Welded O Bolted | O Typical O Detailed (Cor | nplete Deck Seam) | | | |
| Deck Characteristics (Floating Roof Tank) | | Construction: Deck Seam Leng | th (ft.): Deck Seam: | | | |
| (Floating Root Tank) | | O Sheet | O 5 ft. wide (|) 6 ft. wide () 7 ft. wid | | |
| | | O Panel | ○ 5 x 7.5 ft. (| ⊖ 5 x 12 ft. | | |
| ank Construction and Rim | Tank Construction: | Primary Seal: | Secondary | Seal: | | |
| -Seal System | O Welded | O Mechanical Shoe | Liquid Mounted O Rim M | founted O None | | |
| (Floating Roof Tank) | O Riveted | O Vapor Mounted | O Shoe | Mounted | | |
| Breather Vent Setting | Vacuum Setting (psig): | Pressure Setting (psig | ı): | | | |

 $\ensuremath{^{\star}}$ Section D of the application MUST be completed.

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South Coast Air Quality Management District

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.

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

| Form 400-PS. | and the second second second | | | | | | www.aqmd.g | |
|--------------------------|---|---------------------------------------|---|------------------------------------|---|-------------------------------|------------|--|
| ction B - Tank In | formation (cor | nt.) | | | | | | |
| | Nearest Major City: Long Beach | | | | | | | |
| Site Selection | Daily Average An | nbient Temperatu | re (°F): <u>64.7</u> | Annual Av | verage Minimum Ter | nperature (*F): <u>55.4</u> | | |
| She Selection | Annual Average | Maximum Temper | ature (* F): <u>74.1</u> | Average V | Vind Speed (mph):_{ | 5.1 | | |
| | Annual Average | Solar Insulation Fa | actor (Btu / (ft ³ * ft * da | y)): | | | | |
| Tank Contents | Liquid: 💿 Sing | | - | tion | um Distillates Partial Speciati None | on | | |
| tion C - Operati | ion Information | | | | | | | |
| Vapor Control | | | Inloading: 🔲 Sparge 🗌 Vented APC equipment is alrea | to Air Pollution Contr | rol Equipment ¹ | Vapor Return Line | | |
| | 19 | Setting and Vapor | | | | | | |
| | | | | | Discharo | ing to (Check Appropria | te Box) | |
| | | Number | Pressure Setting | Vaccum Setting | Atmosphere | Vapor Control | Flare | |
| Vent Valve Data | Combination | | | | | | | |
| | Pressure | | | | | | | |
| | Vaccum | | | | | | | |
| | Open | 1 | | | X | | | |
| | Name all liquids, vapors, gases, or mixtures of such material to be stored in this tank: Oil/water separator will contain primarily precipitation oils/lubricants. | | | | | | | |
| Materials | Name of Solvent: | | | ormation: me of Materials Disso | | n products | Ibs/gal | |
| tion D - Roof/De | eck Fitting | | | | | | | |
| Section D is req | uired for the followi | ng tanks: External | Floating Roof Tank, In | ternal Floating Roof 1 | anks, or Domed Ext | ternal Floating Roof Tan | ks. | |
| Select the numb | er of fittings for eac | h applicable ques | tion. Examples: | 3 Unboited Cov | er, Ungasketed er, Gasketed | | | |
| | | (24" diameter well | , (20" diam | • | | n Well (24" diameter we | | |
| | | Cover, Gasketed | | loited Cover, Gaskete | | _Built-Up Col - Sliding (| | |
| oof/Deck Fitting Details | 200 | ed Cover, UnGask ed Cover, Gaskets | | Inbolted Cover, Ungas | - | _Built-Up Col - Sliding (| | |
| | Unbolted Cover, GasketedUnbolted Cover, GasketedPipe Col - Flex, Fabric Slee | | | | | | | |

Pipe Col - Sliding Cover, Ungasketed

South Coast Air Quality Management District

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/De | ck Fitting (cont.) | | | | |
|---|---|---|---------------------------------|---|--|--|
| 4. Gauge Hatch/Sample Well (8" diameter well) | | | | 5. Ladder Well (36" diameter) | | |
| | | Weighted Mechanical Actuation, Gasketed | | Sliding Cover, Gasketed | | |
| | Weighted Mechanical Actuation, Ungasketer | d | Sliding Cover, Ungasketed | | | |
| | | 6. Rim Vent (6" diameter) | | 7. Roof Drain (3" diameter) | | |
| | | Weighted Mechanical Actuation, Gasketed | | Open | | |
| | | Weighted Mechanical Actuation, Ungasketed | t | 90% Close | | |
| | | 8. Roof Leg (3" diameter leg) | | 9. Roof Leg or Hang Well | | |
| | | Adjustable, Pontoon Area, Ungasketed | | Adjustable | | |
| | | Adjustable, Center Area, Ungasketed | | Fixed | | |
| | | Adjustable, Double-Deck Roofs | | 10. Sample Pipe (24" diameter) | | |
| | | Fixed | | Slotted Pipe – Sliding Cover, Gasketed | | |
| | | Adjustable, Pontoon Area, Gasketed | | Slotted Pipe – Sliding Cover, Ungasketed | | |
| Roof/Dec | k Fitting Details | Adjustable, Pontoon Area, Sock | | Slit Fabric Seal, 10% Open | | |
| | (cont.) | Adjustable, Center Area, Gasketed | | | | |
| | | Adjustable, Center Area, Sock | | | | |
| | | 11. Guided Pole/Sample Well | | 12Stub Drain (1" diameter) | | |
| | | Ungasketed, Sliding Cover, Without Float | 13. Unslotted Guide – Pole Well | | | |
| | | Ungasketed Sliding Cover, With Float | | Ungasketed, Sliding Cover | | |
| | | Gasketed Sliding Cover, Without Float | | Gasketed Sliding Cover | | |
| | | Gasketed Sliding Cover, With Float | | Ungasketed Sliding Cover with Sleeve | | |
| | | Gasketed Sliding Cover, With Pole Sleeve | | Gasketed Sliding Cover with Sleeve | | |
| | | Gasketed Sliding Cover, With Pole Wiper | | Gasketed Sliding Cover with Wiper | | |
| | | Gasketed Sliding Cover, With Float, Wiper | | 14. Vacuum Breaker (10" diameter well) | | |
| | | Gasketed Sliding Cover, With Float, Sleeve | e, Wiper | Weighted Mechanical Actuation, Gasketed | | |
| | | Gasketed Sliding Cover, With Pole Sleeve, | Wiper | Weighted Mechanical Actuation, Ungasketed | | |
| 時間がたなるときと | | zation/Signature | | | | |
| I hereby ce | | nation contained herein and information submitted with this | application | n is true and correct. | | |
| | Signature: | Date: Nan | | ame: Stephen O'Kane | | |
| Preparer | | 12/20/2013 | Phone # | Fay # | | |
| Info | Title: | Company Name: | Email: | 5624937840 5624937737 | | |
| | Manager | AES Alamitos, LLC | | stephen.okane@AES.com | | |
| Content | Name: Same | as Preparer | Phone # | #: Fax #: | | |
| Contact 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 Form 400 Storage | Mail To: SCAQMD P.O. Box 4944 Diamond Bar, CA 91765-0944 Tel: (909) 396-3385 | | | | |
|--|--|--|---|---------------------------------------|--|
| Form 400-PS. | | | | | www.aqmd.gov |
| Section A - Operato | | Contraction of the Contraction | | usilable Os Demeit (| |
| | e of Operator That Appears On Permit) | . va | IIG AQMD Facility ID (A | | Dr Invoice Issued By AQMD): |
| AES Alamitos, LLC | | | | | 115394 |
| | nt will be operated (for equipment whi Road, Long Beach, CA 9 | | ns in AQMD's junsaiction | | |
| Tank Type (Select ONE) | O External Floating Roof Tank O Vertical Fixed Roof Tank (VF | | ng Roof Tank (IFRT) al Roof Tank (DEFRT) | O Horizonta | II Tank (HT) |
| Identification | Tank Identification Number: OWS03 | Tank Contents/Prod Water and pe | uct (include MSDS): troleum residue | from Power I | Block 4 |
| Section B - Tank Inf | ormation | | | | |
| | Shell Diameter (ft.): 5 | Shell Length (ft.): 18 | Shell Height (ft.): 5 | _ | Furnovers Per Year: 38 |
| | Is Tank Heated? | Is Tank Underground? | Net Throughput (| gal/year): | Self Support Roof: |
| | 🔿 Yes 💿 No | 🔿 Yes 💿 No | 111923 | _ | Yes C No |
| | Number of Columns? | Effective Column Diameter: | | | |
| | | O 9" by 7" Built Up Column - | 1.1 O 8" Diameter | Pipe - 0.7 🛛 🔿 | Unknown - 1 |
| | External Shell Condition: | Internal Shell Color: | External Shell Co | lor: | |
| Tank Characteristics | Good | O Light Rust | White/White | 0 | Gray/Light |
| | O Poor | O Dense Rust | C Aluminum/S | pecular O | Gray/Medium |
| | | O Gunite Lining | O Aluminum/D | | Red/Primer |
| | Average Liquid Height (ft.) (Vertical Only): | Maximum Liquid Height (ft.) (Vertical Only): | Working Volume (Vertical Only): | | Actual Volume (gal.) (Vertical Only): |
| | Paint Condition: | Paint Color/Shade: | | | ····· |
| | Good | White/White | O Gray/Light | 0 | Gray/Medium |
| | O Poor | O Aluminum/Diffuse | O Aluminum/Specula | | Red/Primer |
| | Roof Type: | | Roof Fitting | Category: | Roof Height (ft.): |
| | O Pontoon O | Dome Roof (Height | ft.) O Typica | | |
| Roof Characteristics | O Double Deck O | • • | ft.) O Detail | | |
| (Floating Roof Tank) | Roof Paint Condition: | Roof Color/Shade: | | | |
| | O Good | O White/White | O Gray/Light | 0 | Gray/Medium |
| | O Poor | O Aluminum/Diffuse | O Aluminum/Specula | r O | Red/Primer |
| | Deck Type: | Deck Fitting Characteristics: | | | |
| | O Welded O Bolted | O Typical O Detailed | I (Complete Deck Seam) |) | |
| Deck Characteristics | | Construction: Deck Seam | Length (ft.): | Deck Seam: | |
| (Floating Roof Tank) | | n opposite the second s | | | |
| | | O Sheet | | O 5 ft. wide | ○ 6 ft. wide ○ 7 ft. wide |
| | | O Panel | | O 5 x 7.5 ft. | ○ 5 x 12 ft. |
| Tank Construction and Rim | Tank Construction: | Primary Seal: | | Seconda | ry Seal: |
| -Seal System | O Welded | O Mechanical Shoe | O Liquid Mounted | | Mounted O None |
| (Floating Roof Tank) | O Riveted | O Vapor Mounted | | O She | be Mounted |
| Breather Vent Setting | Vacuum Setting (psig): | Pressure Setting | (psig): | · · · · · · · · · · · · · · · · · · · | |

 * Section D of the application MUST be completed.

| Form 40 Storage | | | | | | Diamond | SCAQMD P.O. Box 4944 Bar, CA 91765-0944 |
|-------------------------------------|-----------------------|---------------------|---|--|--|--|---|
| AQMD This form must Form 400-PS. | t be accompanied by a | a completed Applica | ation for a Permit to Con | struct/Operate - Forms | 400-A, Form 400-CE0 | | Tel: (909) 396-3385 www.aqmd.gov |
| Section B - Tank In | formation (cor | nt.) | | | | | |
| | Nearest Major Cit | ty: Long Bea | ch | | | | |
| Site Selection | Annual Average | | re (°F): <u>64.7</u> ature (°F): <u>74.1</u> actor (Btu / (ft ³ * ft * da | Average V | verage Minimum Ter Vind Speed (mph):_(| nperature (*F): <u>55.4</u> 6.1 | |
| Tank Contents | Liquid: 💿 Sing | - | iple ption: 🔿 Full Specia | 0 | um Distillates 〇 Partial Speciati 〇 None | on | |
| Section C - Operati | ion Information |) | A PLAP Some | Par de la faite | | | |
| Vapor Control | | | Inloading: Sparge Vented APC equipment is alrea | to Air Pollution Contr | ol Equipment ¹ | Vapor Return Line umber: | |
| | Indicate Type of S | Setting and Vapor | Disposal | | | | |
| | | Number | Pressure Setting | Vaccum Setting | Discharg | ing to (Check Appropr | iate Box) |
| | | Mulliool | r ressure detung | Vaccum Cetung | Atmosphere | Vapor Control | Flare |
| Vent Valve Data | Combination | | | | | | |
| | Pressure | | | | | | |
| | Vaccum | | | | | | |
| | Open | 1 | | | × | | |
| | 20 | | mixtures of such mate contain primarily | | | | |
| Materials | Name of Solvent: | | | ormation: me of Materials Disso _ % by Weight OR | | n products | Ibs/gal |
| Section D - Roof/De | eck Fitting | | | | | | |
| Section D is req | | | l Floating Roof Tank, Ir tion. Examples: | | er, Ungasketed | ternal Floating Roof Ta | inks. |
| | 1. Access Hatch | (24" diameter well |) 2. Automatic (20" diam | Gauge Float Well | 國家和14月1月1日1月1日1日 | n Well (24" diameter w | ell) |
| | Bolted | Cover, Gasketed | E | loited Cover, Gaskete | d | _Built-Up Col - Sliding | |
| Roof/Deck Fitting Details | 72 | ed Cover, UnGask | | Inbolted Cover, Ungas | | Built-Up Col - Sliding | - |
| | Unbolt | ed Cover, Gaskete | юl | Inbolted Cover, Gaske | | _Pipe Col - Flex, Fabric _Pipe Col - Sliding Cov _Pipe Col - Sliding Cov | ver, Gasketed |

South Coast Air Quality Management District

Mail To:

