

Part B, Section III: Other Technologies



(These are emerging technologies which have been in operation with an air quality permit, however do not yet qualify as LAER)

Source Type: **Major/LAER**
 Application No.: **567735**
 Equipment Category: **I.C. Engine, Stationary, Emergency, Electrical Generators**
 Equipment Subcategory: _____
 Date: **December 11, 2016**

1. EQUIPMENT INFORMATION

A. MANUFACTURER: Cummins		B. MODEL: QST30-G5	
C. DESCRIPTION: EPA-certified Compression Ignition, diesel engine, 12 cylinders, turbocharged and aftercooled, Engine Family CCEXL030.AAD.			
D. FUNCTION: On-site emergency electrical power generation.			
E. SIZE/DIMENSIONS/CAPACITY: 1490 BHP, driving 1000 kW generator			
COMBUSTION SOURCES			
F. MAXIMUM HEAT INPUT: ---			
G. BURNER INFORMATION			
TYPE	INDIVIDUAL HEAT INPUT	NUMBER	
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H. PRIMARY FUEL: DIESEL		I. OTHER FUEL: ---	
J. OPERATING SCHEDULE: <1 HRS/DAY 1 DAYS/WEEK 52 WKS/YR			
K. EQUIPMENT COST: Not Available			
L. EQUIPMENT INFORMATION COMMENTS: Engine is equipped with an Aftertreatment system consisting of Selective Catalytic Reduction and Diesel Particulate Filter.			

2. COMPANY INFORMATION

A. COMPANY: Praxair, Inc.		B. FAC ID: 007416	
C. ADDRESS: 2300 E. Pacific Coast Highway CITY: Wilmington STATE: CA ZIP: 90744		D. NAICS CODE:	
E. CONTACT PERSON: Laura Cremer		F. TITLE: Environmental Specialist	
G. PHONE NO.: 925-866-6851		H. EMAIL: laura_cremer@praxair.com	

3. PERMIT INFORMATION

A. AGENCY: SCAQMD	B. APPLICATION TYPE: NEW CONSTRUCTION PERMIT TO OPERATE
C. SCAQMD ENGINEER: Tracy Nguyen	
D. PERMIT INFORMATION: PC ISSUANCE DATE: 6/16/15 P/O NO.: G43499 PO ISSUANCE DATE: 10/27/2016	
E. START-UP DATE: 10/1/2015	
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.	

4. EMISSION INFORMATION

A. 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	SOx	CO	PM OR PM₁₀	INORGANIC
BACT Limit	0.19 G/KW-HR 0.14 G/BHP-HR)	0.67 G/KW-HR (0.5 G/BHP-HR)		3.5 G/KW-HR (2.61 G/BHP-HR)	0.03 G/KW-HR (0.022 G/BHP-HR)	
Averaging Time						
Correction						
B. OTHER REQUIREMENTS: Compliance with rules 404, 431.2 and 1470.						
C. PENDING STATUS: Technology has been in operation with an active air quality permit. Other (add comment)						
D. EMISSION INFORMATION COMMENTS: A certified Tier 2 Engine is equipped with a Tier 4 Aftertreatment to comply with EPA Tier 4 Requirements.						

5. CONTROL TECHNOLOGY

A. MANUFACTURER: Cummins		B. MODEL: S4F-H-T4F	
C. DESCRIPTION: Selective Catalytic Reduction and Diesel Particulate Filter with an electric heater.			
D. SIZE/DIMENSIONS/CAPACITY: 85% DPF efficiency.			
E. CONTROL EQUIPMENT PERMIT INFORMATION: APPLICATION NO. 567735 PC ISSUANCE DATE: 6/16/15 PO NO.: G43499 PO ISSUANCE DATE: 10/27/2016			
F. REQUIRED CONTROL EFFICIENCIES:			
CONTAMINANT	OVERALL CONTROL EFFICIENCY	CONTROL DEVICE EFFICIENCY	COLLECTION EFFICIENCY
VOC	___%	___%	___%
NOx	___%	___%	___%
SOx	___%	___%	___%
CO	___%	___%	___%
PM	85%	___%	___%
PM ₁₀	___%	___%	___%
INORGANIC	___%	___%	___%
G. CONTROL TECHNOLOGY COMMENTS Engine is certified to comply with EPA Tier 4 requirements: NMHC=0.14 g/bhp-hr, NOx=0.5 g/bhp-hr, CO=2.61 g/bhp-hr and PM=0.022 g/bhp-hr.			

6. DEMONSTRATION STATUS

A. COMPLIANCE DEMONSTRATED BY: Compliance with EPA Tier 4 standards is based on EPA nonroad engine test methods and duty cycles. Tests conducted under other duty cycles or using different test methods may produce different results and are not indicative of noncompliance with the BACT levels.
B. DATE(S) OF SOURCE TEST:
C. COLLECTION EFFICIENCY METHOD:
D. COLLECTION EFFICIENCY PARAMETERS:
E. SOURCE TEST/PERFORMANCE DATA:

F. TEST OPERATING PARAMETERS AND CONDITIONS:
G. TEST METHODS (SPECIFY AGENCY):
H. MONITORING AND TESTING REQUIREMENTS:
I. DEMONSTRATION OF COMPLIANCE COMMENTS:

7. PENDING CONSIDERATIONS

A. SCR GETTING UP TO TEMPERATURE AND RUN TIME: Equipped with exhaust heater/load bank and control to regulate temperatures and assure quick (<10 minute) full SCR efficiency.
B. TIER 4 ENGINES WITH INDUCEMENT THAT MAY BE BYPASSED: In July 2016 EPA amended 40 CFR Part 60, Subpart IIII to allow manufacturers to design engines so that operators can temporarily override performance inducements related to emission control system during emergency situations to protect human life and require Tier 1 compliance during such emergencies. EPA is confident that Tier 4 engines will function properly in emergency situations and expects that auxiliary emission control devices allowed under this provision will rarely be activated.
C. CERTIFICATION OF EMERGENCY ENGINE AT DIFFERENT DUTY CYCLE THAT MAY NOT ACHIEVE CLAIMED EMISSION LEVELS: Emissions testing was done on the ISO 8178 D2 Cycle consistent with constant speed stationary engines. (5% @ 100% Torque, 25% @75%, 30% @50%, 30% @25% and 10% @10%).
D. COST EFFECTIVENESS ANALYSIS: TBD

8. ADDITIONAL SCAQMD REFERENCE DATA

A. BCAT:	B. CCAT:	C. APPLICATION TYPE CODE:	
D. RECLAIM FAC? YES <input type="checkbox"/> NO <input type="checkbox"/>	E. TITLE V FAC: YES <input type="checkbox"/> NO <input type="checkbox"/>	F. SOURCE TEST ID(S):	
G. SCAQMD SOURCE SPECIFIC RULES:			
H. HEALTH RISK FOR PERMIT UNIT			
H1. MICR:	H2. MICR DATE:	H3. CANCER BURDEN:	H4. CB DATE:
H5. HIA:	H6. HIA DATE:	H7. HIC:	H8. HIC DATE: