

Source Type:Major/LAERApplication No.:516409Equipment Category:I.C. Engine - Emergency,<br/>Compression IgnitionEquipment Subcategory:PM FilterDate:December 10, 2015

# 1. EQUIPMENT INFORMATION

| А. | MANUFACTURER: Caterp   | illar               |               | B.     | MODEL:      | C9     |                     |
|----|--|---------------------|---------------|--------|-------------|--------|---------------------|
| C. | C. DESCRIPTION: Diesel fuel, six cylinders, turbocharged and aftercooled,      |                     |               |        |             |        |                     |
| D. | D. FUNCTION: Drives an emergency electricity generator located at building 304 |                     |               |        |             |        |                     |
| E. | e. size/dimensions/capacity: 374 BHP   |                     |               |        |             |        |                     |
| со | MBUSTION SOURCES   |                     |               |        |             |        |                     |
| F. | MAXIMUM HEAT INPUT: (  | Bross heat input in | n btu per ho  | our at | the higher  | heatin | g value of the fuel |
| G. | BURNER INFORMATION   |                     |               |        |             |        |                     |
|    | TYPE   | INDIV               | IDUAL HE      | EAT    | INPUT       |        | NUMBER              |
|    | Make and model of burner   | Rated heat inpu     | t of single b | burne  | r, in btu/h | r      | Number of burners   |
| I  | Enter additional burner types, as needed, add extra rows                       |                     |               |        |             |        |                     |
| H. | H. PRIMARY FUEL: DIESEL I. OTHER FUEL: Supplementary or standby fuels          |                     |               |        |             |        |                     |
| J. | . OPERATING SCHEDULE: <1 HRS/DAY 1 DAYS/WEEK 26 WKS/YR                         |                     |               |        |             |        |                     |
| 17 | FOUR TIMEON ATION COMPATING Discal portionlate filter installed                |                     |               |        |             |        |                     |

#### K. EQUIPMENT INFORMATION COMMENTS: Diesel particulate filter installed

### 2. COMPANY INFORMATION

| А.        | A. COMPANY: US Gov't VA Medical Center                                 |    |      | B. FAC ID: 014966                            |
|-----------|--|----|------|--|
| С.<br>900 | ADDRESS: 11301 Wilshire Blvd<br>CITY: West Lost Angeles STATE: C<br>73 | ĊA | ZIP: | D. NAICS CODE:<br>Click "NAICS" for link     |
| E.        | E. CONTACT PERSON: Robert Benkeser                                     |    |      | F. TITLE: Director, Facilities<br>Management |
| G.        | G. PHONE NO.: 310-268-4677 H. EMAIL: robert.benkeser@va.gov            |    |      |  |

#### PERMIT INFORMATION 3. AGENCY: SCAQMD B. APPLICATION TYPE: PO NO PC Α. SCAQMD ENGINEER: Roy Olivares C. PERMIT INFORMATION: PC ISSUANCE DATE: Click here to enter a date. D. P/O NO.: 6/29/11 PO ISSUANCE DATE: 6/29/2011 START-UP DATE: 6/29/2011 E. OPERATIONAL TIME: Intermittent--for engine readiness test. Limited to 200 hrs/year which includes no more than 50 hours/year and F. 4.2 hour/month for maintenance and testing. Engine shall not be operated in idle mode for more than 240 consecutive minutes.

#### **EMISSION INFORMATION** 4. BACT EMISSION LIMITS AND AVERAGING TIMES: List all criteria contaminant or precursor emission limits, including facility limits, on the permit(s) A. that affects the equipment. Include units, averaging times and corrections (%O<sub>2</sub>, %CO<sub>2</sub>, dry, etc). For VOC, values must include if the concentration is reported as methane, hexane or any other compound. VOC mass emissions should include the molecular weight-to-carbon ratio, if applicable. PM OR PM<sub>10</sub> VOC NOX+VOC SOX CO **INORGANIC** BACT 3 g/bhp-hr 2.6 g/bhp-hr 0.15 g/bhp-hr Limit Averaging Time Correction OTHER BACT REQUIREMENTS: The filter was required to reduce toxic risk from diesel particulate emissions, but also reduces PM10, Β. VOC and CO. BASIS OF THE BACT/LAER DETERMINATION: Acheived in Practice C. EMISSION INFORMATION COMMENTS: Compliance with rule 404 and Rule 1470. Engine meets applicable Tier 3 BACT limits. D.