South Coast Air Quality Management District 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/De | ck Fitting (cont.) | | | |
|------------------|-------------------|---|---|---|--|
| 194 A | | 4. Gauge Hatch/Sample Well (8" diameter well) | 5. Ladder Well (36" diameter) | | |
| | | Weighted Mechanical Actuation, Gasketed | Sliding Cover, Gasketed | | |
| | | Weighted Mechanical Actuation, Ungasketed | | | |
| | | 6. Rim Vent (6" diameter) | 7. Roof Drain (3" diameter) | | |
| | | Weighted Mechanical Actuation, Gasketed | Open | | |
| | | Weighted Mechanical Actuation, Ungasketed | 90% Close | | |
| | | 8. Roof Leg (3" diameter leg) | 9. Roof Leg or Hang Well | | |
| | | Adjustable, Pontoon Area, Ungasketed | Adjustable | | |
| | | Adjustable, Center Area, Ungasketed | Fixed | | |
| | | Adjustable, Double-Deck Roofs | 10. Sample Pipe (24" diameter) | | |
| | | Fixed | Slotted Pipe – Sliding Cover, Gasketed | | |
| | | Adjustable, Pontoon Area, Gasketed | Slotted Pipe – Sliding Cover, Ungasketed | | |
| Roof/Dec | k Fitting Details | Adjustable, Pontoon Area, Sock | Slit Fabric Seal, 10% Open | | |
| | (cont.) | Adjustable, Center Area, Gasketed | | | |
| | | Adjustable, Center Area, Sock | | | |
| | | 11. Guided Pole/Sample Well | 12Stub Drain (1" diameter) | | |
| | | Ungasketed, Sliding Cover, Without Float | 13. Unslotted Guide – Pole Well | | |
| | | Ungasketed Sliding Cover, With Float | Ungasketed, Sliding Cover | | |
| | | Gasketed Sliding Cover, Without Float | Gasketed Sliding Cover | | |
| | | Gasketed Sliding Cover, With Float | Ungasketed Sliding Cover with Sleeve | | |
| | | Gasketed Sliding Cover, With Pole Sleeve | Gasketed Sliding Cover with Sleeve | | |
| | | Gasketed Sliding Cover, With Pole Wiper | Gasketed Sliding Cover with Wiper | | |
| | | Gasketed Sliding Cover, With Float, Wiper | 14. Vacuum Breaker (10" diameter well) | | |
| | | Gasketed Sliding Cover, With Float, Sleeve | e, WiperWeighted Mechanical Actuation, Gasketed | | |
| | | Gasketed Sliding Cover, With Pole Sleeve, | wiperWeighted Mechanical Actuation, Ungasketed | | |
| Section | D - Authoriz | zation/Signature | | | |
| I hereby ce | | nation contained herein and information submitted with this | | | |
| Signature: Date: | | | Name: Stephen O'Kane | | |
| Preparer | | 2 Gre 12/20/2013 | Phone # Fax # | - | |
| Info | Title: | Company Name: | Email: | — | |
| | Manager | AES Alamitos, LLC | stephen.okane@AES.com | | |
| Contact | Name: Same | as Preparer | Phone #: Fax #: | | |
| Info | | | Email: | | |

THIS IS A PUBLIC DOCUMENT

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

| 9 |
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| AQMD |

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 Info | ormation | | | |
|---|---|---|--|--|
| Facility Name (Business Nam AES Alamitos, LLC | e of Operator To Appears On The Permit): | Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 115394 | | |
| Address where the equipment | nt will be operated (for equipment which will be moved to various | location in AQMD's jurisdiction, please list the initial location site): | | |
| 690 N. Studebaker | Road, Long Beach, CA 90803 | Fixed Location O Various Locations | | |
| Section B - Location Dat | a | | | |
| Plot Plan | Please attach a site map for the project with distances and scale Thomas Brothers page, a web-based map, or a sketch that show | s. Identify and locate the proposed equipment on the map. A copy of the appropriate the major streets and location of the equipment is acceptable. | | |
| | Is the facility located within a 1/4 mile radius (1,320 feet) of t If yes, please provide name(s) of school(s) below: School Name: Rosie the Riveter Charter High | | | |
| | School Address: 690 N. Studebaker Road | School Address: | | |
| Location of Schools Nearby | Long Beach, CA 90803 | | | |
| | Distance from stack or equipment vent to the outer boundary of the school: 656 | Distance from stack or equipment vent feet to the outer boundary of the school: feet | | |
| | CA Health & Safety Code 42301.9: "School" means any public | or private school used for purposes of the education of more than 12 children in lude any private school in which education is primarily conducted in private homes. | | |
| Population Density | O Urban O Rural (<50% of land within 3 km radius account of land within 3 km radius | ounted for by urban land use categories, i.e., multi-family dwelling or industrial.) | | |
| | O Mixed Use Residential Commercial Zone (M-U) | O Service and Professional Zone (C-S) O Medium Commercial (C-3) | | |
| Zoning Classification | Heavy Commercial (C-4) | O Commercial Manufacturing (C-M) | | |
| Section C - Emission Re | lease Parameters - Stacks, Vents | | | |
| | Stack Height:120 feet (above ground level) | What is the height of the closest building nearest the stack? 104 feet | | |
| | Stack Inside Diameter: 216.00 inches | Stack Flow: 1259905 acfm Stack Temperature: 412 F | | |
| | Rain Cap Present: O Yes O No | Stack Orientation: Vertical Horizontal | | |
| Stack Data | | pht (H), please provide information on any building within 5xH distance from the stack | | |
| | Building #/Name: See AFC Appendix 5.1C | Building #/Name: See Appendix 5.1C | | |
| | Building Height:feet (above ground level) | Building Height:feet (above ground level) | | |
| | Building Width:feet | Building Width:feet | | |
| | Building Length:feet | Building Length:feet | | |
| Receptor Distance From Equipment Stack or Roof Vents/Openings | Distance to nearest residence: 650 feet | Distance to nearest business: 830 feet | | |
| | Are the emissions released from vents and/or openings from If yes, please provide: | n a building? 🔿 Yes 💿 No | | |
| Building Information | Building #/Name: | Building Width:feet | | |
| | Building Height:feet (above ground level) | 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 | I herein and informatio | on submittfgfed with th | is application is true and correct. | |
| Signature of Preparer: | Title of Preparer: Manager | | Preparer's Phone #: (562) 493 Preparer's Email: <u>stephen.ok</u> | 3-7840 ane@AES.com |
| Contact Person: Stephen O'Kane Contact's Email: stephen.okane@AES.com | | Contact's Phone#: (562) 493-7840 Contact's Fax#: (562) 493-7737 | | Date Signed: 12/20/2013 |
| Pursuant to the California Public Records Act, y claim certain limited information as exempt from Act, you must make such claim <u>at the time of su</u> Check here if you claim that this form or its attac | disclosure because it qubit to the District. | nd any supplemental do ualifies as a trade secre | t, as defined in the District's Guideline | nay be disclosed to a third party. If you wish to es for Implementing the California Public Records |

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| AQMD |

South Coast Air Quality Management District
Form 500-A1

© South Coast Air Quality Management District, Form 500-A1 (2009.04)

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 | www.aqinu.gov | | | | |
|--|--|--|--|--|--|
| 1. Facility Name (Business Name of Operator That Appears On Permit): 2. Valid AQMD Facility ID (Available On Permit Or Invoice | | | | | |
| AES Alamitos, LLC | Issued By AQMD): 115394 | | | | |
| 3. Facility Is Located In Title V Area: | | | | | |
| | | | | | |
| 1 All other zip codes not listed below | | | | | |
| ○ 2 92201 92202 92203 92210 92211 92234 92253 92254 92255 92258 92260 92261 92282 92292 92561 | | | | | |
| O 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 req | uested information as appropriate): | | | | |
| 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. Ø 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: | | | | | |
| <u>30</u> 400-A (REQUIRED) <u>500-C1 (REQUIRED)</u> <u>1</u> 400-A (REQUIRED) | | | | | |
| | 500-F2 500-MACT PART 1 500-F3 OTHER (SPECIFY): | | | | |
| | 500-F4 | | | | |
| 2. Additional information referenced in this application submitted: | | | | | |
| California Energy Commission, 2013. Alamitos Energy Center Applic | cation for Certification. December. | | | | |



