Kirtland Air Force Base

20.11.41 NMAC Construction Permit Application
Modification to Permit #1786-M4
Two New Emergency Generators
TAC Lab Pumping Plant, Building 29999 (Unit Code 19181)
Pump House 2 Manzano, Building 37528 (Unit Code 19182)

377 MSG/CE Environmental
Kirtland AFB, New Mexico

City of Albuquerque
Environmental Health Department
Air Quality Program
Please mail this application to P.O. Box 1293, Albuquerque, NM 87103
or hand deliver between 8:00am - 5:00pm Monday - Friday to:
3rd Floor, Suite 3023 - One Civic Plaza NW, Albuquerque, New Mexico 87103
(505) 768 – 1972 aqd@cabq.gov (505) 768 - 1977 (Fax)

20.11.41 NMAC Air Quality Permit Application
For
EMERGENCY DIESEL ENGINES
SUBJECT TO FEDERAL (USEPA) NEW SOURCE PERFORMANCE STANDARDS (NSPS)

Section 1. General Information

Date Submitted: 09 / 18 / 2018

1. Company Name: U.S. Air Force – Kirtland Air Force Base Ph: (505) 853-1588 Email: Not Applicable
2. Company Address: 377 MSG/CEIE, 2050 Wyoming Blvd SE Suite A116b City: Kirtland AFB, Albuquerque State: NM Zip: 87117
3. Company Mailing Address (if different): (same as above) Zip:
4. Company Contact: Ms. Melissa B. Clark Title: Chief, Environmental Management Ph: (505) 853-1588 Email: melissa.clark.8@us.af.mil
5. Facility Name: Unit ID 19181: TACLab Pumping Plant Building 29999 / Unit ID 19182: Pump House 2 Manzano Building 37528 (Water Plant)
   Facility Hours: 24 hours per day
6. Facility Address: Unit ID 19181: approx. 0.8 miles east of the intersection of Lovelace Rd & Mortar Range Rd / Unit ID 19182: approx. 0.87 miles northeast past the Manzano Area Gate along Service Loop City: Kirtland AFB, Albuquerque State: NM Zip: 87117
7. Local Business Mailing Address (if different): (same as above) Email: Not Applicable
8. Facility Environmental Contact: Ms. Melissa Clark Title: Chief, Environmental Management Ph: (505) 853-1588 Fax:(505) 853-6970
9. Email: melissa.clark.8@us.af.mil 10. Type of Business: National Security – U.S Dept of Defense
11. Environmental Consultant Name and Email Address (if applicable): Not applicable

North American Industry Classification System (NAICS): 928110 13. Standard Industrial Classification (SIC): 9711

14. UTM coordinates (required): Zone 13N Unit ID 19181: 34.968240 m east -106.483378 m north / Unit ID 19182: 35.008194 m east -106.498896 m north
15. Facility Ph: none Fax: Not applicable
16. Billing Contact: Ms. Andria Cuevas Title: Air Quality Program Manager Ph: (505) 846-2522 Fax: (505) 853-6970
17. Billing Address: KAFB Environmental Management, 2050 Wyoming Blvd SE, Bldg. 20685 City: Kirtland AFB State: NM Zip: 87117
18. Is this an Initial Installation; OR Modification of an Existing Unit: ____ Initial _X_ Modification 19. Current or requested operating hrs/yr: 200 hrs/yr
20. Is engine or genset installed: ____ Yes _X_ No If yes, date installed: ____/____/____ If no, anticipated installation date: 01/03/2019
    Anticipated start-up date: 01/04/2019

Provide an engine spec sheet and a detailed site plan or plat of the property where engine or genset is to be installed.

Section 2. Compression Ignition Internal Combustion Engine for Stationary Emergency Engines

Provide engine rating in horsepower (Hp) as determined by manufacturer's spec sheet.

Unit ID	Process Equipment Unit	Manufacturer	Model Number	Serial Number	Manufacture Date	Modification Date	Engine Size In Horsepower (Hp)	Size of Generator In kilowatts (kW)
19181	Engine	Cummins	QSB5-G5	To Be Determined	2017	N/A	176	N/A
	Generator	Cummins	C50D6C	To Be Determined	2017	N/A	N/A	50
19182	Engine	Cummins	QSB5-G5	To Be Determined	2017	N/A	176	N/A
	Generator	Cummins	C60D6C	To Be Determined	2017	N/A	N/A	60

Section 3. Stack and Emissions Information

Unit ID	Stack Height Above Ground & Stack Diameter In Feet		Stack Temperature	Stack Flow Rate & Exit Direction
19181	~7 feet stack height	~2 inches (0.17 feet) diameter	~622 °F approx.	~609 ft³/min – Flow Rate approx. Exit – upward
19182	~7 feet stack height	~2 inches (0.17 feet) diameter	~697 °F approx.	~696 ft³/min – Flow Rate approx. Exit – upward

Section 4.1 Potential Emission Rate (Uncontrolled Emissions) [Unit ID 19181]

Use manufacturer's data, compliance performance stack test data or the attached USEPA Emission Factors in grams per horsepower-hour (g/Hp-hr) associated with the Engine's Horsepower Rating and Model Year

Model Year	Pollutant	Emission Factors g/Hp-hr	TIMES	Actual Engine Hp	EQUALS	Emission In Grams Per Hour	DIVIDE	Grams Per Pound	EQUALS	Emission in Pounds Per Hour	TIMES	Potential Operating Hours Per Year	DIVIDE	Pounds Per Ton	EQUALS	Emission In Tons Per Year
2017	CO	2.6	x	176	=	457.6		453.6	=	1.009	x	8,760	÷	2,000	=	4.42
	NOx	2.23	x	176	=	392.5		453.6	=	0.865	x	8,760	÷	2,000	=	3.79
	NMHC	0.07	x	176	=	12.32		453.6	=	0.027	x	8,760	÷	2,000	=	0.12
	*NOx + NMHC	3.0	x	176	=	528.0		453.6	=	1.164	x	8,760	÷	2,000	=	5.10
	**SO_x	0.93	x	176	=	163.68		453.6	=	0.361	x	8,760	÷	2,000	=	1.58
	***PM	0.15	x	176	=	26.40		453.6	=	0.058	x	8,760	÷	2,000	=	0.25

* If the USEPA Emission Factor or manufacturer's data is given as combined NOx + NMHC, also provide individual emission factors for NOx and NMHC from the manufacturer or other approved methodology for estimating individual emission factors.
** Manufacturer's SOx factor shall be used when larger than the USEPA Emission Factor.
*** Particulate Matter (PM) emissions are considered to be < 1µm (micron). Therefore, PM emissions also reflect PM_{10} & $PM_{2.5}$.

Section 5.1 Potential to Emit (Requested allowable rate) (Controlled Emissions) [Unit ID 19181]

Transfer each pollutant Emission in Pounds Per Hour from column above to the Emission in Pounds Per Hour column below. Complete the equation after inserting the Requested Operating Hours Per Year. Pound Per Hour rate for each pollutant must be met if performance testing is requested.

Pollutant	Emission in Pounds Per Hour	TIMES	Requested Operating Hours Per Year	EQUALS	Pounds Per Year	DIVIDE	Pounds Per Ton	EQUALS	Emission In Tons Per Year
CO	1.009	x	200	=	201.76	÷	2,000	=	0.101
NO_x	0.865	x	200	=	173.05	÷	2,000	=	0.087
NMHC	0.027	x	200	=	5.43	÷	2,000	=	0.003
*NOx + NMHC	1.164	x	200	=	232.80	÷	2,000	=	0.116
**SO_x	0.361	x	200	=	72.17	÷	2,000	=	0.036
***PM	0.058	x	200	=	11.64	÷	2,000	=	0.006

Section 4.2 Potential Emission Rate (Uncontrolled Emissions) [Unit ID 19182]

Use manufacturer's data, compliance performance stack test data or the attached USEPA Emission Factors in grams per horsepower-hour (g/Hp-hr) associated with the Engine's Horsepower Rating and Model Year

Model Year	Pollutant	Emission Factors g/Hp-hr	TIMES	Actual Engine Hp	EQUALS	Emission In Grams Per Hour	DIVIDE	Grams Per Pound	EQUALS	Emission in Pounds Per Hour	TIMES	Potential Operating Hours Per Year	DIVIDE	Pounds Per Ton	EQUALS	Emission In Tons Per Year
2017	CO	2.60	x	176	=	457.6		453.6	=	1.009	x	8,760	+	2,000	=	4.42
	NOx	2.28	x	176	=	401.3		453.6	=	0.885	x	8,760	+	2,000	=	3.87
	NMHC	0.06	x	176	=	10.56		453.6	=	0.023	x	8,760	+	2,000	=	0.10
	*NOx + NMHC	3.00	x	176	=	528.0		453.6	=	1.164	x	8,760	+	2,000	=	5.10
	**SO_x	0.93	x	176	=	163.68		453.6	=	0.361	x	8,760	+	2,000	=	1.58
	***PM	0.15	x	176	=	26.40		453.6	=	0.058	x	8,760	+	2,000	=	0.25

* If the USEPA Emission Factor or manufacturer's data is given as combined NOx + NMHC, also provide individual emission factors for NOx and NMHC from the manufacturer or other approved methodology for estimating individual emission factors.
** Manufacturer's SOx factor shall be used when larger than the USEPA Emission Factor.
*** Particulate Matter (PM) emissions are considered to be < 1µm (micron). Therefore, PM emissions also reflect PM_{10} & $PM_{2.5}$.

Section 5.2 Potential to Emit (Requested allowable rate) (Controlled Emissions) [Unit ID 19182]

Transfer each pollutant Emission in Pounds Per Hour from column above to the Emission in Pounds Per Hour column below. Complete the equation after inserting the Requested Operating Hours Per Year. Pound Per Hour rate for each pollutant must be met if performance testing is requested.

Pollutant	Emission in Pounds Per Hour	TIMES	Requested Operating Hours Per Year	EQUALS	Pounds Per Year	DIVIDE	Pounds Per Ton	EQUALS	Emission In Tons Per Year
CO	1.009	x	200	=	201.76	+	2,000	=	0.101
NO_x	0.885	x	200	=	176.93	+	2,000	=	0.088
NMHC	0.023	x	200	=	4.66	+	2,000	=	0.002
*NOx + NMHC	1.164	x	200	=	232.80	+	2,000	=	0.116
**SO_x	0.361	x	200	=	72.17	+	2,000	=	0.036
***PM	0.058	x	200	=	11.64	+	2,000	=	0.006

I, the undersigned, a responsible officer of the applicant company, certify that to the best of my knowledge, the information stated on this application, together with associated drawings, specifications, and other data, give a true and complete representation of the existing, modified existing, or planned new stationary source with respect to air pollution sources and control equipment. I also understand that any significant omissions, errors, or misrepresentations in these data will be cause for revocation of part or all of the resulting source registration and air quality permit.

RICHARD W. GIBBS, Colonel, USAF	Richard W. Gibbs	Commander, 377th Air Base Wing, Kirtland AFB	17 May 2018
Print Name	Sign Name	Title	Date

Federal New Source Performance Standards (NSPS) for Stationary EMERGENCY Diesel Engines (40CFR 60.4202 & 60.4205) in Grams Per Horsepower Hour (g/hp-hr) for Engines with a displacement of < 10 Liters Per Cylinder

Horsepower / kW	Tier (CFR Section)	Year Of Manufacture	CO (g/hp-hr)	NOx (g/hp-hr)	NMHC (g/hp-hr)	NOx + NMHC[1] (g/hp-hr)	SOx[2] (g/hp-hr)	Particulate Matter (PM) (g/hp-hr)	Notes
< 11 Hp < 8 kW	1 (60.4205)	Pre 2007[3]	6.0			7.8	0.93*	0.75	* Use AP-42 Section 3.3 SOx factors if <600Hp and Section 3.4 if >600Hp, as shown on this table, or manufacturer's factors. Manufacturer's factors shall be used when larger than AP-42 factors
	2 (60.4202) - (89.112)	2007	6.0			5.6	0.93*	0.6	
	4 (60.4202)	2008 +	6.0			5.6	0.93*	0.3	
≥ 11 Hp < 25 Hp	1 (60.4205)	Pre 2007[3]	4.9			7.1	0.93*	0.6	
	2 (60.4202) - (89.112)	2007	4.9			5.6	0.93*	0.6	
≥ 8 kW < 19 kW	4 (60.4202)	2008 +	4.9			5.6	0.93*	0.3	
≥ 25 Hp < 50 Hp	1 (60.4205)	Pre 2007[3]	4.1			7.1	0.93*	0.6	
	2 (60.4202) - (89.112)	2007	4.1			5.6	0.93*	0.45	
≥ 19 kW < 37 kW	4 (60.4202)	2008 +	4.1			5.6	0.93*	0.22	
≥ 50 Hp < 100 Hp	1 (60.4205)	Pre 2007[3]	3.03**	6.9	1.12**		0.93*	1.0**	** Use AP-42 Section 3.3 factors for CO, NMHC, and PM as shown on this table, or manufacturer's factors. Manufacturer's factors shall be used when larger than AP-42 factors.
	2 (60.4202) - (89.112)	2007	3.7			5.6	0.93*	0.3	
≥ 37 kW < 75 kW	3 (60.4202) - (89.112)	2008 +	3.7			3.5	0.93*	0.3	
≥ 100 Hp < 175 Hp	1 (60.4205)	Pre 2007[3]	3.03**	6.9	1.12**		0.93*	1.0**	
≥ 75 kW < 130 kW	3 (60.4202) - (89.112)	2007 +	3.7			3.0	0.93*	0.22	
≥ 175 Hp ≤ 750 Hp	1 (60.4205)	Pre 2007[3]	8.5	6.9	1.0		0.93* for < 600Hp	0.4	
≥ 130 kW ≤ 560 kW	3 (60.4202) - (89.112)	2007 +	2.6			3.0	or 3.67* for > 600Hp	0.15	
> 750 Hp	1 (60.4205)	Pre 2007[3]	8.5	6.9	1.0			0.4	
	3 (60.4202) - (89.112)	2007***	2.6			4.8	3.67	0.15	
> 560 kW		*** 2007 – 2010 Model Year Engines > 3,000 Hp shall meet the Pre 2007 standards and beginning with the 2011 model year, Engines > 3,000 Hp shall meet the 2007 standards							

[1] When an emission factor is given for combined NOx + NMHC, individual emission factors for NOx and NMHC must be obtained from the manufacturer.

[2] SOx emission factors shall be based on AP-42 Section 3.3 for engines less than (<) 600 Hp and Section 3.4 for engines greater than (>) 600 Hp, or manufacturer's factors since SOx emission standards were not established for non-road diesel engine rulemaking. Manufacturer's factors shall be used when larger than the AP-42 factors. For engines > 600 Hp, the "S" multiplier is 0.05 (5%) if calculating SOx to reflect the current low sulfur diesel fuel standard of 500 ppm. Percent sulfur in diesel fuel transitions to Ultra Low Sulfur Diesel (15 ppm) by October 2010. For engines operated after October 2010, with a year of manufacture of 2010 or later, the "S" multiplier is 0.0015 (0.15%) if calculating SOx to reflect the proposed new standard.