| A. MANUFACT   | URER: Clean Air Systems   | В.   | MODEL:                      | FCA225   |  |  |
|---|---|--|-----------------------------|--|--|--|
|   |   | d alarm system to<br>a backpressure exceeds              |                             |  |  |  |
| D. SIZE/DIMEN   | SIONS/CAPACITY: An appro-   | opriate size parameter suc                               | ch as rated                 | heat input, usable volume,                           |  |  |
| APPLICATIO  | <b>OUIPMENT PERMIT INFORM</b><br><b>N NO.</b> Click here to enter text.<br>here to enter text.  |  |                             |  |  |  |
| by permit, or the control dev   | ONTROL EFFICIENCIES: Mir<br>ne most stringent rule requireme<br>ice (e.g. inlet-outlet). Collection<br>e system. Enter each contamina | nt. The control or destruc<br>n or capture efficiency is | tion efficie<br>based at ea | ency is determined across<br>ch point of contaminant |  |  |
| CONTAMINANT   | OVERALL CONTROL<br>EFFICIENCY   | CONTROL DEVI<br>EFFICIENCY                               | CE CO                       | OLLECTION EFFICIENC                                  |  |  |
| VOC   | %   | %  |                             | %  |  |  |
| NOx   | %   | %  |                             | %  |  |  |
| SOx   | %   | %  |                             | %  |  |  |
| CO  | %   | %  |                             | %  |  |  |
| PM  | %   | 85%  |                             | %  |  |  |
| PM <sub>10</sub>  | %   | %  |                             | %  |  |  |
| Inorganic   | %   | %  |                             | %  |  |  |
| cold engine si<br>engine until e  | CHNOLOGY COMMENTS Pe<br>tart-ups or HiBack alarm si<br>exhaust temp exceeds 572 I<br>at inlet to PM filter $\geq$ 572<br>nutes.       | ignal, whichever occu<br>Deg. F and normal ba            | urs first.<br>ckpressu      | For regeneration run re reading. Engine              |  |  |
|   | STRATION OF COMPL   |  |                             |  |  |  |
| A. COMPLIANCI<br>compliance   | E DEMONSTRATED BY: So   | urce test or other method                                | that was u                  | sed to demonstrate                                   |  |  |
|   | -   |  |                             |  |  |  |
| (e.g., EPA Me   | <b>VEFFICIENCY METHOD:</b> The thod 204, mass balance), if appl there is no applicable method (e                                      | icable. A brief description                              | on of the co                | llection efficiency test may                         |  |  |
| D. COLLECTION   | NEFFICIENCY PARAMETER<br>Section 6(C). Examples include   | S: The quantitative paran                                | neters used                 | to verify the method or                              |  |  |
| <ul> <li>E. SOURCE TEST/PERFORMANCE DATA: Enter source test results for each criteria contaminant or pred<br/>(mass emissions, concentrations or efficiencies) if they differ from the requirements previously listed.</li> </ul> |   |  |                             |  |  |  |

E. SOURCE TEST/PERFORMANCE DATA: Enter source test results for each criteria contaminant or precursor (mass emissions, concentrations or efficiencies) if they differ from the requirements previously listed. As previously requested in Section 4, identify any corrections or averaging times

- F. TEST OPERATING PARAMETERS AND CONDITIONS: List any important operating conditions maintained during the source test or normal operations. Examples include, but may not be limited to, pressure differentials across control devices, feed rates, firing rates, temperatures, flow rates, or other parameters used to evaluate the level of operation of the equipment during the test or operations that may affect emissions from the equipment.
- G. TEST METHODS (SPECIFY AGENCY): Identify the primary source test methods used and identify the agency (e.g., CARB Method 425).

H. MONITORING AND TESTING REQUIREMENTS: Every 5000 hours inspect integrity of PM filter and if necessary replaceInclude any monitoring or testing requirements and their frequency that will be enforced to maintain emission levels reported for the BACT Determination.

I. DEMONSTRATION OF COMPLIANCE COMMENTS: Enter comments for additional information for Demonstration of Compliance.

# 7. ADDITIONAL SCAQMD REFERENCE DATA

| A. | BCAT: Click here to enter text.                            | B. CCAT: Click here to text. | enter C | APPLICATIC here to enter | ON TYPE CODE: Click text. |  |
|----|--|------------------------------|---------|--------------------------|---------------------------|--|
| D. | <b>RECLAIM FAC?</b>  | E. TITLE V FAC:              | F.      | SOURCE TES               | ST ID(S): Click here to   |  |
|    | YES D NO D   | YES D NO D                   |         | enter text.              |                           |  |
| G. | G. SCAQMD SOURCE SPECIFIC RULES: Click here to enter text. |                              |         |                          |                           |  |
| H. | H. HEALTH RISK FOR PERMIT UNIT:                            |                              |         |                          |                           |  |
| Ц1 | MICP. Click hara U2  | MICP DATE: Click             | 2 CANCE |                          | HA CR DATE: Click         |  |

| H1. MICR: Click here   | H2. MICR DATE: Click     | H3. CANCER BURDEN:           | H4. CB DATE: Click    |
|------------------------|--------------------------|------------------------------|-----------------------|
| to enter text.         | here to enter a date.    | Click here to enter text.    | here to enter a date. |
| H5: HIA: Click here to | H6. HIA DATE: Click here | H7. HIC: Click here to enter | H8. HIC DATE: Click   |
| enter text.            | to enter a date.         | text.                        | here to enter a date. |
|                        |                          |                              |                       |