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): | 2. Valid AQMD Facility ID (Available On Permit Or Invoice | | | | |
| AES Alamitos, LLC | issued By AQMD): 115394 | | | | |
| 3. This Certification is a. O Title V Application (Initial, Re | | | | | |
| | | | | | |
| | Inte V Application | | | | |
| c. O MACT Part 1 | | | | | |
| | | | | | |
| 4. Is Form 500-C2 included with this Certification? O Yes O N | 0 | | | | |
| Section II - Responsible Official Certification Statement | | | | | |
| Read each statement carefully and check each that applies – You mus | t check 3a or 3b. | | | | |
| 1. For Initial, Permit Renewal, and Administrative Application Cert | ifications: | | | | |
| a. O The facility, including equipment that are exempt from writte compliance with all applicable requirement(s) identified in S | en permit per Rule 219, is currently operating and will continue to operate in ection II and Section III of Form 500-C1, | | | | |
| i. <u>except</u> for those requirements that do not specifica "Remove" on Section III of Form 500-C1. | ally pertain to such devices or equipment and that have been identified as | | | | |
| ii. <u>except</u> for those devices or equipment that have be operating in compliance with the specified applicabl | een identified on the completed and attached Form 500-C2 that will <u>not</u> be le requirement(s). | | | | |
| b. O The facility, including equipment that are exempt from w requirements with future effective dates. | written permit per Rule 219, will meet in a timely manner, all applicable | | | | |
| 2. For Permit Revision Application Certifications: | | | | | |
| a. The equipment or devices to which this permit revision identified in Section II and Section III of Form 500-C1. | applies, will in a timely manner comply with all applicable requirements | | | | |
| 3. For MACT Hammer Certifications: | | | | | |
| a. O The facility is subject to Section 112(j) of the Clean Air Act following information is submitted with a Title V application to a submitted with a submitted with a Title V application to a submitted with a submitted w | t (Subpart B of 40 CFR part 63), also known as the MACT "hammer." The to comply with the Part 1 requirements of Section 112(j). | | | | |
| b. O The facility is not subject to Section 112(j) of the Clean Air A | 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: | | | | |
| Rare | Manager | | | | |
| 3. Print Name: | 4. Date: | | | | |
| Stephen O'Kane | | | | | |
| 5. Phone #: | 6. Fax #: | | | | |
| (562) 493-7840 | (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

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.

| 1. Signature of Designated Representative or Alternate: | 2. Title of Designated Representative or Alternate: |
|--|---|
| Share | Manager |
| 3. Print Name of Designated Representative or Alternate: | 4. Date: |
| Stephen O'Kane | 12/20/2013 |
| 5. Phone #: | 6. Fax #: |
| (562) 493-7840 | (562) 493-7737 |
| 7. Address of Designated Representative or Alternate: | |
| 690 N. Studebaker Road | Long Beach CA 90803 |
| Street # | City State Zip |



South Coast Air Quality Management District Form 500-B **Title V List of Exempt Equipment**

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

Use this form for all application submittals requesting an initial Title V permit or permit renewal. If you are applying for a permit revision, you may also use this form to have your exempt equipment listing updated prior to renewing your permit.

This form is designed to summarize all of the equipment at a facility that is exempt per SCAQMD Rule 219 from SCAQMD permit requirements (e.g., I.C. Engines < 50 BHP, Boilers < 2 MM BTU/hr etc.). This equipment can be listed according to category. However, if there is a specific device that is vented to control equipment, then the equipment must be listed separately. Trivial activities listed on the back of this form or the Technical Guidance Document do not have to be listed on this form. Note: If your facility is in the RECLAIM program, it is not necessary to repeat any equipment currently listed in Appendix A of the RECLAIM permit.

Section I - Operator Information

AES Alamitos, LLC

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

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

115394

3. Check box if facility is in RECLAIM program:

4. Provide Current Permit Issue Date: 01/19/2012 5. Permit Revision No.: 23

| Section II - Summary of Equipme | ent Exempt from Permit | Requirements (Including Portab | le) | |
|---|---|--|--|--|
| Exempt Equipment Description [e.g., Small Boilers (75,000 BTU/hr-2,000,000 BTU/hr)] | Venting to Control (Device# or Application#) | Control Device Description | Basis for Exemption [e.g., Rule 219 (b)(2), 05/19/00] | Source Specific Rule [e.g., Rule 1146.2] |
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| Combustion emissions from propulsion of mobile sources, except for vessel emissions from Outer Accommendal Shelf sources Arr-conditioning units used for human comfort that do not have applicable requirements under Tite VI of the definiting units used for human comfort that do not exhaust air pollutants into the ambient air from any manufacturing/utertai for commercial process Non-commercial food preparation Non-commercial food preparation Consumer use of office equipment and products, not including printers or businesses primarily involved in Jankottal societies and combustion engines used for landscaping purposes Landyn schwlies, except for dry-cleaning and steam boliers Emergency (Backub) electrical generators at residential locations Consumer use of office acuments are of jankotal generators Laurdyn schwlies, except for dry-cleaning and steam boliers Emergency (Backub) electrical generators at residential locations Cobacco smolking rooms and areas Blacksmith Intropas Repair of a manufacturing process, are not instead of a manufacturing provided these activities at molitory for manufacturing and control and the source's primary business activity, and not otherwise introding or manufacturing process, and or the source's primary business activities are not oricitable electrical generators that can be moved by hand from one location to another? Repair or maintenance and modification Repair or maintenance shop activities (e.g., grounds-keeping, general repairs, cleaning, painting, wolding, plumbing, ne-trained primary business activity, not including primess part or maintenance and modification Repair or maintenance shop activities (e.g., grounds-keeping, general repairs, cleaning, painting, wolding, plumbing, ne-trained activity and modification Repair or maintenance shop activities (e.g., groun | | | | |
|---|---|---|----------|--|
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| withdraw materials for analysis Hydraulic and hydrostatic testing equipment Environmental chambers not using hazardous air pollutant (HAP) gasses Shock chambers Hurnidity chambers Solar simulators | • | Equipment used for quality control/assurance or inspection purposes, including sampling equipment used to | • | Oxygen scavenging (de-aeration) of water |
| Hydraulic and hydrostatic testing equipment Environmental chambers not using hazardous air pollutant (HAP) gasses Shock chambers Hurnidity chambers Solar simulators | | withdraw materials for analysis | • | Ozone generators |
| Environmental chambers not using hazardous air pollutant (HAP) gasses Shock chambers Hurnidity chambers Solar simulators | | Hydraulic and hydrostatic testing equipment | • | Fire suppression systems |
| Shock chambers Hurnidity chambers Solar simulators | • | Environmental chambers not using hazardous air pollutant (HAP) gasses | • | Emergency road flares |
| Humidity chambers Solar simulators | • | Shock chambers | • | Steam vents and safety relief valves |
| Solar simulators | • | Humidity chambers | • | Steam leaks |
| | • | Solar simulators | • | 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.