[3] Pre 2007 means each stationary Compression Ignition Internal Combustion Engine (CI ICE) whose construction, modification or reconstruction commenced after July 11, 2005. The date of construction is the date the engine is ordered by the owner or operator. Stationary CI ICE manufactured prior to April 1, 2006, that are not fire pump engines are not subject to NSPS, unless the engines are modified or reconstructed after July 11, 2005. A modified or reconstructed CI ICE must meet the emission standards for the model year in which the engine was originally new, not the year the engine is modified or reconstructed (Preamble language – Section II. E).

KIRTLAND AIR FORCE BASE

Application for Modification to Permit 1786-M4
for two New Emergency Generators
TACLab Pumping Plant, Building 29999 (Unit Code 19181)
Pump House 2 Manzano, Building 37528 (Unit Code 19182)

Supplemental Information

Project Description

This permit application is for two new diesel fueled emergency generators in support of the Kirtland Air Force Base (AFB) Water Plant.

The first generator is a Cummins diesel fueled 50 kilowatt (kW) emergency generator and is proposed to be installed at the Telescope and Atmospheric Compensation Laboratory (TACLab) Pumping Plant, Building 29999. The proposed location is in the southern portion of the installation on Mortar Range Road, approximately 0.8 miles east of the intersection of Lovelace Road and Mortar Range Road. The generator will provide back-up electrical power to Pumping Plant 29999 which supplies potable and fire water to Kirtland AFB.

The second generator is a Cummins diesel fueled 60 kW emergency generator and is proposed to be installed at Pump House 2 Manzano, Building 37528. The proposed location is in the southern portion of the installation along Service Loop, which connects to Pennsylvania Street at the Manzano Area Gate and goes northeast. The proposed location is approximately 0.87 miles northeast past the Manzano Area Gate along Service Loop. The generator will provide back-up electrical power to Pump House 2 Manzano which supplies potable and fire water to Kirtland AFB.

The addition of the two new emergency generators will result in an increase of emissions and therefore requires a permit modification under 20.11.41.29 NMAC.

Operational and Maintenance Strategy

20.11.41.13.E(5) New Mexico Administrative Code (NMAC) Application Contents states that the application must include an operational and maintenance strategy detailing (a) the steps the applicant will take if a malfunction occurs that may cause emission of a regulated air contaminant to exceed a limit that is included in the permit, (b) the nature of emissions during routine startup or shutdown of the source and the source's air pollution control equipment, (c) the steps the applicant will take to minimize emissions during routine startup or shutdown.

In the event of a malfunction that causes an exceedance of the emission limits, the notification requirements of 20.11.49 NMAC *Excess Emissions* will be followed. The emergency generator is exercised monthly and the operator will be responsible for shutting down the generator if there

is a malfunction, such as vacuum loss, low oil pressure, overheating, or overly high revolutions per minute. Internal combustion engines typically have increased particulate emissions at startup, until the engine has warmed up. This is normal and no specific mitigation measures will be employed. Shutdown emissions are not anticipated from this type of equipment. The emergency generator does not have pollution control equipment installed. Routine preventative maintenance for the emergency generator will be conducted to ensure proper operation and minimize emissions.

Air Quality Impact Analysis

The new emergency generator is expected to comply with the Ambient Air Quality Standards (AAQS). As stated in the City of Albuquerque Environmental Health Department (AEHD) Air Quality Division Internal Combustion Engine Permitting Policy, effective November 18, 1998, *internal combustion engines permitted for emergency use do not require an air dispersion modeling analysis.* The new generator is being permitted for emergency use; therefore no air dispersion modeling is required.

All other items required by 20.11.41 NMAC *Construction Permits* can be found in the permit application forms and the following attachments:

Attachment A: Application Review Fee Checklist
Attachment B: Permit Application Checklist and Public Notice Documentation
Attachment C: Manufacturer's Specifications for Generator and EPA Exhaust Emission Compliance Statement
Attachment D: Generator Location Map and Aerial Photo
Attachment E: Engine Process Flow Diagram

Attachment A

Application Review Fee Checklist

City of Albuquerque

Environmental Health Department
Air Quality Program

Permit Application Review Fee Instructions

All source registration, authority-to-construct, and operating permit applications for stationary or portable sources shall be charged an application review fee according to the fee schedule in 20.11.2 NMAC. These filing fees are required for both new construction, reconstruction, and permit modifications applications. Qualified small businesses as defined in 20.11.2 NMAC may be eligible to pay one-half of the application review fees and 100% of all applicable federal program review fees.

Please fill out the permit application review fee checklist and submit with a check or money order payable to the "City of Albuquerque Fund 242" and either:

1. be delivered in person to the Albuquerque Environmental Health Department, 3rd floor, Suite 3023 or Suite 3027, Albuquerque-Bernalillo County Government Center, south building, One Civic Plaza NW, Albuquerque, NM or,

2. mailed to Attn: Air Quality Program, Albuquerque Environmental Health Department, P.O. Box 1293, Albuquerque, NM 87103.

The department will provide a receipt of payment to the applicant. The person delivering or filing a submittal shall attach a copy of the receipt of payment to the submittal as proof of payment Application review fees shall not be refunded without the written approval of the manager. If a refund is requested, a reasonable professional service fee to cover the costs of staff time involved in processing such requests shall be assessed. Please refer to 20.11.2 NMAC (effective January 10, 2011) for more detail concerning the "Fees" regulation as this checklist does not relieve the applicant from any applicable requirement of the regulation.

City of Albuquerque

Environmental Health Department
Air Quality Program
Permit Application Review Fee Checklist

Please completely fill out the information in each section. Incompleteness of this checklist may result in the Albuquerque Environmental Health Department not accepting the application review fees. If you should have any questions concerning this checklist, please call 768-1972.

I. COMPANY INFORMATION:

Company Name	U.S. Air Force – Kirtland Air Force Base (KAFB)	
Company Address	2050 Wyoming Blvd. SE, Suite A-116b, Kirtland AFB, NM 87117	
Facility Name	KAFB Water Plant - Bldg 29999 & Bldg 37528	
Facility Address	No specific address; Approx. 0.8 miles E of intersection of Lovelace Rd & Mortar Range Rd / approx. 0 87 miles NE past the Manzano Area Gate along Service Loop	
Contact Person	Andria Cuevas, Air Program Manager	
Contact Person Phone Number	505-846-2522, andria.cuevas.1@us.af.mil	
Are these application review fees for an existing permitted source located within the City of Albuquerque or Bernalillo County?	**Yes**	**No**
If yes, what is the permit number associated with this modification?	**Permit # 1786-M4**	
Is this application review fee for a Qualified Small Business as defined in 20.11.2 NMAC? (See Definition of Qualified Small Business on Page 4)	**Yes**	**No**

II. STATIONARY SOURCE APPLICATION REVIEW FEES:

If the application is for a new stationary source facility, please check all that apply. If this application is for a modification to an existing permit please see Section III.

Check All That Apply	Stationary Sources	Review Fee	Program Element
	Air Quality Notifications		
	AQN New Application	$549.00	2801
	AQN Technical Amendment	$300.00	2802
	AQN Transfer of a Prior Authorization	$300.00	2803
X	*Not Applicable*	*See Sections Below*	
	Stationary Source Review Fees (Not Based on Proposed Allowable Emission Rate)		
	Source Registration required by 20.11.40 NMAC	$ 559.00	2401
	A Stationary Source that requires a permit pursuant to 20.11.41 NMAC or other board regulations and are not subject to the below proposed allowable emission rates	$ 1,119.00	2301
X	*Not Applicable*	*See Sections Below*	
	Stationary Source Review Fees (Based on the Proposed Allowable Emission Rate for the single highest fee pollutant)		
	Proposed Allowable Emission Rate Equal to or greater than 1 tpy and less than 5 tpy	$ 839.00	2302
	Proposed Allowable Emission Rate Equal to or greater than 5 tpy and less than 25 tpy	$ 1,678.00	2303
	Proposed Allowable Emission Rate Equal to or greater than 25 tpy and less than 50 tpy	$ 3,357.00	2304
	Proposed Allowable Emission Rate Equal to or greater than 50 tpy and less than 75 tpy	$ 5,035.00	2305
	Proposed Allowable Emission Rate Equal to or greater than 75 tpy and less than 100 tpy	$ 6,713.00	2306
	Proposed Allowable Emission Rate Equal to or greater than 100 tpy	$8,391.00	2307
X	*Not Applicable*	*See Section Above*	

Federal Program Review Fees (In addition to the Stationary Source Application Review Fees above)			
	40 CFR 60 - "New Source Performance Standards" (NSPS)	$ 1,119.00	2308
	40 CFR 61 - "Emission Standards for Hazardous Air Pollutants (NESHAPs)	$ 1,119.00	2309
	40 CFR 63 - (NESHAPs) Promulgated Standards	$ 1,119.00	2310
	40 CFR 63 - (NESHAPs) Case-by-Case MACT Review	$ 11,189.00	2311
	20.11.61 NMAC, Prevention of Significant Deterioration (PSD) Permit	$ 5,594.00	2312
	20.11.60 NMAC, Non-Attainment Area Permit	$ 5,594.00	2313
X	*Not Applicable*	*Not Applicable*	

III. MODIFICATION TO EXISTING PERMIT APPLICATION REVIEW FEES:

If the permit application is for a modification to an existing permit, please check all that apply. If this application is for a new stationary source facility, please see Section II.

Check All That Apply	Modifications	Review Fee	Program Element
Modification Application Review Fees (Not Based on Proposed Allowable Emission Rate)			
	Proposed modification to an existing stationary source that requires a permit pursuant to 20.11.41 NMAC or other board regulations and are not subject to the below proposed allowable emission rates	$ 1,119.00	2321
X	*Not Applicable*	*See Sections Below*	
Modification Application Review Fees (Based on the Proposed Allowable Emission Rate for the single highest fee pollutant)			
X	Proposed Allowable Emission Rate Equal to or greater than 1 tpy and less than 5 tpy	$ 839.00	2322
	Proposed Allowable Emission Rate Equal to or greater than 5 tpy and less than 25 tpy	$ 1,678.00	2323
	Proposed Allowable Emission Rate Equal to or greater than 25 tpy and less than 50 tpy	$ 3,357.00	2324
	Proposed Allowable Emission Rate Equal to or greater than 50 tpy and less than 75 tpy	$ 5,035.00	2325
	Proposed Allowable Emission Rate Equal to or greater than 75 tpy and less than 100 tpy	$ 6,713.00	2326
	Proposed Allowable Emission Rate Equal to or greater than 100 tpy	$ 8,391.00	2327
	Not Applicable	*See Section Above*	
Major Modifications Review Fees (In addition to the Modification Application Review Fees above)			
	20.11.60 NMAC, Permitting in Non-Attainment Areas	$ 5,594.00	2333
	20.11.61 NMAC, Prevention of Significant Deterioration	$ 5,594.00	2334
X	*Not Applicable*	*Not Applicable*	
Federal Program Review Fees (This section applies only if a Federal Program Review is triggered by the proposed modification) (These fees are in addition to the Modification and Major Modification Application Review Fees above)			
X	40 CFR 60 - "New Source Performance Standards" (NSPS)	$ 1,119.00	2328
	40 CFR 61 - "Emission Standards for Hazardous Air Pollutants (NESHAPs)	$ 1,119.00	2329
	40 CFR 63 - (NESHAPs) Promulgated Standards	$ 1,119.00	2330
	40 CFR 63 - (NESHAPs) Case-by-Case MACT Review	$11,189.00	2331
	20.11.61 NMAC, Prevention of Significant Deterioration (PSD) Permit	$ 5,594.00	2332
	20.11.60 NMAC, Non-Attainment Area Permit	$ 5,594.00	2333
	Not Applicable	*Not Applicable*	

IV. ADMINISTRATIVE AND TECHNICAL REVISION APPLICATION REVIEW FEES:

If the permit application is for an administrative or technical revision of an existing permit issued pursuant to 20.11.41 NMAC, please check one that applies.

Check One	Revision Type	Review Fee	Program Element
	Administrative Revisions	$ 250.00	2340
	Technical Revisions	$ 500.00	2341
X	*Not Applicable*	*See Sections II, III or V*	

V. PORTABLE STATIONARY SOURCE RELOCATION FEES:

If the permit application is for a portable stationary source relocation of an existing permit, please check one that applies.

Check One	Portable Stationary Source Relocation Type	Review Fee	Program Element
	No New Air Dispersion Modeling Required	$ 500.00	2501
	New Air Dispersion Modeling Required	$ 750.00	2502
X	*Not Applicable*	*See Sections II, III or V*	

VI. Please submit a check or money order in the amount shown for the total application review fee.

Section Totals	Review Fee Amount
Section II Total	$
Section III Total	$ 1,958.00
Section IV Total	$
Section V Total	$
Total Application Review Fee	**$ 1,958.00**

I, the undersigned, a responsible official of the applicant company, certify that to the best of my knowledge, the information stated on this checklist, give a true and complete representation of the permit application review fees which are being submitted. I also understand that an incorrect submittal of permit application reviews may cause an incompleteness determination of the submitted permit application and that the balance of the appropriate permit application review fees shall be paid in full prior to further processing of the application.

Signed this 17 **day of** May **2018**

Richard W. Gibbs, USAF
Print Name

Commander, Kirtland AFB
Print Title

Richard W. Gibbs
Signature

Definition of Qualified Small Business as defined in 20.11.2 NMAC:
"Qualified small business" means a business that meets all of the following requirements:

(1) a business that has 100 or fewer employees;
(2) a small business concern as defined by the federal Small Business Act;
(3) a source that emits less than 50 tons per year of any individual regulated air pollutant, or less than 75 tons per year of all regulated air pollutants combined; and
(4) a source that is not a major source or major stationary source.

Note: Beginning January 1, 2011, and every January 1 thereafter, an increase based on the consumer price index shall be added to the application review fees. The application review fees established in Subsection A through D of 20.11.2.18 NMAC shall be adjusted by an amount equal to the increase in the consumer price index for the immediately-preceding year. Application review fee adjustments equal to or greater than fifty cents ($0.50) shall be rounded up to the next highest whole dollar. Application review fee adjustments totaling less than fifty cents ($0.50) shall be rounded down to the next lowest whole dollar. The department shall post the application review fees on the city of Albuquerque environmental health department air quality program website.

Attachment B

Permit Application Checklist and Public Notice Documentation

City of Albuquerque

Environmental Health Department
Air Quality Program

Permit Application Checklist

Any person seeking a permit under 20.11.41 NMAC, Authority-to-Construct Permits, shall do so by filing a written application with the Department. Prior to ruling a submitted application complete each application submitted shall contain the required items listed below. **This checklist must be returned with the application.**

Applications that are ruled incomplete because of missing information will delay any determination or the issuance of the permit. The Department reserves the right to request additional relevant information prior to ruling the application complete in accordance with 20.11.41 NMAC.

All applicants shall:

1. ☑ Fill out and submit the *Pre-permit Application Meeting Request* form
   a. ☑ Attach a copy to this application

2. ☑ Attend the pre-permit application meeting
   a. ☑ Attach a copy of the completed *Pre-permit Application Meeting Checklist* to this application

3. ☑ Provide public notice to the appropriate parties
   a. ☑ Attach a copy of the completed *Notice of Intent to Construct* form to this form
   Neighborhood Association(s):
      i. Kirtland AFB compiled the attached list of nearby associations/coalitions that will be notified through email.
      ii. Coalition(s): See 3.a.i. above.

   b. ☑ Attach a copy of the completed *Public Sign Notice Guideline* form

4. Fill out and submit the *Permit Application*. All applications shall:

   A. ☑ be made on a form provided by the Department. Additional text, tables, calculations or clarifying information may also be attached to the form.

   B. ☑ at the time of application, include documentary proof that all applicable permit application review fees have been paid as required by 20 NMAC 11.02. Please refer to the attached permit application worksheet.

   C. ☑ contain the applicant's name, address, and the names and addresses of all other owners or operators of the emission sources.

   D. ☑ contain the name, address, and phone number of a person to contact regarding questions about the facility.

E. ☑ indicate the date the application was completed and submitted

F. ☑ contain the company name, which identifies this particular site.

G. ☑ contain a written description of the facility and/or modification including all operations affecting air emissions.

H. ☑ contain the maximum and standard operating schedules for the source after completion of construction or modification in terms of hours per day, days per week, and weeks per year.

I. ☑ provide sufficient information to describe the quantities and nature of any regulated air contaminant (including any amount of a hazardous air pollutant) that the source will emit during:

- Normal operation
- Maximum operation
- Abnormal emissions from malfunction, start-up and shutdown

J. ☑ include anticipated operational needs to allow for reasonable operational scenarios to avoid delays from needing additional permitting in the future.

K. ☑ contain a map, such as a 7.5-minute USGS topographic quadrangle, showing the exact location of the source; and include physical address of the proposed source.

L. ☑ contain an aerial photograph showing the proposed location of each process equipment unit involved in the proposed construction, modification, relocation, or technical revision of the source except for federal agencies or departments involved in national defense or national security as confirmed and agreed to by the department in writing.

M. ☑ contain the UTM zone and UTM coordinates.

N. ☑ include the four digit Standard Industrialized Code (SIC) and the North American Industrial Classification System (NAICS).

O. ☑ contain the types and **potential emission rate** amounts of any regulated air contaminants the new source or modification will emit. Complete appropriate sections of the application; attachments can be used to supplement the application, but not replace it.

P. ☑ contain the types and **controlled** amounts of any regulated air contaminants the new source or modification will emit. Complete appropriate sections of the application; attachments can be used to supplement the application, but not replace it.

Q. ☑ contain the basis or source for each emission rate (include the manufacturer's specification sheets, AP-42 Section sheets, test data, or other data when used as the source). *Cummins mfr. emissions data for specific Subpart IIII NSPS engine attached.*

R. ☑ contain all calculations used to estimate **potential emission rate** and **controlled** emissions.

S. ☑ contain the basis for the estimated control efficiencies and sufficient engineering data for verification of the control equipment operation, including if necessary, design drawings, test reports, and factors which affect the normal operation (e.g. limits to normal operation).

T. ☑ contain fuel data for each existing and/or proposed piece of fuel burning equipment. *#2 ULSD Diesel fuel that is commercially available.*

U. ☑ contain the anticipated maximum production capacity of the entire facility and the requested production capacity after construction and/or modification.

V. ☑ contain the stack and exhaust gas parameters for all existing and proposed emission stacks.

W. N/A provide an ambient impact analysis using a atmospheric dispersion model approved by the US Environmental Protection Agency (EPA), and the Department to demonstrate compliance with the ambient air quality standards for the City of Albuquerque and Bernalillo County (See 20.11.01 NMAC). If you are modifying an existing source, the modeling must include the emissions of the entire source to demonstrate the impact the new or modified source(s) will have on existing plant emissions. **(Not applicable for emergency generators)**

X. ☑ contain a preliminary operational plan defining the measures to be taken to mitigate source emissions during malfunction, startup, or shutdown.

Y. ☑ contain a process flow sheet, including a material balance, of all components of the facility that would be involved in routine operations. Indicate all emission points, including fugitive points.

Z. ☑ contain a full description, including all calculations and the basis for all control efficiencies presented, of the equipment to be used for air pollution control. This shall include a process flow sheet or, if the Department so requires, layout and assembly drawings, design plans, test reports and factors which affect the normal equipment operation, including control and/or process equipment operating limitations.

AA. ☑ contain description of the equipment or methods proposed by the applicant to be used for emission measurement. *EPA Certificate of Conformity provided in lieu of stack testing the new emergency generator engine.*

BB. ☑ be signed under oath or affirmation by a corporate officer, authorized to bind the company into legal agreements, certifying to the best of his or her knowledge the truth of all information submitted.

Pre-Permit Application Meeting Request Form

Air Quality Program- Environmental Health Department

Please complete appropriate boxes and email to aqd@cabq.gov or mail to:

Environmental Health Department
Air Quality Program
P.O. Box 1293
Room 3047
Albuquerque, NM 87103

Name:	**Melissa Clark** **Andria Cuevas**
Company/Organization:	Kirtland Air Force Base
Point of Contact: **(phone number and email):** **Preferred form of contact (circle one):** Phone E-mail	Phone: 505-853-1588 (M. Clark) 505-846-2522 (A. Cuevas) Email: melissa.clark.8@us.af.mil andria.cuevas.1@us.af.mil
Preferred meeting date/times:	**Requesting waiver for pre-application meeting for permitting - routine emergency generator permit application.**
Description of Project:	Addition of two small emergency generators (50 and 60 kW) to existing permit #1786-M4 for the Kirtland AFB Water Plant. The first generator is a Cummins diesel fueled 50 kilowatt (kW) emergency generator and is proposed to be installed at the Telescope and Atmospheric Compensation Laboratory (TACLab) Pumping Plant, Building 29999. The generator will provide back-up electrical power to Pumping Plant 29999 which supplies potable and fire water to Kirtland AFB. The second generator is a Cummins diesel fueled 60 kilowatt (kW) emergency generator and is proposed to be installed at Pump House 2 Manzano, Building 37528. The generator will provide back-up electrical power to Pump House 2 Manzano which supplies potable and fire water to Kirtland AFB.

CLARK, MELISSA B GS-13 USAF AFGSC 377 MSG/CEIE

From: Eyerman, Regan V. <reyerman@cabq.gov>
Sent: Monday, April 2, 2018 9:07 AM
To: CLARK, MELISSA B GS-13 USAF AFGSC 377 MSG/CEIE
Cc: CUEVAS, ANDRIA R CIV USAF AFGSC 377 MSG/CEIE
Subject: [Non-DoD Source] RE: Pre-Permit Application Meeting Waiver Request

Hi Melissa,
That's fine.

Thank you,
Regan Eyerman, P.E.
Senior Environmental Health Scientist
Air Quality Program
Environmental Health Department
City of Albuquerque
(505) 767-5625
reyerman@cabq.gov

From: CLARK, MELISSA B GS-13 USAF AFGSC 377 MSG/CEIE <melissa.clark.8@us.af.mil>
Sent: Monday, April 2, 2018 8:22 AM
To: Eyerman, Regan V. <reyerman@cabq.gov>
Cc: CUEVAS, ANDRIA R CIV USAF AFGSC 377 MSG/CEIE <andria.cuevas.1@us.af.mil>
Subject: RE: Pre-Permit Application Meeting Waiver Request

Hi Regan,

I have been having some email problems lately so I wanted to check up on this – are you ok with us waiving the pre-application meeting for the two proposed generators for Permit 1786?

Thanks
Melissa

From: CLARK, MELISSA B GS-13 USAF AFGSC 377 MSG/CEIE
Sent: Tuesday, March 13, 2018 6:07 PM
To: 'AQD@cabq.gov' <AQD@cabq.gov>
Cc: CUEVAS, ANDRIA R CIV USAF AFGSC 377 MSG/CEIE <andria.cuevas.1@us.af.mil>
Subject: Pre-Permit Application Meeting Waiver Request

Hello – Please find attached a pre-permit application meeting request (waiver request) for two new proposed emergency generators for the KAFB Water Plant Permit 1786. This would be a mod to Permit 1786-M4.

Thanks and let me know if you have any questions.

Melissa

//SIGNED//
Melissa Clark, GS-13, 377 MSG/CEIE
Chief, Environmental Management

Notice of Intent to Construct

Under 20.11.41.13B NMAC, the owner/operator is required to *provide public notice by certified mail or electronic mail to the designated representative(s) of the recognized neighborhood associations and recognized coalitions that are with-in one-half mile of the exterior boundaries of the property on which the source is or is proposed to be located* if they propose to construct or establish a new facility or make modifications to an existing facility that is subject to 20.11.41 NMAC Construction Permits. **A copy of this form must be included with the application.**

Applicant's Name and Address: Kirtland Air Force Base

Owner / Operator's Name and Address: Richard W. Gibbs, Colonel, USAF, 2000 Wyoming Blvd SE, Kirtland AFB, NM 87117

Actual or Estimated Date the Application will be submitted to the Department: 18 September 2018

Exact Location of the Source or Proposed Source: TACLab Pumping Plant Building 29999 (approx. 0.8 miles east of the intersection of Lovelace Rd & Mortar Range Rd) / Pump House 2 Manzano Building 37528 (approx. 0.87 miles northeast past the Manzano Area Gate along Service Loop)

Description of the Source: Two new diesel fueled emergency generators (50 kilowatt and 60 kilowatt with 176 horsepower engines) in support of the Kirtland Air Force Base Water Plant.

Nature of the Business: National Security

Process or Change for which the permit is requested: Request a permit modification to add the two new emergency generators to existing Permit #1786-M4. Kirtland AFB is requesting an annual operating limit of 200 hours per year for each generator.

Preliminary Estimate of the Maximum Quantities of each regulated air contaminant the source will emit:

Initial Construction Permit

	Pounds Per Hour (lbs/hr)	Tons Per Year (tpy)
CO	39.8	3.98
NOx	94.4	9.44
NOx + NMHC	33.7	3.37
VOC	5.62	0.56
SO_2	6.39	0.65
TSP	6.24	0.64
PM10	6.24	0.64
PM2.5	6.24	0.64
VHAP	--	--

Net Changes In Emissions

(Only for permit Modifications or Technical Revisions)

	lbs/hr	tpy	Estimated Total TPY
CO	+ 2.02	+ 0.20	4.18
NOx	+ 1.75	+ 0.17	9.61
NOx + NMHC	+ 2.33	+ 0.23	3.60
VOC	+ 0.05	+ 0.005	0.57
SO_2	+ 0.72	+ 0.072	0.72
TSP	+ 0.12	+ 0.012	0.65
PM10	+ 0.12	+ 0.012	0.65
PM2.5	+ 0.12	+ 0.012	0.65
VHAP	+/- --	+/- --	--

Maximum Operating Schedule: 24 hours/day, 365 days/year

Normal Operating Schedule: Generator only runs in emergency; 24 hours/day, 365 days/year

City of Albuquerque- Environmental Health Department
Air Quality Program- Permitting Section
Phone: (505) 768-1972 Email: aqd@cabq.gov

Current Contact Information for Comments and Inquires:

Name: Kirtland AFB Public Affairs Office
Address: 2000 Wyoming Blvd SE
Phone Number: (505) 846-5991
E-Mail Address: 377ABW.PA@us.af.mil

If you have any comments about the construction or operation of the above facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to the address below:

Environmental Health Manager

Stationary Source Permitting

Albuquerque Environmental Health Department

Air Quality Program

PO Box 1293

Albuquerque, New Mexico 87103

(505) 768-1972

Other comments and questions may be submitted verbally.

Please refer to the company name and facility name, as used in this notice or send a copy of this notice along with your comments, since the Department may not have received the permit application at the time of this notice. Please include a legible mailing address with your comments. Once the Department has performed a preliminary review of the application and its air quality impacts, if required, the Department's notice will be published in the legal section of the Albuquerque Journal and mailed to neighborhood associations and neighborhood coalitions near the facility location or near the facility proposed location.

Association Name	First Name	Last Name	Email	Address Line 1	City	State	Zip	Mobile Phone	Phone
Clayton Heights Lomas del Cielo NA	Eloisa	Molina-Dodge	e_molinadodge@yahoo.com	1704 Buena Vista SE	Albuquerque	NM	87106		5052434322
Clayton Heights Lomas del Cielo NA	Isabel	Cabrera	isabel_f_cabrera_617@msn.com	1720 Buena Vista SE	Albuquerque	NM	87106		5052424494
Elder Homestead NA	Carmen	Pennington	carlpennington1004@yahoo.com	1004 San Pedro SE	Albuquerque	NM	87108		5052569506
Elder Homestead NA	Marian	Jordan	marianjor@aol.com	816 Arizona SE	Albuquerque	NM	87108		5052685190
Four Hills Village HOA	Herb	Wright	herbwright@peoplepc.com	PO Box 50505	Albuquerque	NM	87181		5059220976
Four Hills Village HOA	James	Cochran	fhvapresident@gmail.com	PO Box 50505	Albuquerque	NM	87181		5057107094
Juan Tabo Hills NA	Catherine	Cochrane	catcochrane1@gmail.com	11705 Blue Ribbon SE	Albuquerque	NM	87123		5052419022
Juan Tabo Hills NA	Richard	Lujan	richtriple777@msn.com	11819 Blue Ribbon NE	Albuquerque	NM	87123		5052033369
Kirtland Community Association	Kimberly	Brown	kande0@yahoo.com	PO Box 9731	Albuquerque	NM	87119		5052429439
Kirtland Community Association	Elizabeth	Aikin	bakieaikin@comcast.net	1524 Alamo SE	Albuquerque	NM	87106	5052886324	
La Mesa Community Improvement Association	Dayna	Mares	dayna.mares76@gmail.com	639 Dallas Street NE	Albuquerque	NM	87108	5054140085	
La Mesa Community Improvement Association	Idalia	Lechuga-Tena	idalialt@gmail.com	537 San Pablo Street NE	Albuquerque	NM	87108	5055503868	
Mirabella Miravista NA	David	McGrogan	david.mcgrogan@gmail.com	344 Via Vista Street SE	Albuquerque	NM	87123	9259892210	
Mirabella Miravista NA	Laurie	Estrada	laudonest@gmail.com	11231 Kaibab Road SE	Albuquerque	NM	87123	5055144340	
Parkland Hills NA	Rob	Leming	rjleming@gmail.com	712 Truman Street SE	Albuquerque	NM	87108	2018415490	
Parkland Hills NA	Cecilia Brooke	Cholka	cbcholka@gmail.com	4916 Pershing Avenue SE	Albuquerque	NM	87108	9157404165	
San Jose NA	Robert	Brown	rpb4me@gmail.com	2200 William Street SE	Albuquerque	NM	87102	5055895843	