Source Type:Major/LAERApplication No.:516708Equipment Category:I.C. Engine - Emergency,<br/>Compression IgnitionEquipment Subcategory:PM FilterDate:December 10, 2015

# 1. EQUIPMENT INFORMATION

| А. | MANUFACTURER: Cumm   | ins                 | В            | . MODEL:        | QSK50-g4                  |      |  |
|----|--|---------------------|--------------|-----------------|---------------------------|------|--|
| C. | C. DESCRIPTION: Diesel fuel, 16 cylinders, turbocharged and aftercooled, |                     |              |                 |                           |      |  |
| D. | D. FUNCTION: Drives an emergency electricity generator                   |                     |              |                 |                           |      |  |
| E. | SIZE/DIMENSIONS/CAPACIT  | гу: 2220 BHP        |              |                 |                           |      |  |
| CO | MBUSTION SOURCES   |                     |              |                 |                           |      |  |
| F. | MAXIMUM HEAT INPUT: G  | bross heat input in | btu per hour | at the higher   | heating value of the fuel | 1    |  |
| G. | BURNER INFORMATION   |                     |              |                 |                           |      |  |
|    | TYPE   | INDIVI              | DUAL HEA     | AT INPUT        | NUMBER                    |      |  |
|    | Make and model of burner   | Rated heat input    | of single bu | rner, in btu/hr | Number of burn            | ners |  |
| I  | Enter additional burner types, as<br>needed, add extra rows              |                     |              |                 |                           |      |  |
| H. | H. PRIMARY FUEL: DIESEL I. OTHER FUEL: Supplementary or standby fuels    |                     |              |                 |                           |      |  |
| J. | J. OPERATING SCHEDULE: <1 HRS/DAY 1 DAYS/WEEK 26 WKS/YR                  |                     |              |                 |                           |      |  |
|    |  |                     |              |                 |                           |      |  |

K. EQUIPMENT INFORMATION COMMENTS: Diesel particulate filter installed

# 2. COMPANY INFORMATION

| А.  | COMPANY: Los Angeles County Sheriff                                   | B. FAC ID: 068181                      |  |  |
|---|---|--|--|--|
| C. ADDRESS: 28380 The Old Road<br>CITY: Saugus STATE: CA ZIP: 91350 |   |  | D. NAICS CODE:<br>Click "NAICS" for link |  |
| E.  | CONTACT PERSON: Daniel Maloney  | F. TITLE: Crafts Operations<br>Manager |  |  |
| G.  | G. PHONE NO.: 661-295-8025 H. EMAIL: E-mail address of contact person |  |  |  |

#### 3. PERMIT INFORMATION B. APPLICATION TYPE: PO NO PC AGENCY: SCAQMD A. SCAQMD ENGINEER: Roy Olivares C. PERMIT INFORMATION: PC ISSUANCE DATE: Click here to enter a date. D. P/O NO.:G15795 PO ISSUANCE DATE: 11/15/2011 START-UP DATE: 11/15/2011 E. OPERATIONAL TIME: Intermittent--for engine readiness test. Limited to 200 hrs/year which includes no more than 50 hours/year and F. 4.2 hour/month for maintenance and testing.

### 4. EMISSION INFORMATION

A. BACT EMISSION LIMITS AND AVERAGING TIMES: List all criteria contaminant or precursor emission limits, including facility limits, on the permit(s) that affects the equipment. Include units, averaging times and corrections (%O<sub>2</sub>, %CO<sub>2</sub>, dry, etc). For VOC, values must include if the concentration is reported as methane, hexane or any other compound. VOC mass emissions should include the molecular weight-to-carbon ratio, if applicable.

|  | VOC   | NOX+VOC      | SOX | СО           | PM or PM <sub>10</sub> | INORGANIC |  |  |
|--|---|--------------|-----|--------------|------------------------|-----------|--|--|
| BACT<br>Limit  |   | 4.8 g/bhp-hr |     | 2.6 g/bhp-hr | 0.15 g/bhp-hr          |           |  |  |
| Averaging<br>Time  |   |              |     |              |                        |           |  |  |
| Correction   |   |              |     |              |                        |           |  |  |
| B. OTHER BACT REQUIREMENTS: The filter was required to reduce toxic risk from diesel particulate emissions, but also reduces PM10, VOC and CO. |   |              |     |              |                        |           |  |  |
| C. BASIS   | C. BASIS OF THE BACT/LAER DETERMINATION: Acheived in Practice |              |     |              |                        |           |  |  |