⁶ 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.

| Form 50 | air Quality Management District 30-F1 (Title V) - Acid Rain Phas | e II Fac | llity Infor | mat | ion | Summary | , | Mail To: SCAQMD P.O. Box 4944 Diamond Bar, CA 91765-0944 Tel: (909) 396-3385 |
|--|---|---------------|--------------------------------------|-------------|--------|---|--|--|
| Acid Rain facilities. Also a | ted by Acid Rain facilities Ol attach a completed Form 500 500-A1 and any supplemen | D-A2. In add | lition, if an initia | I Title | V perr | nit, permit renev | val, or permit revision | www.aqmd.gov |
| Section I - General | Information | | | | | | | |
| 1. Facility Name (Busin | ness Name of Operator That | Appears On | Permit): | | | | | ilable On Permit Or Invoice |
| AES Alamitos, Ll | LC | | | | | lssued | By AQMD): | 115394 |
| | | | | | | 3. ORIS | Code (5-Digit): | |
| 4. This is an applicati | on for a (Check all that a | pply to the f | facility): | | | | | |
| | ase II Acid Rain Permit or omplete Section II of this f | | b. | | | owering Exten | sion Plan or Revision 00-F2) | |
| | w Unit Exemption or Revi omplete Form 500-F3) | sion | d. | | | ed Unit Exem plete Form 50 | ption or Revision 00-F4) | |
| 5. The requested perm | nit action involves a(n) | (Check one |): | | | | | |
| a. O Adı | ministrative Permit Revisi | on | b. | 0 | Sign | ificant Permit I | Revision | |
| c. O Fas | st Track Permit Revision | | d. | 0 | Auto | matic Permit F | Revision | |
| e. Ott | er (specify): | | | | | | | |
| 6. For all applications (Attach additional sh | requesting a permit reveats as necessary): | vision, prov | vide a genera | al des | cripti | on of the pro | posed changes | |
| Section II - Phase | I Acid Rain Device Su | immary | | 124 | | | | |
| 1. The following inform | mation is (Check one): | a. O | New | b. (| Re | vised | | |
| AQMD Device # | EPA Unit # | Repo | vice need a owering sion Plan? | 0 | perat | vice started ions on or 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 | O Yes | O No | 0 | Yes | O No | | |
| | | O Yes | O No | 0 | Yes | O No | | |
| | | O Yes | O No | 0 | Yes | O No | | |
| | | O Yes | O No | 0 | Yes | O No | | |
| | | O Yes | O No | 0 | Yes | O No | | |

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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 Representation 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.

| 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. |

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.

| South Co Title | South Coast Air Quality Management District Form 500-H Title V - Compliance Assurance Monitoring (CAM) Applicability Determina | Monitoring (| CAM) Applica | ability Determi | nation for Initial, Renewal, & | Mail To: SCAQMD P.O. Box 4944 Diamond Bar, CA 91765-0944 | Mail To: SCAQMD P.O. Box 4944 CA 91765-0944 |
|---|---|--|--|--|---|---|--|
| AOMD This form | This form is required as part of an initial, significant permit revision, or renewal Title V application. If your Title V facility has control devices in use, the CAM rule may apply Follow the instructions on the reverse side of this form to determine whether your facility is subject to CAM requirements. | evision, or renewal Title \ stermine whether your fac | v application. If your Ti slity is subject to CAM r | tte V facility has control dev equirements. | ices in use, the CAM rule may apply. | Tei: (909) www. | Tet: (909) 396-3385 www.aqmd.gov |
| Section I - Operator Information | or Information | | and the second second | | | | |
| 1. Facility Name (Bus | 1. Facility Name (Business Name of Operator That Appears On Permit): | 'ermit): | | | 2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued | ble On Permit Or Invoice I | ssued |
| AES Alamitos, LLC | LLC | | | | By AQMU): | 115394 | |
| Section II - CAM S | Section II - CAM Status Summary for Emission Units | | | | | | |
| 3. Based on the crite | 3. Based on the criteria in the instructions (check one and attach additional pages as necessary) | ch additional pages as | necessary): | | | | |
| a. The emissi each affect | The emission units identified below are subject to the CAM rule ¹ and a CAM plan ² is attached for each affected emissions unit: | AM rule ¹ and a CAM p | lan ² is attached for | b. There are CAM rule. | \square There are no emission units with control devices at this Title V facility that are subject to the CAM rule. | e V facility that are subjec | t to the |
| Emission linit | | Uncontrolled Emissions | Emissions | Connected to | | Controlled Emissions | |
| (Application, Permit or Device No.) | Equipment Description ⁴ | Pollutant | PTE ⁵ (tons/year) | (Application, Permit or Device No.) | Equipment Description ⁴ | Pollutant PTE ⁵ (tons/year) | 5 ear) |
| | | | | | | | |
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| | | | | | | | |
| | For more detailed information regarding the CAM rule applicability, refer to Title 40, Chapter I, Part 64, Section 64.1 of the Code of Federal Regulations (40 CFR Part 64, Section 64.1). This also can be accessed via the internet at: http://www.access.gpo.gov/nara/cfr/waisidx_99/40cfr64_99.html. | to Title 40, Chapter I, Pa v/nara/cfr/waisidx_99/40 | rt 64, Section 64.1 of th cfr64_99.html. | e Code of Federal Regulati | ions (40 CFR Part 64, Section 64.1). | - | |
| Only one CAM plan is design and operation, | Only one CAM plan is required for a control device that is common to more than one emissions unit, or if an emissions unit is controlled by more than design and operation, one plan is required for each control device. | ore than one emissions u | nit, or if an emissions u | nit is controlled by more that | an one control device similar in design and operation. If the control devices are not similar in | the control devices are not sin | nilar in |

3 List all new and existing emission units and the connected control devices either by AQMD application, permit or device number. When the emission unit is new and has not yet been assigned an application number, leave this column blank. 4 Provide a brief equipment description of the emission units and control devices by indicating equipment type, make, and model and serial numbers as appropriate.

5 Potential to Emit

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|--|---|--|---|--|------------|--------------------|----------|-----|---------|---------|-------------|--|--|--|
| 4 To calculate the <u>pre-control</u> device and <u>post-control</u> device determine the CAM applicability according to 40 CFR Pa 5 For initial Title V or significant permit revision application | For emissions units with control devices that are subject Air Act (CAA) for Stratospheric Ozone Protection; 4) Title and meets the requirements in 40 CFR Part 70, Section | 3 Only emission limitations and standards from an "applic: AQMD or the State that are approved by EPA into the St | 2 Additional information about the CAM rule can be found | 1 The facility must attach the documentation required by 4 emissions, averaged over the last three calendar years of | 2+ HAPs | 1 HAP ⁷ | PM-10 | 00 | SOx | NOx | VOC | Pollutant | CAM | ith the exception of emission units that are municipally xisting and new construction) at a Title V facility that m The emission unit is subject to an emission lim The emission unit uses a control device to ach The emission unit has a potential to emit (PTE source thresholds shown in the following table |
| To calculate the <u>pre-</u> control device and <u>post</u> -control device PTE for emission units at the facility, refer to the Title V Technical Guidance Document determine the CAM applicability according to 40 CFR Part 64, Section 64.5 of the CAM rule. For initial Title V or significant permit revision applications submitted after April 20, 1998. use the post-control device PTE emissions to determine (| For emissions units with control devices that are subject to following federally enforceable requirements, the CAM rule does NOT apply: 1) NSPS Air Act (CAA) for Stratospheric Ozone Protection; 4) Title IV of the CAA and SCAQMD Regulation XXXI for Acid Rain facilities; 5) SCAQMD Regu 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 d | able requirement" for emission units with control devices an table templementation Plan (SIP) (i.e. "SIP-approved rules"). | Additional information about the CAM rule can be found on EPA's website at http://www.epa.gov/ttnemc01/cam.html | The facility must attach the documentation required by 40 CFR Part 64, Section 64.2 (b)(2) to demonstrate that the backup u emissions, averaged over the last three calendar years of operation, less than 50% of the major source emission thresholds. | 25 | 10 | 70 | 50 | 100 | 10 | 10 | South Coast Air Basin (SOCAB) | CAM Potential to Emit (PTE) Emission Threshold ⁶ For Individual Emissi (tons per year) | Acception of emission units that are municipally-owned backup utility power units as described by 40 CFR Part 6- and new construction) at a Title V facility that meets ALL of the following criteria ² : The emission unit is subject to an emission limitation or standard ³ (often found in permit conditions); The emission unit uses a control device to achieve compliance with the emission limitation or standard; and, The emission unit has a potential to emit (PTE) ⁴ , either pre-control or post-control depending on the type of Title source thresholds shown in the following table: |
| | 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 CI 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. | 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 ACMD 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. | <u>P.</u> | 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. | 25 | 10 | 70 | 100 | 100 | 25 | 25 | Riverside County Portion of Salton Sea Air Basin (SSAB) and Los Angeles County Portion of Mojave Desert Air Basin (MDAB) | shold ⁶ For Individual Emission Units at a Title V Facility (tons per year) | 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: The emission unit is subject to an emission limitation or standard³ (often found in permit conditions); The emission unit uses a control device to achieve compliance with the emission limitation or standard; and, 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: |
| Version 4 .0, Appendix A (pages A-12 through A-23). The calculations are used to CAM applicability. For Title V nemtit renewal applications (submittals will begin in 2002). | (40 CFR Part 60); 2) NESHAP (40 CFR Parts 61 and 63); 3) Title VI of the Federal Clean lation XX – RECLAIM; 6) Any emission cap that is federally enforceable, quantifiable, etermination method is required. | rally-enforceable requirements that are rules adopted by d and non-SIP approved rules. | | ik demand or emergency situations; and has actual | 25 | 10 | 100 | 100 | 100 | 100 | 100 | Riverside County Portion of Mojave Desert Air Basin (MDAB) | acility | 4, Section 64.2(b)(2) ¹ , the CAM rule is applicable to each emission unit V application ⁵ , that exceeds or is equivalent to any of Title V major |

Instructions for Determining Applicability to the CAM Rule

- 5 For Initial Title V or significant permit revision applications submitted after April 20, 1998, use the <u>post</u>-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 <u>pre</u>-control device PTE.
- თ 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

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Particulate Emissions Guarantee for AES Southland:

PM10: 4 lb/hr PM2.5: 4 lb/hr

Conditions of Guarantee:

- 1. Particulate emissions shall be the sum of non-condensable emissions determined using EPA Method 201 or 201A and condensable emissions determined using EPA Method 202 dry.
- 2. Fuel gas composition is as specified in the AES Southland RFQ dated June 20, 2011. No sulfur or fuel bound nitrogen is contained in the fuel gas supplied.
- 3. Fuel gas supplied is in accordance with MPSA's fuel gas specification.
- 4. Particulate emission values specified above are stated as the difference between the GT outlet particulate emissions as measured at the GT exhaust flange and the GT inlet particulate emissions as measured at the GT inlet filter house.
- 5. Particulate emission values specified above are valid for GT normal operation between 100% GT load and 75% GT load.
- 6. Evaporative cooler is not in service.

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January 29, 2013

Horacio Larios Power Engineers Collaborative, LLC 600 West Jackson Blvd, Suite 600 Chicago, IL 60661

Subject: HRSG Proposal - Emissions Guarantees Alamitos Energy Center VPI Proposal P-1061

Dear Mr. Larios:

With regard to our proposal for the HRSGs and associated equipment for the above referenced project, this is to confirm that with the equipment proposed VPI will provide the following emissions guarantees

1. Given the attached M501DA Gas Turbine (GT) Expected Performance & Emissions provided by Mitsubishi Power Systems Americas, Inc. at the following conditions:

28°F-78.1% Relative Humidity, 100% GT Load through 70% GT Load, 65.3°F-86.6% Relative Humidity, 100% GT Load through 70% GT Load, and 107°F-10% Relative Humidity, 100% GT Load through 70% GT Load;

and with 450 MMBtu/hr (LHV) Duct Burner heat input at the GT 100% load cases

Stack Emissions associated with each Gas Turbine – Heat Recovery Steam Generator for these conditions are as follows:

ppmvd@15%O2

| CO | 2 |
|--------|---|
| VOC | 1 |
| NO_X | 2 |
| | |

The CO and SCR catalysts are guaranteed to meet these emission limits for 24,000 hours of operation or three years after initial exhaust flow into the catalysts, whichever occurs first.



2. The Duct Burner's emissions contribution factored into the above stack guarantees are as follows: Lbs/MMBtu (HHV)

| NO _X as NO ₂ | 0.08 |
|------------------------------------|------|
| CO | 0.05 |
| VOC as CH ₄ | 0.01 |
| PM 10 | 0.01 |
| | |

Notes:

- Emission levels given above in lbs/MMBtu (HHV) are guaranteed from 50% to 100% maximum designed heat release of the duct burner system, with all burner runners in operation. For reduced burner loads from 10% to 50% of maximum design heat release with all burner runners in operation, the emissions levels can be higher than those given on a lbs/MM Btu (HHV), but at no point will the burner emissions exceed the mass flow rates on a Lbs/hr bases.
- 2. For reduced burner loads from 10% to 50% of maximum design heat release, emissions levels given in lbs/MMBtu (HHV) are guaranteed levels when the burner runners are removed from operation (staged) to achieve turndown.
- 3. VOC's guarantee are non-methane / non-ethane described as methane.
- 4. PM-10 guarnatee is front and rear half, excludes all inorganic contribution and sulfur/sulfide compounds.

Please do not hesitate to contact me if you have any questions.

Yours sincerely,

Paul Eberle Account Manager Vogt Power International Inc. 13551 Triton Park Blvd., Suite 2000 Louisville KY 40223 USA. Tel. +1-502-899-4614 Cell +1-502-298-4615 Fax. +1-502-899-4699 e-mail peberle@vogtpower.com

Attachments

1. GT Exhaust Outlet Conditions



M501DA Gas Turbine Expected Performance & Emissions

The information contained herein is the proprietary and confidential information of Mitsubishi Power Systems America, Inc. (MPSA). Neither this document nor any information obtained there from may be reproduced, disclosed or transmitted to any unauthorized person without prior written consent of MPSA.

| Engine Type | | M501DA | M501DA | M501DA | M501DA |
|-----------------------------------|----------------|----------|----------|----------|----------|
| Fuel Type | | Nat. Gas | Nat. Gas | Nat. Gas | Nat. Gas |
| GT Load Condition | 96 | 100% | 90% | 80% | 70% |
| Ambient Temp. | Deg F. | 28 | 28 | 28 | 28 |
| Ambient Press. | psia | 14.68 | 14.68 | 14.68 | 14.68 |
| Relative Humidity | 96 | 78.1 | 78.1 | 78.1 | 78.1 |
| Evaporative Cooler | On/Off | OFF | OFF | OFF | OFF |
| Fuel LHV | Btu/lb | 20,648 | 20,648 | 20,648 | 20,648 |
| GT Gross Output | kW | 133,500 | 120,000 | 106,700 | 93,400 |
| GT Gross Heat Rate (LHV) | Btu/kWh | 10,030 | 10,118 | 10,196 | 10,465 |
| GT Exhaust Flow x 10 ³ | lb/h | 3,380.7 | 3,056.0 | 2,734.9 | 2,411.9 |
| GT Exhaust Temp. | Deg F. | 993 | 988 | 994 | 1,024 |
| GT Exhaust Press Loss (total) | in. H2O | 18.7 | 15.3 | 12.3 | 9.7 |
| GT Exhaust Composition: | | | | | |
| 02 | % wt. | 15.36 | 15.4D | 15.40 | 15.27 |
| CO2 | % wt. | 5.12 | 5.10 | 5.10 | 5.19 |
| H2O | 96 wt. | 4.35 | 4.33 | 4.33 | 4.40 |
| N2 | 96 wt. | 73.85 | 73.85 | 73.85 | 73.82 |
| Ar | 96 wt. | 1.32 | 1.32 | 1.32 | 1.32 |
| GT EMISSIONS | | | | | |
| NOx | ppmvd @ 15% O2 | 9 | 9 | 9 | 9 |
| co | ppmvd @ 15% O2 | 10 | 10 | 10 | 10 |
| UHC | ppmvd @ 15% O2 | 1 | 1 | 1 | 1 |
| voc | ppmvd @ 15% O2 | 1 | 1 | 1 | 1 |
| PM10/PM2.5 (front half) | mg/m3N | 1 | 1 | 1 | 1 |

NOTES:

1. All above data is based on New & Clean conditions. All supplied values are estimations and not guaranteed.

2. Fuel characteristics are based on customer supplied fuel analysis. Sulfur and fuel bound nitrogen (FBN) in the fuel are assumed to be zero.

3. A tolerance of 0.75% on Power, 1.0% on Heat Rate, 2% on exhaust flow, and 10°F on exhaust temperature shall apply. 4. Particulate front-half emissions (non-condensables) shall be determined using EPA Method 201 or 201A.

5. The definition of VOC is on a non-methane, non-ethane basis assuming equivalent molecular weight of methane. Measurement of VOC is based on that THC(Total Hydro Carbon) measured by EPA Method 25A except methane and ethane measured by EPA Method 18.

198-AESinCA-DA-Gas-028.0F78.07%-PART-20120412(CUSTOMER) / GNP

4/12/2012



M501DA Gas Turbine Expected Performance & Emissions

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| Engine Type | | M501DA | M501DA | M501DA | M501DA | M501DA |
|-----------------------------------|----------------|----------|----------|----------|----------|----------|
| Fuel Type | | Nat. Gas |
| GT Load Condition | 96 | 100% | 100% | 90% | 80% | 70% |
| Ambient Temp. | Deg F. | 65.3 | 65.3 | 65.3 | 65.3 | 65.3 |
| Ambient Press. | psia | 14.68 | 14.68 | 14.68 | 14.68 | 14.68 |
| Relative Humidity | 96 | 86.6 | 86.6 | 86.6 | 86.6 | 86.6 |
| Evaporative Cooler | On/Off | ON | OFF | OFF | OFF | OFF |
| Fuel LHV | Btu/lb | 20,648 | 20,648 | 20,648 | 20,648 | 20,648 |
| GT Gross Output | kW | 119,900 | 119,300 | 107,400 | 95,500 | 83,500 |
| GT Gross Heat Rate (LHV) | Btu/kWh | 10,235 | 10,243 | 10,396 | 10,543 | 10,894 |
| GT Exhaust Flow x 10 ³ | lb/h | 3,135.0 | 3,128.6 | 2,855.4 | 2,578.4 | 2,287.7 |
| GT Exhaust Temp. | Deg F. | 1,013 | 1,014 | 1,009 | 1,015 | 1,046 |
| GT Exhaust Press Loss (total) | in. H2O | 16.3 | 16.2 | 13.5 | 11.0 | 8.8 |
| GT Exhaust Composition: | | | | | | |
| 02 | 96 wrt. | 15.25 | 15.26 | 15.32 | 15.34 | 15.21 |
| CO2 | 96 wt. | 5.06 | 5.06 | 5.02 | 5.00 | 5.09 |
| H2O | 96 wt. | 5.20 | 5.17 | 5.14 | 5.14 | 5.20 |
| N2 | % wt. | 73.18 | 73.20 | 73.21 | 73.21 | 73.19 |
| Ar | 96 wt. | 1.31 | 1.31 | 1.31 | 1.31 | 1.31 |
| GT EMISSIONS | | | | | | |
| NOx | ppmvd @ 15% O2 | 9 | 9 | 9 | 8 | 9 |
| co | ppmvd @ 15% O2 | 10 | 10 | 10 | 10 | 10 |
| UHC | ppmvd @ 15% O2 | 1 | 1 | 1 | 1 | 1 |
| voc | ppmvd @ 15% O2 | 1 | 1 | 1 | 1 | 1 |
| PM10/PM2.5 (front half) | mg/m3N | 1 | 1 | 1 | 1 | 1 |

NOTES:

1. All above data is based on New & Clean conditions. All supplied values are estimations and not guaranteed.

2. Fuel characteristics are based on customer supplied fuel analysis. Sulfur and fuel bound nitrogen (FBN) in the fuel are assumed to be zero.

3. A tolerance of 0.75% on Power, 1.0% on Heat Rate, 2% on exhaust flow, and 10°F on exhaust temperature shall apply.

4. Particulate front-half emissions (non-condensables) shall be determined using EPA Method 201 or 201A.

5. The definition of VOC is on a non-methane, non-ethane basis assuming equivalent molecular weight of methane. Measurement of VOC is based on that THC(Total Hydro Carbon) measured by EPA Method 25A except methane and ethane measured by EPA Method 18.

198-AESinCA-DA-Gas-065.3F96.62%-PART-20120412(CUSTOMER) / GNP

4/12/2012



M501DA Gas Turbine Expected Performance & Emissions

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| Engine Type | | M501DA | M501DA | M501DA | M501DA | M501DA |
|-----------------------------------|----------------|----------|----------|----------|----------|----------|
| Fuel Type | | Nat. Gas |
| GT Load Condition | 96 | 100% | 100% | 90% | 80% | 70% |
| Ambient Temp. | Deg F. | 107 | 107 | 107 | 107 | 107 |
| Ambient Press. | psia | 14.68 | 14.68 | 14.68 | 14.68 | 14.68 |
| Relative Humidity | % | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Evaporative Cooler | On/Off | ON | OFF | OFF | OFF | OFF |
| Fuel LHV | Btu/lb | 20,648 | 20,648 | 20,648 | 20,648 | 20,648 |
| GT Gross Output | kW | 116,500 | 101,600 | 91,500 | 81,300 | 71,100 |
| GT Gross Heat Rate (LHV) | Btu/kWh | 10,285 | 10,606 | 10,865 | 11,131 | 11,560 |
| GT Exhaust Flow x 10 ³ | lb/h | 3,074.1 | 2,864.8 | 2,650.6 | 2,423.3 | 2,164.3 |
| GT Exhaust Temp. | Deg F. | 1,018 | 1,034 | 1,029 | 1,035 | 1,068 |
| GT Exhaust Press Loss (total) | in. H2O | 15.7 | 13.8 | 11.8 | 9.8 | 8.0 |
| GT Exhaust Composition: | | | | | | |
| 02 | % wt. | 15.26 | 15.69 | 15.79 | 15.82 | 15.69 |
| CO2 | 96 wt. | 5.04 | 4.87 | 4.81 | 4.78 | 4.88 |
| H2O | % wt. | 5.28 | 4.39 | 4.34 | 4.32 | 4.39 |
| N2 | 96 wt. | 73.11 | 73.73 | 73.74 | 73.76 | 73.74 |
| Ar | 96 wt. | 1.31 | 1.32 | 1.32 | 1.32 | 1.32 |
| GT EMISSIONS | | | | | | |
| NOx | ppmvd @ 15% O2 | 9 | 9 | 9 | 9 | 9 |
| 00 | ppmvd @ 15% O2 | 10 | 10 | 10 | 10 | 10 |
| UHC | ppmvd @ 15% O2 | 1 | 1 | 1 | 1 | 1 |
| voc | ppmvd @ 15% O2 | 1 | 1 | 1 | 1 | 1 |
| PM10/PM2.5 (front half) | mg/m3N | 1 | 1 | 1 | 1 | 1 |

NOTES:

1. All above data is based on New & Clean conditions. All supplied values are estimations and not guaranteed.

2. Fuel characteristics are based on customer supplied fuel analysis. Sulfur and fuel bound nitrogen (FBN) in the fuel are assumed to be zero.

3. A tolerance of 0.75% on Power, 1.0% on Heat Rate, 2% on exhaust flow, and 10°F on exhaust temperature shall apply.

4. Particulate front-half emissions (non-condensables) shall be determined using EPA Method 201 or 201A.

5. The definition of VOC is on a non-methane, non-ethane basis assuming equivalent molecular weight of methane. Measurement of VOC is based on that THC(Total Hydro Carbon) measured by EPA Method 25A except methane and ethane measured by EPA Method 18.

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4/12/2012

Johnson Matthey

Gas Turbine Oxidation Catalyst

For the Control of CO, VOCs & HAPs

Applications:

- >> Combined Cycle Gas Turbines
- >> Simple Cycle Gas Turbines

Performance

Johnson Matthey pioneered **Oxidation Catalyst** for gas turbines in the 1970's. Since then, **Oxidation Catalysts** have been installed in some of the most environmentally challenging applications, consistently providing greater than 90% destruction of CO, VOCs, formaldehyde and other toxic compounds. Our core expertise in catalysis has allowed Johnson Matthey to stay at the cutting edge of new catalyst development meeting the challenges of ever increasing regulatory requirements.

Our **Oxidation Catalysts** are formulated with Platinum Group Metals (PGM's) to achieve maximum conversion of pollutants at gas turbine temperatures, whether it is a simple cycle or combined cycle gas turbine. Our high activity catalyst plus flow through metal monolith design delivers the smallest catalyst package and the lowest back pressure in the industry. The chart to the right illustrates the level of conversion achievable. Side reactions such as NO to NO₂ are minimized.

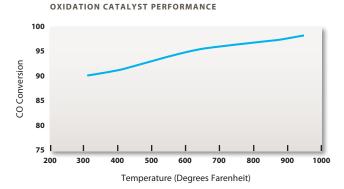
Regeneration

Johnson Matthey gas turbine **Oxidation Catalysts** have an established durability of 10 or more years of continuous operation. Catalytic performance can be easily maintained and restored, if necessary, through washing. And at the end of the effective life of the catalyst, Johnson Matthey closes the loop at its West Deptford, NJ facility where spent catalyst can be recycled and precious metal value is credited to you. Johnson Matthey also provides field support during catalyst inspections, bed rotations, and partial bed replacements.

Dependability

You can count on Johnson Matthey. Founded in 1817, we are the global leader in environmental catalyst technology with more than 40 years of experience in environmental emissions control catalysts for mobile and stationary sources. We are committed to developing and supplying the highest quality product available.





JM (S) Johnson Matthey

Stationary Emissions Control

900 Forge Avenue, Suite 100, Audubon, PA 19403-2305, (484) 320-2125
 31 Journey, Suite 250, Aliso Viejo, CA 92656, (949) 297-5200
 www.jmsec.com, info@jmsec.com

DNX[®] GT-series Raising performance

RESEARCH | TECHNOLOGY | CATALYSTS



Topsøe's new GT-series of SCR and CO-oxidation catalysts – maximising power output of your gas turbine

The DNX[®] GT-series is Haldor Topsøe's newly developed line of catalysts tailored for gas turbine service. The GT-series comprises a range of GT catalysts for SCR NOx reduction and GTC catalysts for CO oxidation.

Topsøe's DNX[®] GT-series offers:

- lower pressure drop
- improved activity
- enhanced operation in all temperature ranges
- fast emission compliance



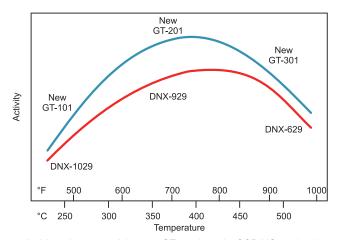
DNX[®] GT-series Raising performance

RESEARCH | TECHNOLOGY | CATALYSTS

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Features

To enhance power production by minimising the pressure drop and the required space for catalyst in the heat recovery steam generator (HRSG), Topsøe has developed a dedicated series of gas-turbine catalysts for SCR and for CO oxidation.



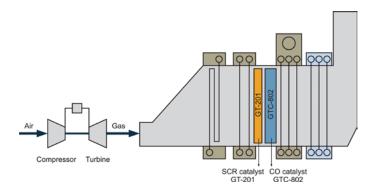
Activity advantage of the new GT catalysts for SCR NOx reduction

SCR catalysts

The GT catalysts feature an enhanced SCR activity which has been achieved through reformulating and changing the monolith structure of the original DNX[®] catalyst. Thereby an increased specific surface area and a higher catalyst wall utilisation have been achieved which together with a larger open area provide an attractive combination of increased activity and lower pressure drop.

CO oxidation catalysts

The GTC catalysts benefit from a dual functionality which makes the catalysts active in CO- and VOC oxidation as well as in the SCR reaction. The GTC catalysts share the features of the wellproven DNX[®] catalyst and are available as a high-temperature version that can be positioned upstream the ammonia injection grid (AIG) and a version optimised for positioning downstream the SCR catalyst where the dual functionality leads to reduced SCR catalyst volume and in turn even lower pressure drop.



Benefits

The 20% boost in volume activity for the GT catalysts yield a corresponding reduction in required catalyst volume. Together with a 10% lower specific pressure drop, the GT catalysts offer a saving in overall pressure loss across the SCR catalyst in the order of 30% compared to the previous DNX[®] versions.

The dual function of the GTC catalysts makes it possible to locate the CO-oxidation catalyst downstream of the SCR in the HRSG. The SCR can then be designed with excess ammonia slip which is subsequently eliminated across the GTC catalyst with the remaining part of the NOx in the flue gas. This combined GT-GTC solution offers more than 40% reduction in SCR catalyst volume and more than 25% reduction in total pressure drop.

The low volume of high-void catalysts has a low thermal mass that offers unlimited heating rate and consequently a minimum time until emission compliance.

| DNX [®] GT-series | Function | Temperature level | Products |
|----------------------------|-----------------|---------------------------|----------|
| GT catalysts | SCR | Low | GT-101 |
| | | Medium | GT-201 |
| | | High | GT-301 |
| | | | |
| DNX [®] GT-series | Function | Location | Products |
| GTC catalysts | CO oxidation | Upstream AIG | GTC-801 |
| | | Downstream GT catalyst | GTC-802 |