San Jose NA	Olivia	Price		408 Bethel Drive SE	Albuquerque	NM	87102	5053158224	
Siesta Hills NA	Kathy	Pierson	kppiers@sandia.gov	6413 Mitchell SE	Albuquerque	NM	87108		5058436084
Siesta Hills NA	Tamaya	Toulouse	siesta2na.pres@gmail.com	1424 Hertz Drive SE	Albuquerque	NM	87108	5053506960	
South Los Altos NA	Eileen	Jessen	eileentjessen@gmail.com	420 General Hodges Street NE	Albuquerque	NM	87123	5059189744	
South Los Altos NA	Allen	Osborn	a.osborn06@comcast.net	245 Espejo NE	Albuquerque	NM	87123		5052937152
South San Pedro NA	Reynaluz	Juarez	abcorganize@gmail.com	816 San Pedro SE	Albuquerque	NM	87108	5057101319	5052621581
South San Pedro NA	Donna	Orozco-Geist	jgeist80@comcast.net	933 San Pedro SE	Albuquerque	NM	87108	5052357088	
Southeast Heights NA	Michael	Gallegos	mike@mikegallegoslaw.com	308 Adams Street SE	Albuquerque	NM	87108	5053637764	5052664822
Southeast Heights NA	John	Pate	jpate@molzencorbin.com	1007 Idlewilde Lane SE	Albuquerque	NM	87108	5052354193	5052552984
Trumbull Village Association	Joanne	Landry	landry54@msn.com	7501 Trumbull SE	Albuquerque	NM	87108		5053150188
Trumbull Village Association	Alyce	Ice	alyceice@gmail.com	6902 4th Street NW, #11	Albuquerque	NM	87107	5056046761	5053150188
Victory Hills NA	Patricia	Willson	info@willsonstudio.com	505 Dartmouth SE	Albuquerque	NM	87106	5059808007	
Victory Hills NA	Erin	Engelbrecht	eebrecht@yahoo.com	PO Box 40298	Albuquerque	NM	87196	5053508984	
Willow Wood NA	Samantha	Martinez	samijoster@gmail.com	823 Glacier Bay Street SE	Albuquerque	NM	87123	5054638036	
Willow Wood NA	Jonathan	Hollinger	jonathan@techtronics-nm.com	11700 Isle Royale Road SE	Albuquerque	NM	87123		5052691973
Yale Village NA	Donald	Love	donaldlove08@comcast.net	2125 Stanford Drive SE	Albuquerque	NM	87106		5054807175
Yale Village NA	Kim	Love	klove726@gmail.com	2122 Cornell Drive SE	Albuquerque	NM	87106		5052423088

CUEVAS, ANDRIA R CIV USAF AFGSC 377 MSG/CEIE

From: 377 MSG/CE Environmental Air Quality
Sent: Monday, September 17, 2018 10:11 AM
To: 'e_molinadodge@yahoo.com'; 'isabel_f_cabrera_617@msn.com'; 'carlpennington1004@yahoo.com'; 'marianjor@aol.com'; 'herbwright@peoplepc.com'; 'fhvapresident@gmail.com'; 'catcochrane1@gmail.com'; 'richtriple777@msn.com'; 'kande0@yahoo.com'; 'bakieaikin@comcast.net'; 'dayna.mares76@gmail.com'; 'idalialt@gmail.com'; 'david.mcgrogan@gmail.com'; 'laudonest@gmail.com'; 'rjleming@gmail.com'; 'cbcholka@gmail.com'; 'rpb4me@gmail.com'; 'kppiers@sandia.gov'; 'siesta2na.pres@gmail.com'; 'eileentjessen@gmail.com'; 'a.osborn06@comcast.net'; 'abcorganize@gmail.com'; 'jgeist80@comcast.net'; 'mike@mikegallegoslaw.com'; 'jpate@molzencorbin.com'; 'landry54@msn.com'; 'alyceice@gmail.com'; 'info@willsonstudio.com'; 'eebrecht@yahoo.com'; 'samijoster@gmail.com'; 'jonathan@techtronics-nm.com'; 'donaldlove08@comcast.net'; 'klove726@gmail.com'
Cc: CLARK, MELISSA B GS-13 USAF AFGSC 377 MSG/CEIE
Subject: Public Notice of Proposed Air Quality Construction Permit Application
Attachments: Notice of Intent to Construct_13Sept18.doc
Signed By: andria.cuevas.1@us.af.mil

Dear Neighborhood Association/Coalition Representative(s),

Why did I receive this public notice?
You are receiving this notice in accordance with New Mexico Administrative Code (NMAC) 20.11.41.13.B(1) which requires any applicant seeking an Air Quality Construction Permit pursuant to 20.11.41 NMAC to provide public notice by certified mail or electronic mail to the designated representative(s) of the recognized neighborhood associations and recognized coalitions that are within one-half mile of the exterior boundaries of the property on which the source is or is proposed to be located.

What is the Air Quality Permit application review process?
The City of Albuquerque, Environmental Health Department, Air Quality Program (Program) is responsible for the review and issuance of Air Quality Permits for any stationary source of air contaminants within Bernalillo County. Once the application is received, the Program reviews each application and rules it either complete or incomplete. Complete applications will then go through a 30-day public comment period. Within 90 days after the Program has ruled the application complete, the Program shall issue the permit, issue the permit subject to conditions, or deny the requested permit or permit modification. The Program shall hold a Public Information Hearing pursuant to 20.11.41.15 NMAC if the Director determines there is significant public interest and a significant air quality issue is involved.

What do I need to know about this proposed application?

Applicant Name	Kirtland Air Force Base
Site or Facility Name	Water Plant Emergency Generators at Buildings 29999 and 37528
Site or Facility Address	2000 Wyoming Blvd SE, Kirtland AFB, NM 87117
New or Existing Source	Existing; Requesting Modification to Permit #1786-M4 to add two emergency generators
Anticipated Date of Application Submittal	September 18, 2018
Summary of Proposed Source to Be Permitted	This permit application is modify existing Construction Permit #1786-M4 for the Kirtland AFB Water Plant with the addition of two emergency generators. The first unit is a 176 horsepower, EPA Tier III emission certified, diesel fired internal combustion engine coupled to a 50 kilowatt emergency generator and the second unit is an identical 176 horsepower engine coupled to a 60 kilowatt emergency generator. The application seeks to restrict each unit to 200 hours per year of operation. The purpose of the emergency generators is to provide emergency backup electrical power in the case of loss of commercial power.

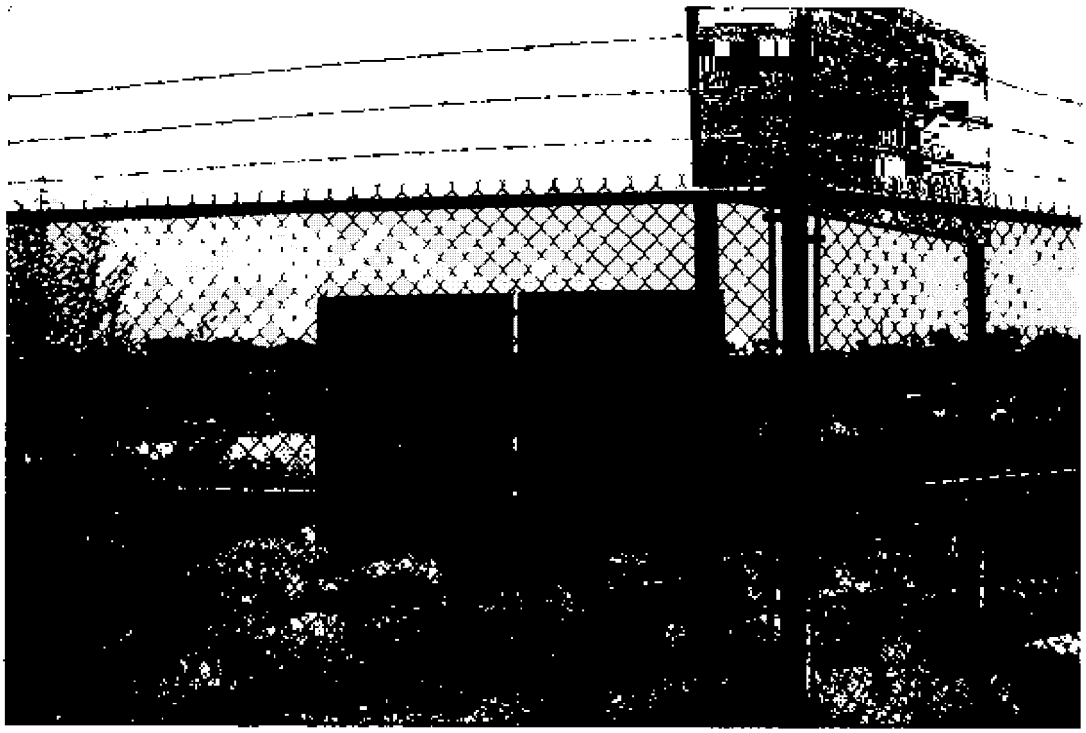
What emission limits and operating schedule are being requested?
See attached Notice of Intent to Construct form for this information.

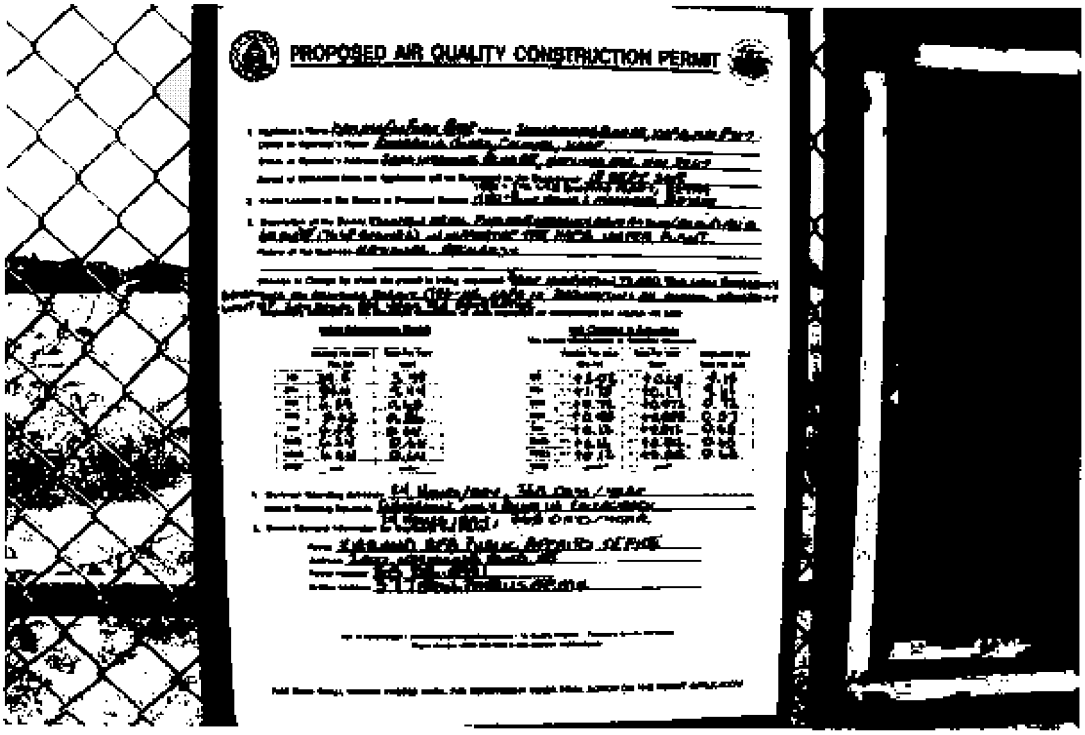
How do I get additional information regarding this proposed application?
For inquiries regarding the proposed source, contact:

- Kirtland Air Force Base Public Affairs Office
- 377ABW.PA@us.af.mil
- (505) 846-5991

For inquiries regarding the air quality permitting process, contact:

- City of Albuquerque Environmental Health Department Air Quality Program
- aqd@cabq.gov
- (505) 768-1972




PROPOSED AIR QUALITY CONSTRUCTION PERMIT

Attachment C

Manufacturer's Specifications for Generator
and
EPA Exhaust Emission Compliance Statement

19181

Power Generation

Exhaust Emission Data Sheet
C50D6C
60 Hz Diesel Generator Set

Engine Information:

Model:	Cummins QSB5-G5	Bore:	4.21 in. (106.9 mm)
Type:	4 Cycle, In-line, 4 Cylinder Diesel	Stroke:	4.88 in. (123.9 mm)
Aspiration:	Turbocharged	Displacement:	272 cu. In. (4.45 liters)
Compression Ratio:	17.3:1		

Emission Control Device: Turbocharged and Charge Air Cooled

PERFORMANCE DATA	1/4 Standby	1/2 Standby	3/4 Standby	Full Standby	Full Prime
BHP @ 1800 RPM (60 Hz)	23	47	70	93	84
Fuel Consumption (gal/Hr)	2.1	2.9	4.0	5.3	4.7
Exhaust Gas Flow (CFM)	285	397	511	609	580
Exhaust Gas Temperature (°F)	408	500	560	622	589
EXHAUST EMISSION DATA					
HC (Total Unburned Hydrocarbons)	0.26	0.10	0.07	0.06	0.06
NOx (Oxides of Nitrogen as NO2)	3.22	2.29	2.33	2.23	2.26
CO (carbon Monoxide)	1.53	0.73	0.54	0.53	0.50
PM (Particular Matter)	0.27	0.15	0.12	0.09	0.11
Smoke (Bosch)	0.71	0.75	0.78	0.78	0.82

All values are Grams per HP-Hour

TEST CONDITIONS

Data is representative of steady-state engine speed (± 25 RPM) at designated genset loads. Pressures, temperatures, and emission rates were stabilized.

Fuel Specification:	ASTM D975 No. 2-D diesel fuel with 0.03-0.05% sulfur content (by weight), and 40-48 cetane number.
Fuel Temperature:	99 ± 9 °F (at fuel pump inlet)
Intake Air Temperature:	77 ± 9 °F
Barometric Pressure:	29.6 ± 1 in. Hg
Humidity:	NOx measurement corrected to 75 grains H2O/lb dry air
Reference Standard:	ISO 8178

The NOx, HC, CO and PM emission data tabulated here are representative of test data taken from a single engine under the test conditions shown above. Data for the other components are estimated. These data are subjected to instrumentation and engine-to-engine variability. Field emission test data are not guaranteed to these levels. Actual field test results may vary due to test site conditions, installation, fuel specification, test procedures and instrumentation. Engine operation with excessive air intake or exhaust restriction beyond published maximum limits, or with improper maintenance, may results in elevated emission levels.

2017 EPA Tier 3 exhaust emission compliance statement C50D6C Stationary emergency

60 Hz Diesel generator set

Compliance information:

The engine used in this generator set complies with U.S. EPA New Source Performance Standards for Stationary Emergency engine under the provisions of 40 CFR Part 60 Subpart IIII when tested per ISO 8178 D2.