D. EMISSION INFORMATION COMMENTS: Compliance with rule 404 and Rule 1470. Engine meets applicable Tier 2 BACT limits.

| 5. CONTRO   | <b>DL TECHNOLOGY</b>  |   |                                   |   |  |  |  |
|---|---|---|-----------------------------------|---|--|--|--|
| A. MANUFACTU  | JRER: Johnson Matthey   |   | B. MODE<br>CS-24                  | L: CRT(+)12-C-BIEO-<br>RT                                     |  |  |  |
| alarm system  | N: Diesel Particulate Filte<br>n to automatically shut dov<br>e exceeds setting specified   | vn engine or sw                               | vitch it to po                    | -   |  |  |  |
| D. SIZE/DIMENS  | SIONS/CAPACITY: An appro<br>ciency, and/or one more characte  | priate size parame                            | eter such as ra                   |   |  |  |  |
| APPLICATION   | <b>UIPMENT PERMIT INFORM</b><br><b>NO.</b> Click here to enter text.<br>here to enter text.   | PC ISSUANCE D                                 |                                   | nere to enter a date.<br>here to enter a date.                |  |  |  |
| by permit, or the the control devi                    | <b>DNTROL EFFICIENCIES:</b> Min<br>e most stringent rule requiremer<br>ce (e.g. inlet-outlet). Collection<br>e system. Enter each contamina | nt. The control or of or capture efficie      | destruction ef<br>ency is based a | ficiency is determined across<br>at each point of contaminant |  |  |  |
| CONTAMINANT   | OVERALL CONTROL<br>EFFICIENCY   | CONTROL<br>EFFICIE                            |                                   | COLLECTION EFFICIENCY   |  |  |  |
| VOC   | %   |   | %                                 | %   |  |  |  |
| NOx   | %   |   | %                                 | %   |  |  |  |
| SOx   | %   |   | %                                 | %   |  |  |  |
| СО  | %   | %   |                                   | %   |  |  |  |
| РМ  | %   | 85%   |                                   | %   |  |  |  |
| PM <sub>10</sub>                                      | %   | %   |                                   | %   |  |  |  |
| Inorganic   | %   | %   |                                   | %   |  |  |  |
| warning signa<br>temp exceeds                         | CHNOLOGY COMMENTS Per<br>l is received from alarm sy<br>464 Deg. F and normal bac<br>44 Deg. F except during col                            | vstem. For rege<br>ckpressure read            | eneration ru<br>ling. Engino      | n engine until exhaust  |  |  |  |
|   | <b>STRATION OF COMPL</b><br>E DEMONSTRATED BY: Sou  |   | nothed that w                     | as used to domonstrate  |  |  |  |
| compliance<br>B. DATE(S) OF S                         | OURCE TEST: An appropriat   | te size parameter s                           |                                   |   |  |  |  |
| (e.g., EPA Met  |   |   |                                   |   |  |  |  |
| D. COLLECTION<br>procedures in S<br>mass balance re   | <b>EFFICIENCY PARAMETERS</b><br>Section 6(C). Examples include esults.  | <b>5:</b> The quantitative static pressure me | e parameters u<br>asurements, a   | ised to verify the method or<br>nemometer measurements, and   |  |  |  |
| (mass emission  |   |   |                                   |   |  |  |  |
| maintained dur<br>differentials ac<br>to evaluate the |   |   |                                   |   |  |  |  |

- G. TEST METHODS (SPECIFY AGENCY): Identify the primary source test methods used and identify the agency (e.g., CARB Method 425).
- H. MONITORING AND TESTING REQUIREMENTS: Every six months inspect integrity of PM filter and if necessary replaceInclude any monitoring or testing requirements and their frequency that will be enforced to maintain emission levels reported for the BACT Determination.
- I. DEMONSTRATION OF COMPLIANCE COMMENTS: Enter comments for additional information for Demonstration of Compliance.

# 7. ADDITIONAL SCAQMD REFERENCE DATA

| A. | <b>BCAT:</b> Click here to enter text. | B. CCAT: Click here to enter text. | C. APPLICATION TYPE CODE: Click here to enter text. |
|----|--|------------------------------------|---|
| D. | <b>RECLAIM FAC?</b>                    | E. TITLE V FAC:                    | F. SOURCE TEST ID(S): Click here to                 |
|    | YES D NO D                             | YES 🗆 NO 🗆                         | enter text.   |

#### G. SCAQMD SOURCE SPECIFIC RULES: Click here to enter text.

### H. HEALTH RISK FOR PERMIT UNIT:

| H1. MICR: Click here to enter text. | H2. MICR DATE: Click here to enter a date. | H3. CANCER BURDEN:<br>Click here to enter text. | H4. CB DATE: Click here to enter a date.  |
|-------------------------------------|--|---|---|
| H5: HIA: Click here to enter text.  | H6. HIA DATE: Click here to enter a date.  | H7. HIC: Click here to enter text.              | H8. HIC DATE: Click here to enter a date. |



Source Type:Major/LAERApplication No.:538706Equipment Category:FlareEquipment Subcategory:Oil and Gas OperationsDate:December 10, 2015

