SCAQMD BACT Determination

Source Type:	Major/LAER
Application No.:	516409
Equipment Category:	I.C. Engine - Emergency, Compression Ignition
Equipment Subcategory:	PM Filter
Date:	**December 10, 2015**

1. EQUIPMENT INFORMATION

A. MANUFACTURER: Caterpillar	B. MODEL: C9
C. DESCRIPTION: Diesel fuel, six cylinders, turbocharged and aftercooled,	
D. FUNCTION: Drives an emergency electricity generator located at building 304	
E. SIZE/DIMENSIONS/CAPACITY: 374 BHP	
COMBUSTION SOURCES	
F. MAXIMUM HEAT INPUT: Gross heat input in btu per hour at the higher heating value of the fuel	
G. BURNER INFORMATION	

TYPE	INDIVIDUAL HEAT INPUT	NUMBER
Make and model of burner	Rated heat input of single burner, in btu/hr	Number of burners
Enter additional burner types, as needed, add extra rows		

H. PRIMARY FUEL: DIESEL	I. OTHER FUEL: Supplementary or standby fuels
J. OPERATING SCHEDULE: <1 HRS/DAY 1 DAYS/WEEK 26 WKS/YR	
K. EQUIPMENT INFORMATION COMMENTS: Diesel particulate filter installed	

2. COMPANY INFORMATION

A. COMPANY: US Gov't VA Medical Center	B. FAC ID: 014966
C. ADDRESS: 11301 Wilshire Blvd CITY: Los Angeles STATE: CA ZIP: 90073	D. NAICS CODE: 8060
E. CONTACT PERSON: Robert Benkeser	F. TITLE: Director, Facilities Management
G. PHONE NO.: 310-268-4677	H. EMAIL: robert.benkeser@va.gov

3. PERMIT INFORMATION

A. AGENCY: SCAQMD	B. APPLICATION TYPE: NEW CONSTRUCTION
C. SCAQMD ENGINEER: Roy Olivares	
D. PERMIT INFORMATION: PC ISSUANCE DATE: 6/29/11 P/O NO.: 6/29/11 PO ISSUANCE DATE: 6/29/2011	
E. START-UP DATE: 6/29/2011	
F. OPERATIONAL TIME: Intermittent--for 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. Engine shall not be operated in idle mode for more than 240 consecutive minutes.	

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 ($\%O_2$, $\%CO_2$, 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	CO	PM OR PM_{10}	INORGANIC
BACT Limit		3 g/bhp-hr		2.6 g/bhp-hr	0.15 g/bhp-hr	
Averaging 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 OF THE BACT/LAER DETERMINATION: Achieved in Practice

D. EMISSION INFORMATION COMMENTS: Compliance with rule 404 and Rule 1470. Engine meets applicable Tier 3 BACT limits. The values in Part A are EPA certification standards based on EPA certification test methods.

5. CONTROL TECHNOLOGY

A. MANUFACTURER: Clean Air Systems	B. MODEL: FCA225

C. DESCRIPTION: Diesel Particulate Filter with hiback data logging and alarm system to automatically shut down engine or switch it to power de-rating when backpressure exceeds setting specified by manufacturer. CARB certified.

D. SIZE/DIMENSIONS/CAPACITY: An appropriate size parameter such as rated heat input, usable volume, rated filter efficiency, and/or one more characteristic dimensions.

E. CONTROL EQUIPMENT PERMIT INFORMATION:

APPLICATION NO. Click here to enter text. PC ISSUANCE DATE: Click here to enter a date.
PO NO.: Click here to enter text. PO ISSUANCE DATE: Click here to enter a date.

F. REQUIRED CONTROL EFFICIENCIES: Minimum efficiencies of the system control equipment as required by permit, or the most stringent rule requirement. The control or destruction efficiency is determined across the control device (e.g. inlet-outlet). Collection or capture efficiency is based at each point of contaminant collection in the system. Enter each contaminant that applies. Add rows as needed.

CONTAMINANT	OVERALL CONTROL EFFICIENCY	CONTROL DEVICE EFFICIENCY	COLLECTION EFFICIENCY
VOC	___%	___%	___%
NOx	___%	___%	___%
SOx	___%	___%	___%
CO	___%	___%	___%
PM	___%	85%	___%
PM_{10}	___%	___%	___%
Inorganic	___%	___%	___%

G. CONTROL TECHNOLOGY COMMENTS Permit condition to regenerate PM filter after every 24 cold engine start-ups or HiBack alarm signal, whichever occurs first. For regeneration run engine until exhaust temp exceeds 572 Deg. F and normal backpressure reading. Engine exhaust temp at inlet to PM filter ≥ 572 Deg. F except during cold engine start-up, not to exceed 10 minutes.

6. DEMONSTRATION OF COMPLIANCE

A. COMPLIANCE DEMONSTRATED BY: Certified Tier 3 engine with CARB verified DPF.

B. DATE(S) OF SOURCE TEST: Not applicable

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: The quantitative parameters used to verify the method or procedures in Section 6(C). Examples include static pressure measurements, anemometer measurements, and 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): EPA Nonroad Engine Certification Test Methods
H. MONITORING AND TESTING REQUIREMENTS: Every 5000 hours inspect integrity of PM filter and if necessary replace
I. DEMONSTRATION OF COMPLIANCE COMMENTS: Enter comments for additional information for Demonstration of Compliance.

7. ADDITIONAL SCAQMD REFERENCE DATA

A. BCAT: 43902	B. CCAT: Click here to enter text.	C. APPLICATION TYPE CODE: 10
D. RECLAIM FAC? YES ☐ NO ☒	E. TITLE V FAC: YES ☒ NO ☐	F. SOURCE TEST ID(S): N/A
G. SCAQMD SOURCE SPECIFIC RULES: 1470, 431.2		
H. HEALTH RISK FOR PERMIT UNIT:		

H1. MICR: 2.86 x 10-8	H2. MICR DATE: 11/24/10	H3. CANCER BURDEN: 4.84x10-3	H4. CB DATE: 11/24/10
H5: HIA: N/A	H6. HIA DATE: Click here to enter a date.	H7. HIC: 1.8x10-5	H8. HIC DATE: 11/24/10