Engine manufacturer:	Cummins Inc.
EPA certificate number:	HCEXL0275AAK-021
Effective date:	11/14/2016
Date issued:	11/14/2016
EPA engine family (Cummins emissions family):	HCEXL0275AAK (C323)

Engine information:

Model:	Cummins QSB5-G5	Bore:	4.21 in. (106.9 mm)
Engine nameplate HP:	176	Stroke:	4.88 in. (123.9 mm)
Type:	4 cycle, in-line, 4 cylinder	Displacement:	272 cu. in. (4.45 liters)
Diesel aspiration:	Turbocharged	Compression ratio:	17.3:1
Emission control device:	Turbocharged and charge air-cooled	Exhaust stack diameter:	3.5 in. (89 mm)

Diesel fuel emission limits

D2 cycle exhaust emissions

	Grams per BHP-hr			Grams per kWm-hr		
	NO_X + NMHC	CO	PM	NO_X + NMHC	CO	PM
Cert test results – diesel fuel (300-4000 ppm sulphur)	2.79	0.66	0.1	3.80	0.90	0.15
EPA emissions limit	2.98	2.61	0.15	4.00	3.50	0.20

Test methods: EPA/CARB emissions recorded per 40CFR89 (ref. ISO8178-1) and weighted at load points prescribed in Subpart E, Appendix A for Constant Speed Engines (ref. ISO8178-4, D2).

Diesel fuel specifications: Cetane Number: 40-48. Reference: ASTM D975 No. 2-D.

Reference conditions: Air Inlet Temperature: 25 °C (77 °F), Fuel Inlet Temperature: 40 °C (104 °F). Barometric Pressure: 100 kPa (29.53 in Hg), Humidity: 10.7 g/kg (75 grains H2O/lb) of dry air; required for NOx correction, Restrictions: Intake Restriction set to a maximum allowable limit for clean filter; Exhaust Back Pressure set to a maximum allowable limit.

Tests conducted using alternate test methods, instrumentation, fuel or reference conditions can yield different results.Engine operation with excessive air intake or exhaust restriction beyond published maximum limits, or with improper maintenance, may result in elevated emission levels.

Generator set data sheet

Power Generation

Model:	C50D6C
Frequency:	60 Hz
Fuel type:	Diesel
KW rating:	50 standby 45 prime
Emissions level:	EPA Tier 3, Stationary emergency

Exhaust emission data sheet:	EDS-1250
Exhaust emission compliance sheet:	EPA-1350
Sound performance data sheet:	MSP-1300
Cooling performance data sheet:	MCP-1400
Prototype test summary data sheet:	PTS-450

Fuel consumption	Standby				Prime			
	kW (kVA)				kW (kVA)			
Ratings	50 (63)				45 (56)			
Load	1/4	1/2	3/4	Full	1/4	1/2	3/4	Full
US gph	2.10	2.90	4.00	5.30	2.00	2.70	3.70	4.70
L/hr	7.95	10.98	15.14	20.06	7.57	10.22	14.00	17.79

Engine	Standby rating	Prime rating
Engine manufacturer	Cummins Inc.	
Engine model	QSB5-G5	
Configuration	Cast iron, in-line, 4 cylinder	
Aspiration	Turbocharged and charge air cooled	
Gross engine power output, kWm (bhp)	131 (176)	113 (152)
BMEP at set rated load, kPa (psi)	1027 (149)	928 (134.6)
Bore, mm (in)	107 (4.21)	
Stroke, mm (in)	124 (4.88)	
Rated speed, rpm	1800	
Piston speed, m/s (ft/min)	7.44 (1464)	
Compression ratio	17.3:1	
Lube oil capacity, L (qt)	12.2 (12.9)	
Overspeed limit, rpm	2250	

Fuel flow

Maximum fuel flow, L/hr (US gph)	133 (35.0)
Maximum fuel inlet restriction with clean filter, mm Hg (in Hg)	127 (5.0)

Air	Standby rating	Prime rating
Combustion air, m3/min (scfm)	9.17 (324)	8.86 (313)
Maximum air cleaner restriction with clean filter, kPa (in H2O)	1.25 (5)	

Exhaust

Exhaust flow at set rated load, m^3/min (cfm)	17.2 (609)	16.4 (580)
Exhaust temperature, °C (°F)	328 (622)	309 (589)
Maximum back pressure, kPa (in H_2O)	10 (40.18)	10 (40.18)
Available Exhaust back pressure with CPG sound level 2 enclosure muffler, kPa (in H_2O)	4.5 (18.1)	5 (20.1)
Available Exhaust back pressure with CPG weather enclosure muffler, kPa (in H_2O)	5 (20.1)	5.5 (22.1)

Standard set-mounted radiator cooling

Ambient design, ° C (° F)	50 (122)	
Fan load, kW_m (HP)	5.22 (7)	
Coolant capacity (with radiator), L (US Gal)	16 (4.2)	
Cooling system air flow, m^3/min (scfm)	218.04 (7700)	
Total heat rejection, MJ/min (Btu/min)	8.12 (7693)	7.64 (7245)
Maximum cooling air flow static restriction, kPa (in H_2O)	0.12 (0.5)	

Weight[2]

Unit wet weight kgs (lbs)	958 (2113)

Notes:
[1] For non-standard remote installations contact your local Cummins Power Generation representative.
[2] Weights represent a set with standard features. See outline drawing for weights of other configurations.

Derating factors

Standby	Engine power available up to 2012m (6,600ft) and ambient temperatures up to 40C (104F). Above these conditions, derate at 17% per 300m (1,000ft) and 16% per 10C (18F).
Prime	Engine power available up to 2073m (6,800ft) and ambient temperatures up to 40C (104F). Above these conditions, derate at 17% per 300m (1,000ft) and 19% per 10C (18F).

Ratings definitions

Emergency standby power (ESP):	Limited-time running power (LTP):	Prime power (PRP):	Base load (continuous) power (COP):
Applicable for supplying power to varying electrical load for the duration of power interruption of a reliable utility source. Emergency Standby Power (ESP) is in accordance with ISO 8528. Fuel Stop power in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.	Applicable for supplying power to a constant electrical load for limited hours. Limited Time Running Power (LTP) is in accordance with ISO 8528.	Applicable for supplying power to varying electrical load for unlimited hours. Prime Power (PRP) is in accordance with ISO 8528. Ten percent overload capability is available in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.	Applicable for supplying power continuously to a constant electrical load for unlimited hours. Continuous Power (COP) is in accordance with ISO 8528, ISO 3046, AS 2789, DIN 6271 and BS 5514.

Alternator data

Standard Alternators	Single phase table	Three phase table				
Maximum temperature rise above 40 °C ambient	120 °C	120 °C	120 °C	120 °C	120 °C	120 °C
Feature code	BB90-2	B946-2	B986-2	B943-2	B952-2	BB86-2
Alternator data sheet number	ADS-203	ADS-202	ADS-202	ADS-202	ADS-202	ADS-202
Voltage ranges	120/240	120/208	120/240	277/480	347/600	127/220
Voltage feature code	R104-2	R098-2	R106-2	R002-2	R114-2	R020-2
Surge kW	59.1	61.7	61.7	61.6	61.6	61.0
Motor starting kVA (at 90% sustained voltage) Shunt	188	163	163	163	163	163
Motor starting kVA (at 90% sustained voltage) PMG	221	191	191	191	191	191
Full load current amps at standby rating	208.3	174	151	75.3	60.2	164

Notes:
[1] Single phase power can be taken from a three phase generator set at up to 2/3 set rated 3-phase kW at 1.0 power factor. Also see Note 3 below.
[2] The broad range alternators can supply single phase output up to 2/3 set rated 3-phase kW at 1.0 power factor.
[3] The extended stack (full single phase output) and 4 lead alternators can supply single phase output up to full set rated 3-phase kW at 1.0 power factor.

Formulas for calculating full load currents:

Three phase output

$$\frac{kW \times 1000}{Voltage \times 1.73 \times 0.8}$$

Single phase output

$$\frac{kW \times SinglePhaseFactor \times 1000}{Voltage}$$

Warning: Back feed to a utility system can cause electrocution and/or property damage. Do not connect to any building's electrical system except through an approved device or after building main switch is open.

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NAD-6212b-EN (1/17)

Power Generation

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19182

Power Generation

Exhaust Emission Data Sheet
C60D6C
60 Hz Diesel Generator Set

Engine Information:

Model:	Cummins QSB5-G5	Bore:	4.21 in. (106.9 mm)
Type:	4 Cycle, In-line, 4 Cylinder Diesel	Stroke:	4.88 in. (123.9 mm)
Aspiration:	Turbocharged	Displacement:	272 cu. In. (4.45 liters)
Compression Ratio:	17.3:1		

Emission Control Device: Turbocharged and Charge Air Cooled

	1/4	1/2	3/4	Full	Full
PERFORMANCE DATA	**Standby**	**Standby**	**Standby**	**Standby**	**Prime**
BHP @ 1800 RPM (60 Hz)	27.25	54.5	81.75	109	98
Fuel Consumption (gal/Hr)	2.2	3.3	4.6	6.1	5.5
Exhaust Gas Flow (CFM)	306	438	575	706	654
Exhaust Gas Temperature (°F)	430	510	582	697	645
EXHAUST EMISSION DATA					
HC (Total Unburned Hydrocarbons)	0.22	0.09	0.06	0.06	0.06
NOx (Oxides of Nitrogen as NO2)	3.00	2.30	2.28	2.28	2.24
CO (carbon Monoxide)	1.33	0.67	0.50	0.56	0.54
PM (Particular Matter)	0.24	0.14	0.11	0.07	0.08
Smoke (Bosch)	0.75	0.76	0.81	0.58	0.72

All values are Grams per HP-Hour

TEST CONDITIONS

Data is representative of steady-state engine speed (± 25 RPM) at designated genset loads. Pressures, temperatures, and emission rates were stabilized.

Fuel Specification:	ASTM D975 No. 2-D diesel fuel with 0.03-0.05% sulfur content (by weight), and 40-48 cetane number.
Fuel Temperature:	99 ± 9 °F (at fuel pump inlet)
Intake Air Temperature:	77 ± 9 °F
Barometric Pressure:	29.6 ± 1 in. Hg
Humidity:	NOx measurement corrected to 75 grains H2O/lb dry air
Reference Standard:	ISO 8178

The NOx, HC, CO and PM emission data tabulated here are representative of test data taken from a single engine under the test conditions shown above. Data for the other components are estimated. These data are subjected to instrumentation and engine-to-engine variability. Field emission test data are not guaranteed to these levels. Actual field test results may vary due to test site conditions, installation, fuel specification, test procedures and instrumentation. Engine operation with excessive air intake or exhaust restriction beyond published maximum limits, or with improper maintenance, may results in elevated emission levels.

Power Generation

2017 EPA Tier 3 Exhaust Emission Compliance Statement C60D6C Stationary Emergency

60 Hz Diesel Generator Set

Compliance Information:

The engine used in this generator set complies with U.S. EPA New Source Performance Standards for Stationary Emergency engine under the provisions of 40 CFR Part 60 Subpart IIII when tested per ISO 8178 D2.

Engine Manufacturer:	Cummins Inc
EPA Certificate Number:	HCEXL0275AAK-021
Effective Date:	11/14/2016
Date Issued:	11/14/2016
EPA Engine Family (Cummins Emissions Family):	HCEXL0275AAK (C323)

Engine Information:

Model:	Cummins QSB5-G5	Bore:	4.21 in. (106.9 mm)
Engine Nameplate HP:	176	Stroke:	4.88 in. (123.9mm)
Type:	4 Cycle, In-line, 4 Cylinder	Displacement:	272 cu. In. (4.45 liters)
Diesel Aspiration:	Turbocharged	Compression Ratio:	17.3:1
Emission Control Device:	Turbocharged and Charge Air Cooled	Exhaust Stack Diameter :	3.5 in (89 mm)

Diesel Fuel Emission Limits

D2 Cycle Exhaust Emissions

	Grams per BHP-hr			Grams per kWm-hr		
	NOx + NMHC	CO	PM	NOx + NMHC	CO	PM
Cert Test Results - Diesel Fuel (300-4000 ppm Sulfur)	2.79	0.66	0.1	3.80	0.90	0.15
EPA Emissions Limit	2.98	2.61	0.15	4.00	3.50	0.20

Test Methods: EPA/CARB emissions recorded per 40CFR89 (ref. ISO8178-1) and weighted at load points prescribed in Subpart E, Appendix A for Constant Speed Engines (ref. ISO8178-4, D2)

Diesel Fuel Specifications: Cetane Number: 40-48. Reference: ASTM D975 No. 2-D.

Reference Conditions: Air Inlet Temperature: 25°C (77°F), Fuel Inlet Temperature: 40°C (104°F). Barometric Pressure: 100 kPa (29.53 in Hg), Humidity: 10.7 g/kg (75 grains H2O/lb) of dry air; required for NOx correction, Restrictions: Intake Restriction set to a maximum allowable limit for clean filter; Exhaust Back Pressure set to a maximum allowable limit.

Tests conducted using alternate test methods, instrumentation, fuel or reference conditions can yield different results.
Engine operation with excessive air intake or exhaust restriction beyond published maximum limits, or with improper maintenance, may result in elevated emission levels.

Generator set data sheet

Power Generation

Model:	C60D6C
Frequency:	60 Hz
Fuel type:	Diesel
KW rating:	60 standby 54 prime
Emissions level:	EPA Tier 3, Stationary emergency

Exhaust emission data sheet:	EDS-1251
Exhaust emission compliance sheet:	EPA-1351
Sound performance data sheet:	MSP-1301
Cooling performance data sheet:	MCP-1401
Prototype test summary data sheet:	PTS-450

Fuel consumption

	Standby				Prime			
	kW (kVA)				kW (kVA)			
Ratings	60 (75)				54 (68)			
Load	1/4	1/2	3/4	Full	1/4	1/2	3/4	Full
US gph	2.20	3.30	4.60	6.10	2.1	3.00	4.20	5.50
L/hr	8.33	12.49	17.41	23.09	7.95	11.36	15.90	20.82

Engine

	Standby rating	Prime rating
Engine manufacturer	Cummins Inc.	
Engine model	QSB5-G5	
Configuration	Cast iron, in-line, 4 cylinder	
Aspiration	Turbocharged and charge air cooled	
Gross engine power output, kWm (bhp)	131 (176)	113 (152)
BMEP at set rated load, kPa (psi)	1205 (174.7)	1083 (157.1)
Bore, mm (in)	107 (4.21)	
Stroke, mm (in)	124 (4.88)	
Rated speed, rpm	1800	
Piston speed, m/s (ft/min)	7.44 (1464)	
Compression ratio	17.3:1	
Lube oil capacity, L (qt)	12.2 (12.9)	
Overspeed limit, rpm	2250	

Fuel flow

Maximum fuel flow, L/hr (US gph)	133 (35.0)
Maximum fuel inlet restriction with clean filter, mm Hg (in Hg)	127 (5.0)

Air	Standby rating	Prime rating
Combustion air, m3/min (scfm)	9.63 (340)	9.34 (330)
Maximum air cleaner restriction with clean filter, kPa (in H2O)	1.25 (5)	

Exhaust

Exhaust flow at set rated load, m^3/min (cfm)	20 (696)	18.52 (654)
Exhaust temperature, °C (°F)	370 (697)	341 (645)
Maximum back pressure, kPa (in H_2O)	10 (40.18)	10(40.18)
Available exhaust back pressure with CPG sound level 2 enclosure muffler, kPa (in H_2O)	3.5 (14.1)	4.5 (18.1)
Available exhaust back pressure with CPG weather enclosure muffler, kPa (in H_2O)	4.5 (18.1)	5 (20.1)

Standard set-mounted radiator cooling

Ambient design, ° C (° F)	50 (122)	
Fan load, kW_m (HP)	5.22 (7)	
Coolant capacity (with radiator), L (US Gal)	16 (4.2)	
Cooling system air flow, m^3/min (scfm)	218.04 (7700)	
Total heat rejection, MJ/min (Btu/min)	8.96 (8491)	8.38 (7943)
Maximum cooling air flow static restriction, kPa (in H_2O)	0.12 (0.5)	

Weight[2]

Unit wet weight kgs (lbs)	1006 (2217)

Notes:
[1] For non-standard remote installations contact your local Cummins Power Generation representative.
[2] Weights represent a set with standard features. See outline drawing for weights of other configurations.

Derating factors

Standby	Engine power available up to 1890m (6,200ft) and ambient temperatures up to 40C (104F). Above these conditions, derate at 17% per 300m (1,000ft) and 16% per 10C (18F).
Prime	Engine power available up to 1951m (6,400ft) and ambient temperatures up to 40C (104F). Above these conditions, derate at 17% per 300m (1,000ft) and 19% per 10C (18F).

Ratings definitions

Emergency standby power (ESP):	Limited-time running power (LTP):	Prime power (PRP):	Base load (continuous) power (COP):
Applicable for supplying power to varying electrical load for the duration of power interruption of a reliable utility source. Emergency Standby Power (ESP) is in accordance with ISO 8528. Fuel Stop power in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.	Applicable for supplying power to a constant electrical load for limited hours. Limited Time Running Power (LTP) is in accordance with ISO 8528.	Applicable for supplying power to varying electrical load for unlimited hours. Prime Power (PRP) is in accordance with ISO 8528. Ten percent overload capability is available in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.	Applicable for supplying power continuously to a constant electrical load for unlimited hours. Continuous Power (COP) is in accordance with ISO 8528, ISO 3046, AS 2789, DIN 6271 and BS 5514.

Alternator data

Standard Alternators	Single phase table	Three phase table				
Maximum temperature rise above 40 °C ambient	120 °C	120 °C	120 °C	120 °C	120 °C	120 °C
Feature code	BB90-2	B946-2	B986-2	B943-2	B952-2	BB86-2
Alternator data sheet number	ADS-204	ADS-204	ADS-204	ADS-204	ADS-203	ADS-204
Voltage ranges	120/240	120/208	120/240	277/480	347/600	127/220
Voltage feature code	R104-2	R098-2	R106-2	R002-2	R114-2	R020-2
Surge kW	71.0	73.3	73.3	73.9	72.6	73.5
Motor starting kVA (at 90% sustained voltage) Shunt	231	231	231	231	188	231
Motor starting kVA (at 90% sustained voltage) PMG	272	272	272	272	221	272
Full load current amps at standby rating	250	208	181	90.3	72.3	197

Notes:
[1] Single phase power can be taken from a three phase generator set at up to 2/3 set rated 3-phase kW at 1.0 power factor. Also see Note 3 below.
[2] The broad range alternators can supply single phase output up to 2/3 set rated 3-phase kW at 1.0 power factor.
[3] The extended stack (full single phase output) and 4 lead alternators can supply single phase output up to full set rated 3-phase kW at 1.0 power factor.

Formulas for calculating full load currents:

Three phase output

$$\frac{kW \times 1000}{Voltage \times 1.73 \times 0.8}$$

Single phase output

$$\frac{kW \times SinglePhaseFactor \times 1000}{Voltage}$$

Warning: Back feed to a util ty system can cause electrocution and/or property damage. Do not connect to any building's electrical system except through an approved device or after building main switch is open.

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NAD-6213b-EN (1/17)

Power Generation

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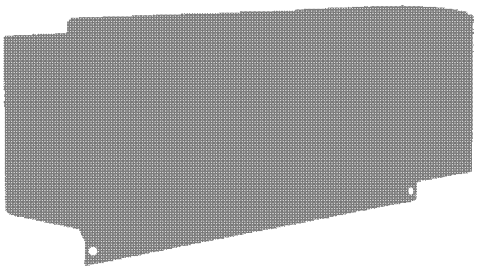
Specification sheet

Diesel generator set

QSB5 series engine

50-125 kW @ 60Hz
EPA Tier 3 emissions



Description

Cummins Power Generation generator sets are fully integrated power generation systems providing optimum performance, reliability and versatility for stationary standby applications.

Features

Heavy Duty Engine - Rugged 4-cycle industrial diesel delivers reliable power and fast response to load changes.

Alternator - Several alternator sizes offer selectable motor starting capability with low reactance 2/3 pitch windings, low waveform distortion with non-linear loads and fault clearing short-circuit capability.

Control system - The PowerCommand® 2.3 electronic control is standard equipment and provides total generator set system integration including automatic remote starting/stopping, precise frequency and voltage regulation, alarm and status message display, output metering, auto-shutdown at fault detection and NFPA 110 Level 1 compliance.

Cooling system - Standard cooling package provides reliable running at up to 50 °C (122 °F) ambient temperature.

Enclosures - The aesthetically appealing enclosure incorporates special designs that deliver one of the quietest generators of its kind. Aluminum material plus durable powder coat paint provides the best anti-corrosion performance. The generator set enclosure has been designed to withstand 180 MPH wind loads in accordance with ASCE7-10. The design has hinged doors to provide easy access for service and maintenance.

Fuel tanks - Dual wall sub-base fuel tanks are offered as optional features, providing economical and flexible solutions to meet extensive code requirements on diesel fuel tanks.

NFPA - The generator set accepts full rated load in a single step in accordance with NFPA 110 for Level 1 systems.

Warranty and service - Backed by a comprehensive warranty and worldwide distributor and dealer network.

	Standby 60 Hz		Prime 60 Hz		Data sheets
Model	kW	kVA	kW	kVA	
C50D6C	50	63	45	56	NAD-6212-EN
C60D6C	60	75	54	68	NAD-6213-EN
C80D6C	80	100	72	90	NAD-6214-EN
C100D6C	100	125	90	113	NAD-6215-EN
C125D6C	125	156	112.5	141	NAD-6216-EN

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Generator set specifications

Governor regulation class	ISO 8528 Part 1 Class G3
Voltage regulation, no load to full load	± 1.0%
Random voltage variation	± 1.0%
Frequency regulation	Isochronous
Random frequency variation	± 0.50%
Radio frequency emissions compliance	FCC code title 47 part 15 class A and B

Engine specifications

Design	Turbocharged and charge air cooled
Bore	107 mm (4.21 in)
Stroke	124 mm (4.88 in)
Displacement	4.5 liters (272 in^3)
Cylinder block	Cast iron, in-line 4 cylinder
Battery capacity	850 amps per battery at ambient temperature of 0 °C (32 °F)
Battery charging alternator	100 amps
Starting voltage	2x12 volt in parallel, negative ground
Lube oil filter type(s)	Spin-on with relief valve
Standard cooling system	High ambient radiator
Rated speed	1800 rpm

Alternator specifications

Design	Brushless, 4 pole, drip proof, revolving field
Stator	2/3 pitch
Rotor	Direct coupled, flexible disc
Insulation system	Class H per NEMA MG1-1.65
Standard temperature rise	120 °C (248 °F) standby
Exciter type	Torque match (shunt) with PMG as option
Alternator cooling	Direct drive centrifugal blower
AC waveform total harmonic distortion	< 5% no load to full linear load, < 3% for any single harmonic
Telephone influence factor (TIF)	< 50 per NEMA MG1-22.43
Telephone harmonic factor (THF)	<3%

Available voltages

1-phase	3-phase				
• 120/240	• 120/208	• 120/240	• 277/480	• 347/600	• 127/220

Generator set options

Fuel tanks
- ☐ Basic fuel tanks
- ☐ Regional fuel tanks

Engine
- ☐ Engine air cleaner – normal or heavy duty
- ☐ Shut down – low oil pressure
- ☐ Extension – oil drain
- ☐ Engine oil heater

Alternator
- ☐ 120 °C temperature rise alternator
- ☐ 105 °C temperature rise alternator
- ☐ PMG excitation
- ☐ Alternator heater, 120V
- ☐ Reconnectable full 1 phase output alternator

Control
- ☐ AC output analog meters
- ☐ Stop switch – emergency
- ☐ Auxiliary output relays (2)
- ☐ Auxiliary configurable signal inputs (8) and relay outputs (8)

Electrical
- ☐ One, two or three circuit breaker configurations
- ☐ 80% rated circuit breakers
- ☐ 80% or 100% rated LSI circuit breakers
- ☐ Battery charger

Enclosure
- ☐ Aluminum enclosure Sound Level 1 or Level 2, sandstone or green color
- ☐ Aluminum weather protective enclosure with muffler installed, green color

Cooling system
- ☐ Shutdown – low coolant level
- ☐ Warning – low coolant level
- ☐ Extension – coolant drain
- ☐ Coolant heater options:
  - ○ <4 °C (40 °F) – cold weather
  - ○ <-18 °C (0 °F) – extreme cold

Exhaust system
- ☐ Exhaust connector NPT
- ☐ Exhaust muffler mounted

Generator set application
- ☐ Base barrier – elevated genset
- ☐ Radiator outlet duct adapter

Warranty
- ☐ Base warranty – 2 year/1000 hours, standby
- ☐ Base warranty – 1 year/ unlimited hours, prime
- ☐ 3 year standby warranty options
- ☐ 5 year standby warranty options

Generator set accessories

- ☐ Coolant heater
- ☐ Battery heater kit
- ☐ Engine oil heater
- ☐ Remote control displays
- ☐ Auxiliary output relays (2)
- ☐ Auxiliary configurable signal inputs (8) and relay outputs (8)
- ☐ Annunciator – RS485
- ☐ Audible alarm
- ☐ Remote monitoring device – PowerCommand® 500/550
- ☐ Battery charger – stand-alone, 12V
- ☐ Circuit breakers
- ☐ Enclosure Sound Level 1 to Sound Level 2 upgrade kit
- ☐ Base barrier – elevated generator set
- ☐ Mufflers – industrial, residential or critical
- ☐ Alternator PMG excitation
- ☐ Alternator heater

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Control system PowerCommand 2.3

PowerCommand® 2.3 control - An integrated generator set control system providing voltage regulation, engine protection and operator interface.
Control - Provides battery monitoring and testing features and smart-starting control system.
InPower™ – PC-based service tool available for detailed diagnostics.
PCCNet RS485 - Network interface (standard) to devices such as remote annunciator for NFPA 110 applications.
Control boards - Potted for environmental protection.
Ambient operation - Suitable for operation in ambienet temperatures from -40°C to +70°C and altitudes to 13,000 feet (5,000 meters).

AC Protection

- AmpSentry protective relay
- Over current warning and shutdown
- Over and under voltage shutdown
- Over and under frequency shutdown
- Over excitation (loss of sensing) fault
- Field overload
- Overload warning
- Reverse kW shutdown
- Reverse VAR shutdown
- Short circuit protection

Engine protection

- Overspeed shutdown
- Low oil pressure warning and shutdown
- High coolant temperature warning and shutdown
- Low coolant level warning or shutdown
- Low coolant temperature warning
- High, low and weak battery voltage warning
- Fail to start (overcrank) shutdown
- Fail to crank shutdown
- Redundant start disconnect
- Cranking lockout
- Sensor failure indication
- Low fuel level warning or shutdown
- Emergency stop
- Fuel-in-rupture-basin warning or shutdown

Operator/display panel

- Manual off switch
- 320 x 240 Pixels graphic LED backlight LCD with push button access for viewing engine and alternator data and providing setup, controls, and adjustments (English, Spanish, or French).
- LED lamps indicating genset running, not in auto, common warning, common shutdown, manual run mode and remote start
- Suitable for operation in ambient temperatures from -20°C to +70°C

Alternator data

- Line-to-line and Line-to-neutral AC volts
- 3-phase AC current
- Frequency
- kVa, kW, power factor

Engine data

- DC voltage
- Lube oil pressure
- Coolant temperature

Other data

- Generator set model data
- Start attempts, starts, running hours
- Fault history
- RS485 Modbus® interface
- Data logging and fault simulation (requires InPower™ service tool)

Digital voltage regulation

- Integrated digital electronic voltage regulator
- 3-phase line-to-line sensing
- Configurable torque matching
- Fault current regulation under single or three phase fault conditions

Control functions

- Time delay start and cooldown
- Cycle cranking
- PCCNet interface
- (2) Configurable inputs
- (2) Configurable outputs
- Remote emergency stop
- Automatic transfer switch (ATS) control
- Generator set exercise, field adjustable

Options

- ☐ Auxiliary output relays (2)
- ☐ Remote annunciator with (3) configurable inputs and (4) configurable outputs
- ☐ PMG alternator excitation
- ☐ PowerCommand 500/550 for remote monitoring and alarm notification (accessory)
- ☐ Auxiliary, configurable signal inputs (8) and configurable relay outputs (8)
- ☐ AC output analog meters (bargraph)
  - Color-coded graphical display of: - 3-phase AC voltage
    - 3-phase current
    - Frequency
    - kVa
- ☐ Remote operator panel

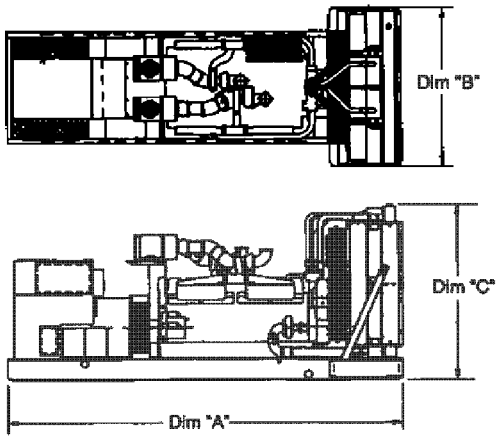
Ratings definitions

Emergency standby power (ESP):
Applicable for supplying power to varying electrical load for the duration of power interruption of a reliable utility source. Emergency Standby Power (ESP) is in accordance with ISO 8528. Fuel Stop power in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.

Limited-time running power (LTP):
Applicable for supplying power to a constant electrical load for limited hours. Limited Time Running Power (LTP) is in accordance with ISO 8528.

Prime power (PRP):
Applicable for supplying power to varying electrical load for unlimited hours. Prime Power (PRP) is in accordance with ISO 8528. Ten percent overload capability is available in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.

Base load (continuous) power (COP):
Applicable for supplying power continuously to a constant electrical load for unlimited hours. Continuous Power (COP) in accordance with ISO 8528, ISO 3046, AS 2789, DIN 6271 and BS 5514.



This outline drawing is for reference only. See respective model data sheet for specific model outline drawing number.

Do not use for .nstallation design

Model	Dim "A" mm (in.)	Dim "B" mm (in.)	Dim "C" mm (in.)	Set Weight*wet kg (lbs)
Open Set				
C50D6C	2482 (98)	965 (38)	1321 (52)	958 (2113)
C60D6C	2482 (98)	965 (38)	1321 (52)	1006 (2217)
C80D6C	2482 (98)	965 (38)	1321 (52)	1054 (2324)
C100D6C	2482 (98)	965 (38)	1321 (52)	1106 (2439)
C125D6C	2482 (98)	965 (38)	1321 (52)	1173 (2586)
Weather Protective Enclosure				
C50D6C	2482 (98)	1016 (40)	1473 (58)	1039 (2290)
C60D6C	2482 (98)	1016 (40)	1473 (58)	1087 (2396)
C80D6C	2482 (98)	1016 (40)	1473 (58)	1135 (2503)
C100D6C	2482 (98)	1016 (40)	1473 (58)	1187 (2618)
C125D6C	2482 (98)	1016 (40)	1473 (58)	1254 (2765)
Sound Attenuated Enclosure Level 1				
C50D6C	3016 (119)	1016 (40)	1473 (58)	1221 (2693)
C60D6C	3016 (119)	1016 (40)	1473 (58)	1137 (2507)
C80D6C	3016 (119)	1016 (40)	1473 (58)	1185 (2614)
C100D6C	3016 (119)	1016 (40)	1473 (58)	1237 (2729)
C125D6C	3016 (119)	1016 (40)	1473 (58)	1304 (2876)
Sound Attenuated Enclosure Level 2				
C50D6C	3456 (136)	1016 (40)	1473 (58)	1228 (2708)
C60D6C	3456 (136)	1016 (40)	1473 (58)	1144 (2522)
C80D6C	3456 (136)	1016 (40)	1473 (58)	1192 (2629)
C100D6C	3456 (136)	1016 (40)	1473 (58)	1244 (2744)
C125D6C	3456 (136)	1016 (40)	1473 (58)	1311 (2891)

* Weights above are average. Actual weight varies with product configuration.

Codes and standards

Codes or standards compliance may not be available with all model configurations – consult factory for availability.

	The Prototype Test Support (PTS) program verifies the performance integrity of the generator set design. Cummins Power Generation products bearing the PTS symbol meet the prototype test requirements of NFPA 110 for Level 1 systems.		This generator set is designed in facilities certified to ISO 9001 and manufactured in facilities certified to ISO 9001 or ISO 9002.
			The generator set is available Listed to UL 2200, Stationary Engine Generator Assemblies.
International Building Code	The generator set is certified to International Building Code (IBC) 2012.		All low voltage models are CSA certified to product class 4215-01.
		U.S. EPA	Engine certified to U.S. EPA SI Stationary Emission Regulation 40 CFR, Part 60.

Warning: Back feed to a utility system can cause electrocution and/or property damage. Do not connect to any building's electrical system except through an approved device or after building main switch is open.

North America
1400 73rd Avenue N.E.
Minneapolis, MN 55432
USA

Phone 763 574 5000
Fax 763 574 5298

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NAS-6211-EN (7/17) A055Y560

Power Generation

power.cummins.com

CLARK, MELISSA B GS-13 USAF AFGSC 377 MSG/CEIE

From: Chris Tornillo <chris.tornillo@cummins.com>
Sent: Friday, April 27, 2018 4:11 PM
To: CLARK, MELISSA B GS-13 USAF AFGSC 377 MSG/CEIE
Subject: [Non-DoD Source] RE: Spec Sheets for 2 KAFB generators
Attachments: A051P365.pdf; A054T898.pdf

Hi Melissa,

The stack height is:

Enclosure – 58.3 inches drawing A051P365.pdf attached

PLUS

Fuel base tank – 25 inches drawing A054T898.pdf attached.

Overall height of combined tank and generator set see sheet 2 of A054T898.pdf is 83.3 inches

Have a great weekend!

Chris Tornillo –CR634
Senior Sales Engineer – Power Systems

Cummins Sales and Service

1921 Broadway Blvd. NE
Albuquerque, NM 87102

Cell: 505-401-6082

Chris.tornillo@cummins.com

From: CLARK, MELISSA B GS-13 USAF AFGSC 377 MSG/CEIE [mailto:melissa.clark.8@us.af.mil]
Sent: Friday, April 27, 2018 12:26 PM
To: Chris Tornillo <chris.tornillo@cummins.com>
Subject: RE: Spec Sheets for 2 KAFB generators

Hi Chris,

Can you get me the spec sheet that shows the approx. stack height for these two generators?

Thanks!

Melissa

From: Chris Tornillo <chris.tornillo@cummins.com>
Sent: Tuesday, March 13, 2018 6:36 PM
To: CLARK, MELISSA B GS-13 USAF AFGSC 377 MSG/CEIE <melissa.clark.8@us.af.mil>; Garrett Eldridge <garrett.eldridge@cummins.com>
Cc: SHEETS, TED L GS-11 USAF AFGSC 377 MSG/CEOE <ted.sheets.1@us.af.mil>; CUEVAS, ANDRIA R CIV USAF AFGSC 377 MSG/CEIE <andria.cuevas.1@us.af.mil>
Subject: [Non-DoD Source] RE: Spec Sheets for 2 KAFB generators
Importance: High

Hi Melissa,

Long time no talk! Hope you are well!

Please find attached the emissions data for the C50D6C.

Have a great day!

Chris Tornillo –CR634
Senior Sales Engineer – Power Systems

Cummins Sales and Service

1921 Broadway Blvd. NE
Albuquerque, NM 87102

Cell: 505-401-6082

Chris.tornillo@cummins.com

From: CLARK, MELISSA B GS-13 USAF AFGSC 377 MSG/CEIE [mailto:melissa.clark.8@us.af.mil]
Sent: Tuesday, March 13, 2018 5:19 PM
To: Garrett Eldridge <garrett.eldridge@cummins.com>
Cc: SHEETS, TED L GS-11 USAF AFGSC 377 MSG/CEOE <ted.sheets.1@us.af.mil>; Chris Tornillo <chris.tornillo@cummins.com>; CUEVAS, ANDRIA R CIV USAF AFGSC 377 MSG/CEIE <andria.cuevas.1@us.af.mil>
Subject: RE: Spec Sheets for 2 KAFB generators

Hi Garrett,

Can I get the 2017 EPA Tier 3 Exhaust Emission Compliance Statement for the C50D6C. You attached the one for C60D6C, but I'm missing this one.

Thanks
Melissa

From: Garrett Eldridge [mailto:garrett.eldridge@cummins.com]
Sent: Monday, February 12, 2018 10:21 AM
To: CLARK, MELISSA B GS-13 USAF AFGSC 377 MSG/CEIE <melissa.clark.8@us.af.mil>
Cc: SHEETS, TED L GS-11 USAF AFGSC 377 MSG/CEOE <ted.sheets.1@us.af.mil>; Chris Tornillo <chris.tornillo@cummins.com>
Subject: [Non-DoD Source] RE: Spec Sheets for 2 KAFB generators

Hello Melissa,

Here are the sheets for the units that are on order. These are updated models as the ones listed below are obsolete. 50KW and 60KW

Garrett Eldridge –CW340
Sales - Power Systems, Southern Region

Cummins Sales and Service

651 North 101st Ave
Avondale, AZ 85323

Phone: 623-474-2719
Cell: 520-221-3055

From: CLARK, MELISSA B GS-13 USAF AFGSC 377 MSG/CEIE [mailto:melissa.clark.8@us.af.mil]
Sent: Friday, February 9, 2018 5:38 PM
To: Garrett Eldridge <garrett.eldridge@cummins.com>
Cc: SHEETS, TED L GS-11 USAF AFGSC 377 MSG/CEOE <ted.sheets.1@us.af.mil>
Subject: Spec Sheets for 2 KAFB generators

External Sender

Hi Garrett,

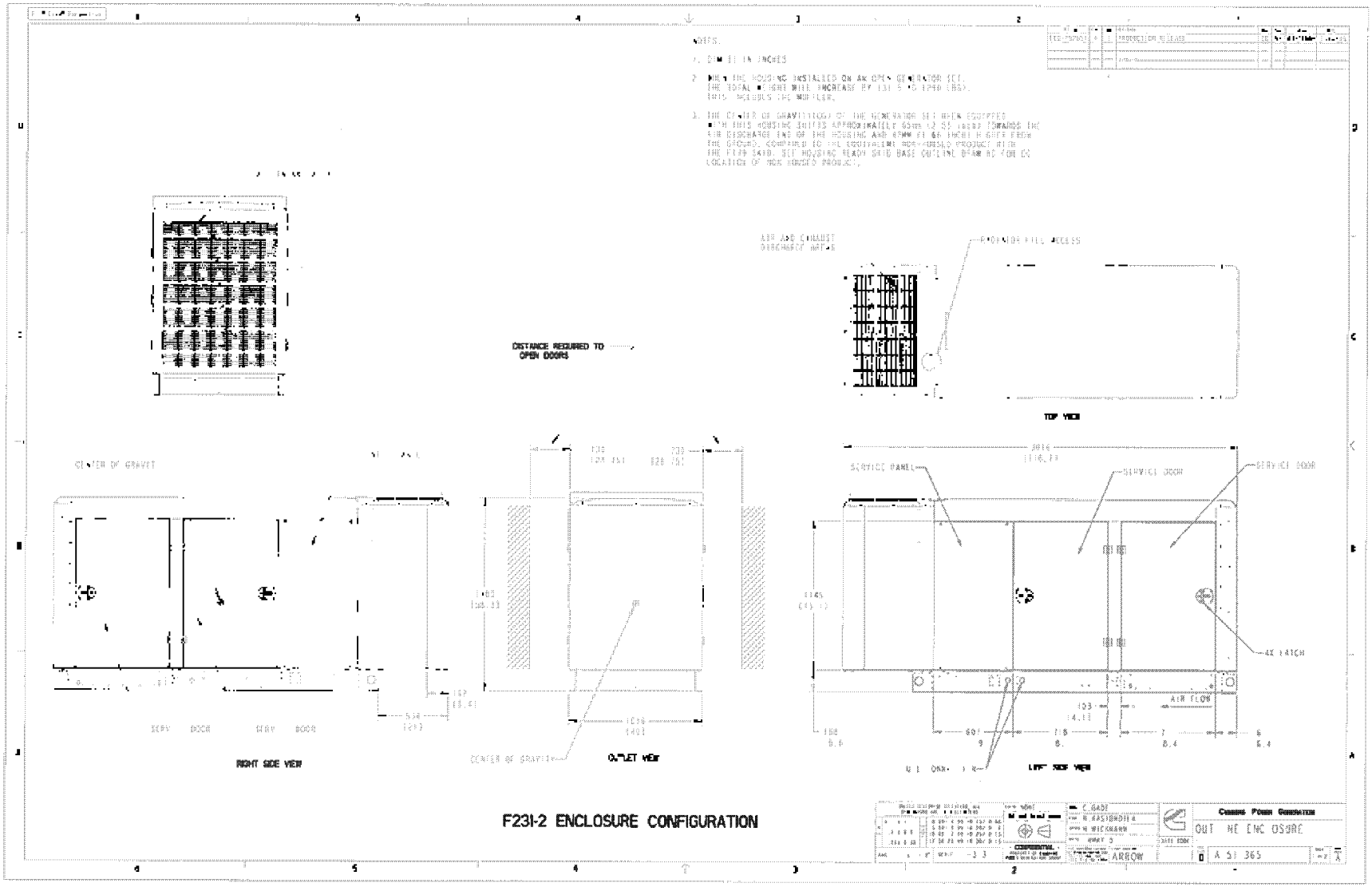
Nice talking to you today. As we discussed, can you please send me the spec sheets for the 2 generators that were ordered for KAFB – I need the spec sheets, the emission estimates, and the EPA emission certification – or whatever you have at this point.

Our records show that the two generators are the following models:
50DGHDA
60DSFAD

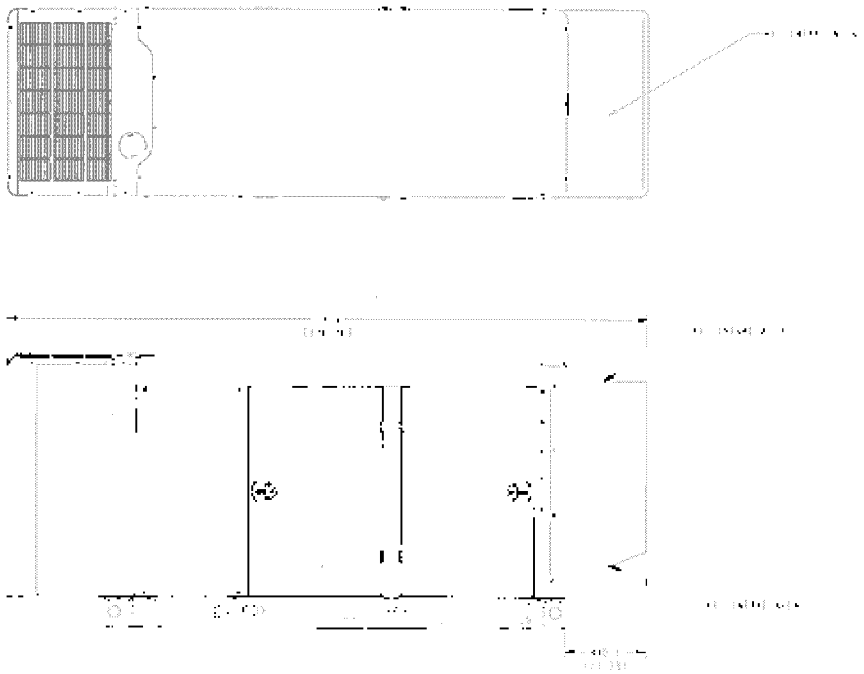
You also mentioned you would send Ted and I the full package with specs once you put it together next week.