### **1. EQUIPMENT INFORMATION**

| ,  |  |              |              |         |  |  |  |
|--|--|--------------|--------------|---------|--|--|--|
| A. MANUFACTURER: Flare In  | ndustries/Bekaert  | CEB B.       | MODEL:       | CEB 800 |  |  |  |
| C. DESCRIPTION: Enclosed g   | C. DESCRIPTION: Enclosed ground flare with Clean Enclosed Burner |              |              |         |  |  |  |
|  |  |              |              |         |  |  |  |
| D. FUNCTION: Process gas di  | sposal   |              |              |         |  |  |  |
|  |  |              |              |         |  |  |  |
| E. SIZE/DIMENSIONS/CAPACIT   | TY: 24'H x 7'-9"   | 'L x 7'-9"\  | N            |         |  |  |  |
|  |  |              |              |         |  |  |  |
| COMBUSTION SOURCES   |  |              |              |         |  |  |  |
| F. MAXIMUM HEAT INPUT: 2   | 7 MMBtu/hr   |              |              |         |  |  |  |
| G. BURNER INFORMATION  |  |              |              |         |  |  |  |
| TYPE   | INDIVIDU   | JAL HEAT     | INPUT        | NUMBER  |  |  |  |
| NIT mesh knitted metal fiber   | Rated heat input of s  | single burne | r, in btu/hr | 1       |  |  |  |
| enclosed burner  |  | -            |              |         |  |  |  |
| Enter additional burner types, as needed, add extra rows                         |  |              |              |         |  |  |  |
| H. PRIMARY FUEL: Process gas from Oil<br>and Gas Operations                      |  |              |              |         |  |  |  |
| J. OPERATING SCHEDULE:   | J. OPERATING SCHEDULE: 24 HRS/DAY 7 DAYS/WEEK 52 WKS/YR          |              |              |         |  |  |  |
| K. EQUIPMENT INFORMATION COMMENTS: Continuous pilot burner with thermocouple for |  |              |              |         |  |  |  |

flame detection. Propane storage provides fuel for pilot burner.

| 2. | COMPANY INFORMATION  |  |
|----|--|--|
| A. | COMPANY: Linn Operating, Inc.  | B. FAC ID: 151532                        |
| C. | ADDRESS: Brea-Olinda Oilfield, 2000 Tonner Canyon<br>CITY: Brea STATE: CA ZIP: 92821 | D. NAICS CODE:<br>Click "NAICS" for link |
| E. | CONTACT PERSON: Vince VanDelden  | F. TITLE: EH&S Representative            |
| G. | PHONE NO.: 714-257-1604 H. EMAIL: V  | wandelden@linnenergy.com                 |

| 3. | PERMIT INFORMATION                       |  |  |  |  |
|----|--|--|--|--|--|
| A. | AGENCY: SCAQMD                           | B. APPLICATION TYPE: NEW CONSTRUCTION  |  |  |  |
| C. | SCAQMD ENGINEER: Maria Vibal             |  |  |  |  |
| D. | PERMIT INFORMATION: PC ISSUANCE DATE     | : 1/8/13   |  |  |  |
|    | P/O NO.:G34773                           | PO ISSUANCE DATE: 2/24/2015  |  |  |  |
| E. | . START-UP DATE: 3/25/2013               |  |  |  |  |
| F. | OPERATIONAL TIME: The flare will be oper | rational at all times for disposal of process gas from Oil and Gas Operations at the site. |  |  |  |

## 4. EMISSION INFORMATION

| A. BACT EMISSION LIMITS AND AVERAGING TIMES: All at 3% O <sub>2</sub> , one hour averaging time.   |         |         |  |         |  |  |  |  |
|--|---------|---------|--|---------|--|--|--|--|
| VOC         NOX         SOX         CO         PM or PM10         INORGANIC  |         |         |  |         |  |  |  |  |
| BACT<br>Limit  | 10 ppmv | 15 ppmv |  | 10 ppmv |  |  |  |  |
| Averaging<br>Time  |         |         |  |         |  |  |  |  |
| Correction   |         |         |  |         |  |  |  |  |
| B. OTHER BACT REQUIREMENTS: Concise description of the BACT requirements for each regulated contaminant from the equipment, other than the requirements list in Section 4(A).                                |         |         |  |         |  |  |  |  |
| C. BASIS OF THE BACT/LAER DETERMINATION: Acheived in Practice  |         |         |  |         |  |  |  |  |
| D. EMISSION INFORMATION COMMENTS: Similar flare model CEB 500, 17 MMBtu/hr operating at Oil and Gas operations in Santa Barbara APCD has been included in CARB BACT Clearinghouse with same emission limits. |         |         |  |         |  |  |  |  |

| 5. CONTRO   | OL TECHNOLOGY  |  |                                   |  |  |  |
|---|--|--|-----------------------------------|--|--|--|
| A. MANUFACTU  | JRER: Manufacturer of the eq   | uipment B. MOL   | <b>DEL:</b> Model name and number |  |  |  |
| C. DESCRIPTION: Additional description of the operation and functions of the control equipment. |  |  |                                   |  |  |  |
|   | SIONS/CAPACITY: An appro<br>ciency, and/or one more charact  |  | rated heat input, usable volume,  |  |  |  |
| APPLICATION   | <b>UIPMENT PERMIT INFORM</b><br><b>N NO.</b> Click here to enter text.<br>here to enter text.  |  |                                   |  |  |  |
| by permit, or th<br>the control devi  | <b>DNTROL EFFICIENCIES:</b> Min<br>e most stringent rule requirement<br>ce (e.g. inlet-outlet). Collection<br>e system. Enter each contamina | nt. The control or destruction<br>or capture efficiency is based | d at each point of contaminant    |  |  |  |
| CONTAMINANT   | OVERALL CONTROL<br>EFFICIENCY  | CONTROL DEVICE<br>EFFICIENCY                                     | COLLECTION EFFICIENCY             |  |  |  |
| VOC   | %  | %  | %                                 |  |  |  |
| NOx   | %  | %  | %                                 |  |  |  |
| SOx   | %  | %  | %                                 |  |  |  |
| СО  | %  | %  | %                                 |  |  |  |
| PM  | %  | %  | %                                 |  |  |  |
| PM <sub>10</sub>  | %  | %  | %                                 |  |  |  |
| Inorganic%%   |  |  |                                   |  |  |  |
| G. CONTROL TEC<br>Technology.   | CHNOLOGY COMMENTS Ent  | er comments for additional in                                    | formation regarding Control       |  |  |  |

## 6. DEMONSTRATION OF COMPLIANCE

- A. COMPLIANCE DEMONSTRATED BY: Source test or other method that was used to demonstrate compliance
- B. DATE(S) OF SOURCE TEST: 3/25-26/13 & 4/19/13
- C. COLLECTION EFFICIENCY METHOD: The method used to determine collection efficiency of the system (e.g., EPA Method 204, mass balance), if applicable. A brief description of the collection efficiency test may be included if there is no applicable method (e.g., OVA measurements, smoke tests)
- D. COLLECTION EFFICIENCY PARAMETERS: 99.9+% destruction for VOC and BTEX
- E. SOURCE TEST/PERFORMANCE DATA: NOx= 9.87ppmvd; CO=6.15ppmvd; VOC=3.93ppmvd, all at 3% O2
- F. TEST OPERATING PARAMETERS AND CONDITIONS: Fired on process gas @ approx. 21.73 MMBtu/hr
- G. TEST METHODS (SPECIFY AGENCY): ASTM D-1945 & D-3588; SCAQMD 25.3, 10.1, 100.1, 307, 5.1, 4.1, 2.1; CARB 410
- H. MONITORING AND TESTING REQUIREMENTS: Include any monitoring or testing requirements and their frequency that will be enforced to maintain emission levels reported for the BACT Determination.

#### I. DEMONSTRATION OF COMPLIANCE COMMENTS: on.

| 7.  | ADDITIONAL SCAQMD REFERENCE DATA  |        |                |            |   |   |  |
|-----|---|--------|----------------|------------|---|---|--|
| A.  | A. BCAT: Click here to enter B. CCAT: Click here to enter text.               |        |                | e to enter | C. APPLICATION TYPE CODE: Click here to enter text. |   |  |
| D.  | D. RECLAIM FAC?     E. TITLE V FAC:       YES □     NO □       YES □     NO □ |        |                |            | F.  | SOURCE TES                                | T ID(S): Click here to                   |
| G.  | G. SCAQMD SOURCE SPECIFIC RULES: Click here to enter text.                    |        |                |            |   |   |  |
| H.  | HEALTH RISK FOR   | R PERI | MIT UNIT:      |            |   |   |  |
| H1. |   |        |                |            | -   | <b>BURDEN:</b><br>re to enter text.       | H4. CB DATE: Click here to enter a date. |
| H5: |   |        | H7. HIC: text. |            | ek here to enter                                    | H8. HIC DATE: Click here to enter a date. |  |

# 7. ADDITIONAL SCAQMD REFERENCE DATA



Source Type:Major/LAERApplication No.:558397Equipment Category:I.C. Engine - Emergency,<br/>Compression IgnitionEquipment Subcategory:PM FilterDate:December 10, 2015

## 1. EQUIPMENT INFORMATION

| А. | MANUFACTURER: Cumm   | ins                 | В              | MODEL:          | QSX15-G9                  |  |  |  |
|----|--|---------------------|----------------|-----------------|---------------------------|--|--|--|
| C. | DESCRIPTION: Diesel fuel, six cylinders, turbocharged and aftercooled, |                     |                |                 |                           |  |  |  |
| D. | D. FUNCTION: Drives an emergency electricity generator                 |                     |                |                 |                           |  |  |  |
| E. | SIZE/DIMENSIONS/CAPACI   | гү: 755 BHP         |                |                 |                           |  |  |  |
| CO | MBUSTION SOURCES   |                     |                |                 |                           |  |  |  |
| F. | MAXIMUM HEAT INPUT: 0  | Bross heat input in | n btu per hour | at the higher   | heating value of the fuel |  |  |  |
| G. | BURNER INFORMATION   |                     |                |                 |                           |  |  |  |
|    | TYPE   | INDIV               | IDUAL HEA      | T INPUT         | NUMBER                    |  |  |  |
|    | Make and model of burner   | Rated heat inpu     | t of single bu | rner, in btu/hr | Number of burners         |  |  |  |
| I  | Enter additional burner types, as needed, add extra rows               |                     |                |                 |                           |  |  |  |
| H. | H. PRIMARY FUEL: DIESEL I. OTHER FUEL: Supplementary or standby fuels  |                     |                |                 |                           |  |  |  |
| J. | OPERATING SCHEDULE: <1 HRS/DAY 1 DAYS/WEEK 26 WKS/YR                   |                     |                |                 |                           |  |  |  |
|    |  |                     |                | 1               | • . 11 1                  |  |  |  |

K. EQUIPMENT INFORMATION COMMENTS: Diesel particulate filter installed

# 2. COMPANY INFORMATION

| A. | COMPANY: University of Southern California  | B. FAC ID: 800265                        |
|----|---|--|
| C. | ADDRESS: McClintock W 34 <sup>th</sup> Childs Street<br>CITY: Lost Angeles STATE: CA ZIP: 90089 | D. NAICS CODE:<br>Click "NAICS" for link |
| E. | CONTACT PERSON: Angel Burgos  | F. TITLE: Environmental Manager          |
| G. | PHONE NO.: 626-318-7475 H. EMAIL:   | aburgos@usc.edu                          |

| 3. | PERMIT INFORMATION   |                               |  |  |  |
|----|--|-------------------------------|--|--|--|
| A. | AGENCY: SCAQMD   | B. APPLICATION TYPE: PO NO PC |  |  |  |
| C. | . SCAQMD ENGINEER: Ken Coats (Laird)   |                               |  |  |  |
| D. | PERMIT INFORMATION: PC ISSUANCE DATE   | Click here to enter a date.   |  |  |  |
|    | P/O NO.:G30438   | PO ISSUANCE DATE: 3/21/2014   |  |  |  |
| E. | START-UP DATE: 3/21/2014   |                               |  |  |  |
| F. | OPERATIONAL TIME: Intermittentfor engine readiness test. Limited to 200 hrs/year which includes no more than 50 hours/year and 4.2 hour/month for maintenance and testing. |                               |  |  |  |

### 4. EMISSION INFORMATION

| A. | BACT EMISSION LIMITS AND AVERAGING TIMES: List all criteria contaminant or precursor emission limits, including facility limits, on the permit(s)   |
|----|---|
|    | that affects the equipment. Include units, averaging times and corrections (%O <sub>2</sub> , %CO <sub>2</sub> , dry, etc). For VOC, values must include if the concentration is reported |
|    | as methane, hexane or any other compound. VOC mass emissions should include the molecular weight-to-carbon ratio, if applicable.  |

|  | VOC  | NOX+VOC    | SOX | СО           | PM or PM <sub>10</sub> | INORGANIC |  |  |
|--|--|------------|-----|--------------|------------------------|-----------|--|--|
| BACT<br>Limit  |  | 3 g/bhp-hr |     | 2.6 g/bhp-hr | 0.15 g/bhp-hr          |           |  |  |
| Averaging<br>Time  |  |            |     |              |                        |           |  |  |
| Correction   |  |            |     |              |                        |           |  |  |
| B. OTHER BACT REQUIREMENTS: The filter was required to reduce toxic risk from diesel particulate emissions, but also reduces PM10, VOC and CO. |  |            |     |              |                        |           |  |  |
| C. BASIS   | BASIS OF THE BACT/LAER DETERMINATION: Acheived in Practice |            |     |              |                        |           |  |  |

C. BASIS OF THE BACT/LAER DETERMINATION: Acheived in Practice

D. EMISSION INFORMATION COMMENTS: Compliance with rule 404 and Rule 1470. Engine meets applicable Tier 2 BACT limits.

| 5. C   | ONTRO  | <b>DL TECHNOLOGY</b>  |  |   |  |  |  |
|--|--|---|--|---|--|--|--|
| A. MAN   | NUFACTU  | JRER: Rypos   | B. MOD   | EL: RH-410-L  |  |  |  |
| auto<br>setti<br>D. SIZE   | omaticall<br>ing speci<br>E/DIMENS   | y shut down engine or swit<br>fied by manufacturer. CA  | ropriate size parameter such as rated heat input, usable volume,   |   |  |  |  |
| <ul> <li>E. CONTROL EQUIPMENT PERMIT INFORMATION:</li> <li>APPLICATION NO. Click here to enter text. PC ISSUANCE DATE: Click here to enter a date.</li> <li>PO NO.: Click here to enter text. PO ISSUANCE DATE: Click here to enter a date.</li> </ul> |  |   |  |   |  |  |  |
| by pe<br>the co  | rmit, or th<br>ontrol devi   | <b>DNTROL EFFICIENCIES:</b> Min<br>e most stringent rule requiremen<br>ce (e.g. inlet-outlet). Collection<br>e system. Enter each contamina | nt. The control or destruction e<br>or capture efficiency is based   | at each point of contaminant                        |  |  |  |
| CONTAN   | IINANT   | OVERALL CONTROL<br>EFFICIENCY   | CONTROL DEVICE<br>EFFICIENCY   | COLLECTION EFFICIENCY                               |  |  |  |
| VOC  |  | %   | %  | %   |  |  |  |
| NOx  |  | %   | %  | %   |  |  |  |
| SOx  |  | %   | %  | %   |  |  |  |
| CO   |  | %   | %  | %   |  |  |  |
| PM   |  | %   | 85%  | %   |  |  |  |
| $PM_{10}$  |  | %   | %  | %   |  |  |  |
| Inorganic  |  | %   | %  | %   |  |  |  |
| cold e<br>engin<br>exhau   | engine st<br>e until ez  | CHNOLOGY COMMENTS Per<br>art-ups or HiBack alarm si<br>xhaust temp exceeds 572 D<br>at inlet to PM filter $\geq$ 572 D<br>nutes.            | gnal, whichever occurs finder of the second se | rst. For regeneration run<br>essure reading. Engine |  |  |  |
|  |  | STRATION OF COMPL   |  |   |  |  |  |
|  | A. COMPLIANCE DEMONSTRATED BY: Source test or other method that was used to demonstrate compliance |   |  |   |  |  |  |
| B. DAT   | E(S) OF S  | <b>OURCE TEST:</b> An appropriat<br>one more characteristic dimensi   |  | product throughput, usable                          |  |  |  |
| (e.g.,<br>be in  | , EPA Met  | <b>EFFICIENCY METHOD:</b> The hod 204, mass balance), if applichere is no applicable method (e.   | cable. A brief description of t<br>g., OVA measurements, smok  | he collection efficiency test may<br>e tests)       |  |  |  |
| proc   |  | EFFICIENCY PARAMETERS<br>Section 6(C). Examples include<br>esults   | A A  |   |  |  |  |

mass balance results.
 E. SOURCE TEST/PERFORMANCE DATA: Enter source test results for each criteria contaminant or precursor (mass emissions, concentrations or efficiencies) if they differ from the requirements previously listed. As previously requested in Section 4, identify any corrections or averaging times

- F. TEST OPERATING PARAMETERS AND CONDITIONS: List any important operating conditions maintained during the source test or normal operations. Examples include, but may not be limited to, pressure differentials across control devices, feed rates, firing rates, temperatures, flow rates, or other parameters used to evaluate the level of operation of the equipment during the test or operations that may affect emissions from the equipment.
- G. TEST METHODS (SPECIFY AGENCY): Identify the primary source test methods used and identify the agency (e.g., CARB Method 425).

H. MONITORING AND TESTING REQUIREMENTS: Every 5000 hours inspect integrity of PM filter and if necessary replaceInclude any monitoring or testing requirements and their frequency that will be enforced to maintain emission levels reported for the BACT Determination.

I. DEMONSTRATION OF COMPLIANCE COMMENTS: Enter comments for additional information for Demonstration of Compliance.

# 7. ADDITIONAL SCAQMD REFERENCE DATA

| А. | <b>BCAT:</b> Click here to enter text.                     | B. CCAT: Click here text. | e to enter C | APPLICATIC<br>here to enter      | ON TYPE CODE: Click text. |  |
|----|--|---------------------------|--------------|----------------------------------|---------------------------|--|
| D. | <b>RECLAIM FAC?</b>  | E. TITLE V FAC:           |              | 5. SOURCE TEST ID(S): Click here |                           |  |
|    | YES D NO D   | YES 🗆 NO 🛛                |              | enter text.                      |                           |  |
| G. | S. SCAQMD SOURCE SPECIFIC RULES: Click here to enter text. |                           |              |                                  |                           |  |
| H. | . HEALTH RISK FOR PERMIT UNIT:                             |                           |              |                                  |                           |  |
| H1 | MICP: Click here H2  | MICE DATE: Click          | H3 CANCE     | R BURDEN.                        | H4 CB DATE: Click         |  |

|                        | H2. MICR DATE: Click     | H3. CANCER BURDEN:           | H4. CB DATE: Click    |
|------------------------|--------------------------|------------------------------|-----------------------|
| to enter text.         | here to enter a date.    | Click here to enter text.    | here to enter a date. |
| H5: HIA: Click here to | H6. HIA DATE: Click here | H7. HIC: Click here to enter | H8. HIC DATE: Click   |
| enter text.            | to enter a date.         | text.                        | here to enter a date. |
|                        |                          |                              |                       |