Thanks
Melissa

//SIGNED//
Melissa Clark, GS-13, 377 MSG/CEIE
Chief, Environmental Management
DSN 263-1588 Comm (505) 853-1588
Fax (505) 853-6970



Drawing Name. A051P368 Revision: A
Part Name. A051P365 Revision: A
Sheet 1 of 3



F217-2 ENCLOSURE CONFIGURATION

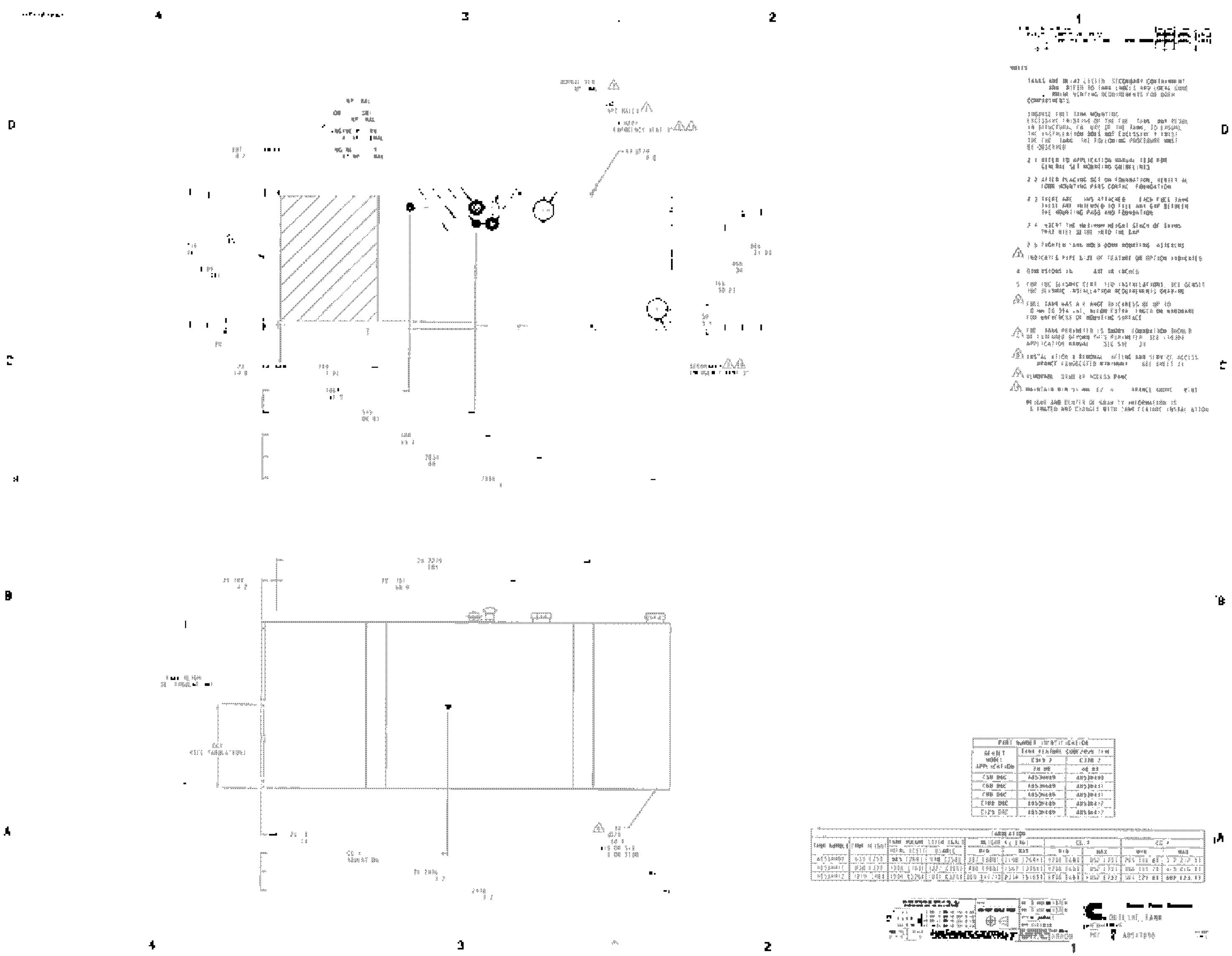
REFER TO PAGE 1 (F231-2 ENCLOSURE FOR OTHER F217-2 ENCLOSURE DIMENSIONS.

Part A051P365 A

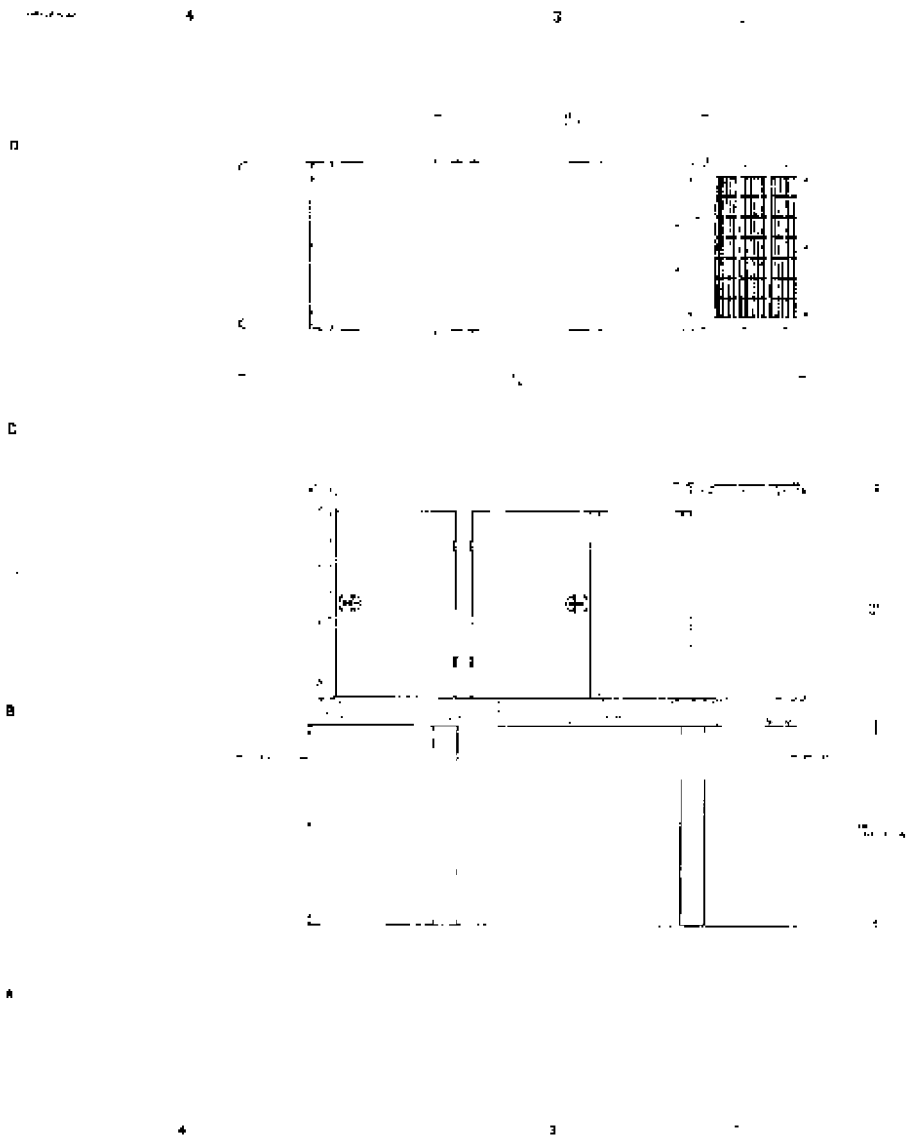
Description	Legacy Name	External Regulations	Application Status	Release Phase Code	Security Classification	Alternates
OUTLINE,ENCLOSURE	A051P365	None	Production Only	Production	Public	

Part Specifications :A051P365 A

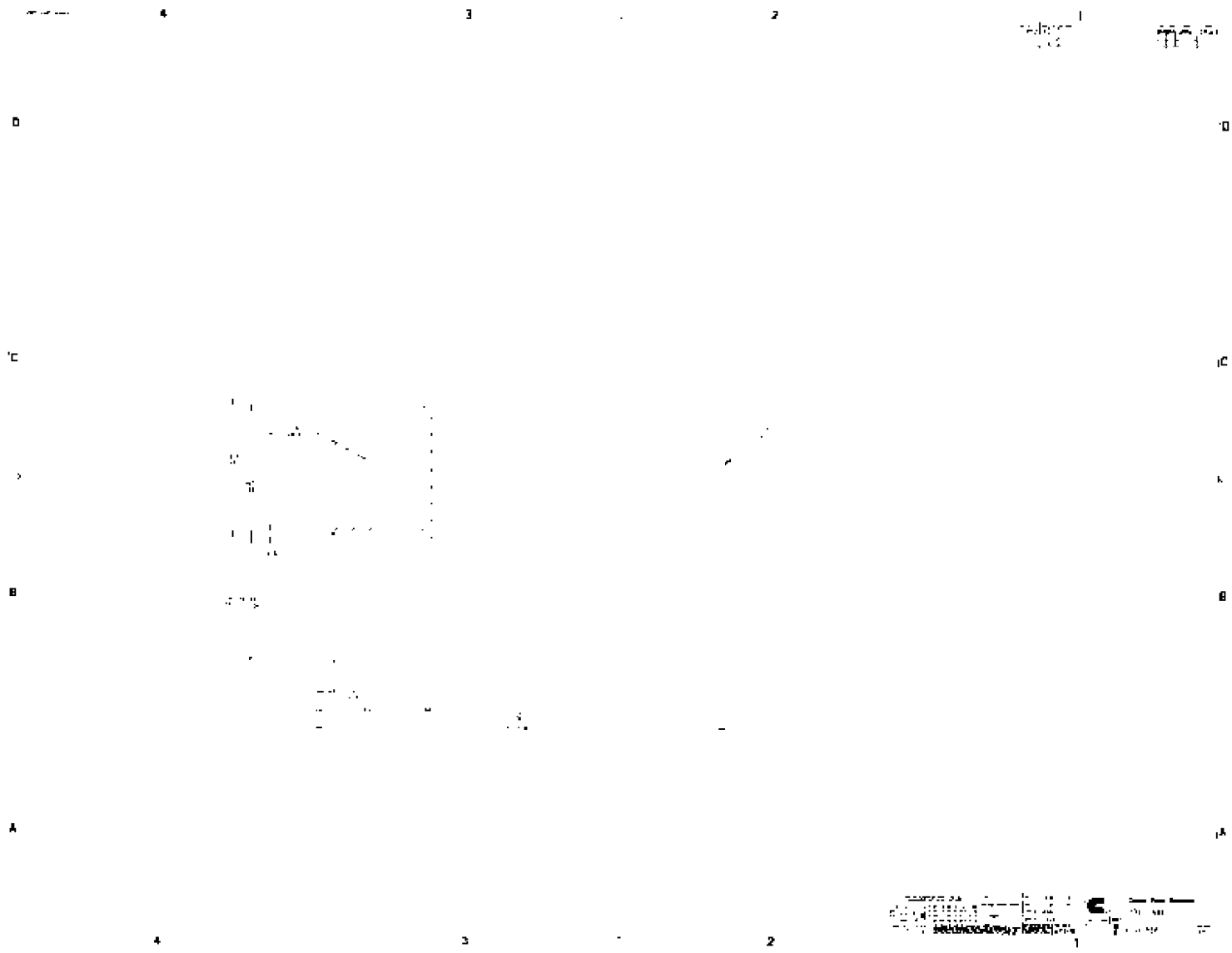
Name	Description	Legacy Name
A030E356	SPECIFICATION,MATERIAL	CES16903
A051P366	DRAWING,ENGINEERING	A051P366



Drawing Name: A054T899 Revision: B
Part Name: A054T898 Revision: B
Sheet 1 of 4



Drawing Name A054T899 Revision: B
Part Name A054T898 Revision: B
Sheet 2 of 4



Drawing Name: A054T899 Revision: B
Part Name: A054T898 Revision: B
Sheet 3 of 4

Part A054T898 B

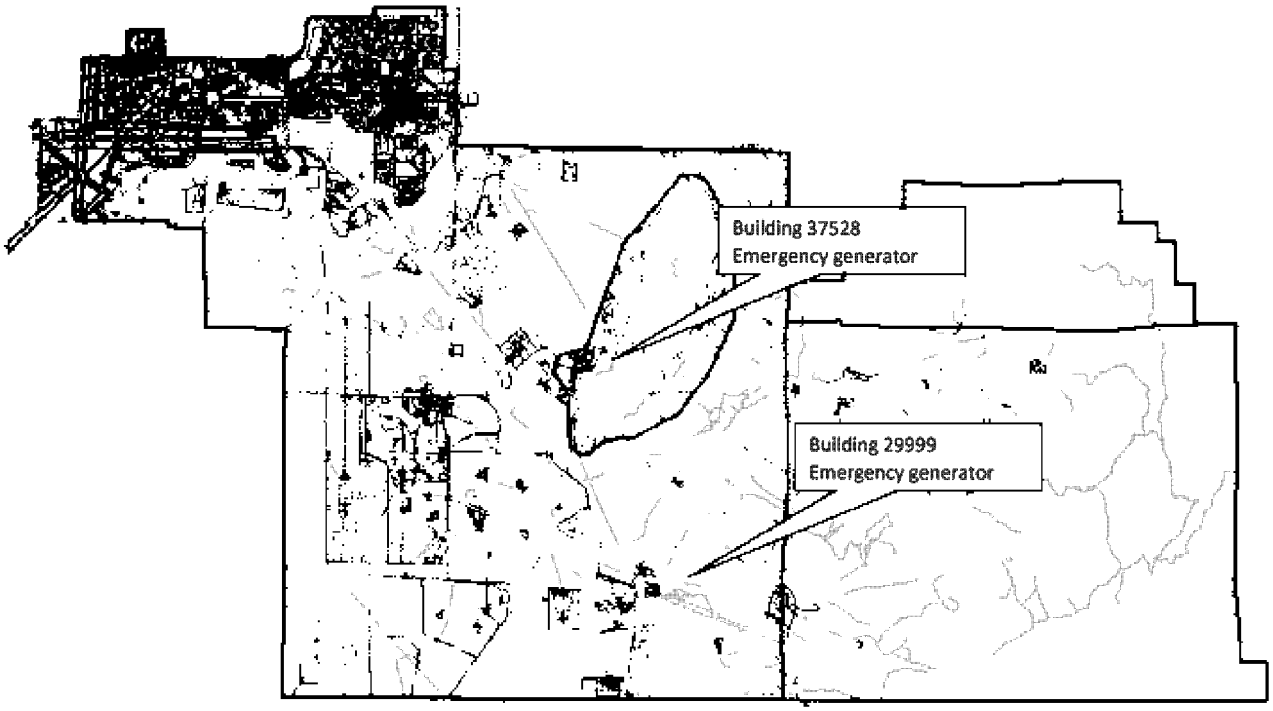
Description	Legacy Name	External Regulations	Application Status	Release Phase Code	Security Classification	Alternates
OUTLINE,TANK	A054T898	No External Regulations Apply	Production Only	Production	Public	

Part Specifications :A054T898 B

Name	Description	Legacy Name
A030B356	SPECIFICATION,MATERIAL	CES10903
A054T899	DRAWING,ENGINEERING	A054T899

Attachment D

Generator Location Map and Aerial Photo



Generator Location Map

Kirtland Air Force Base, Albuquerque, New Mexico

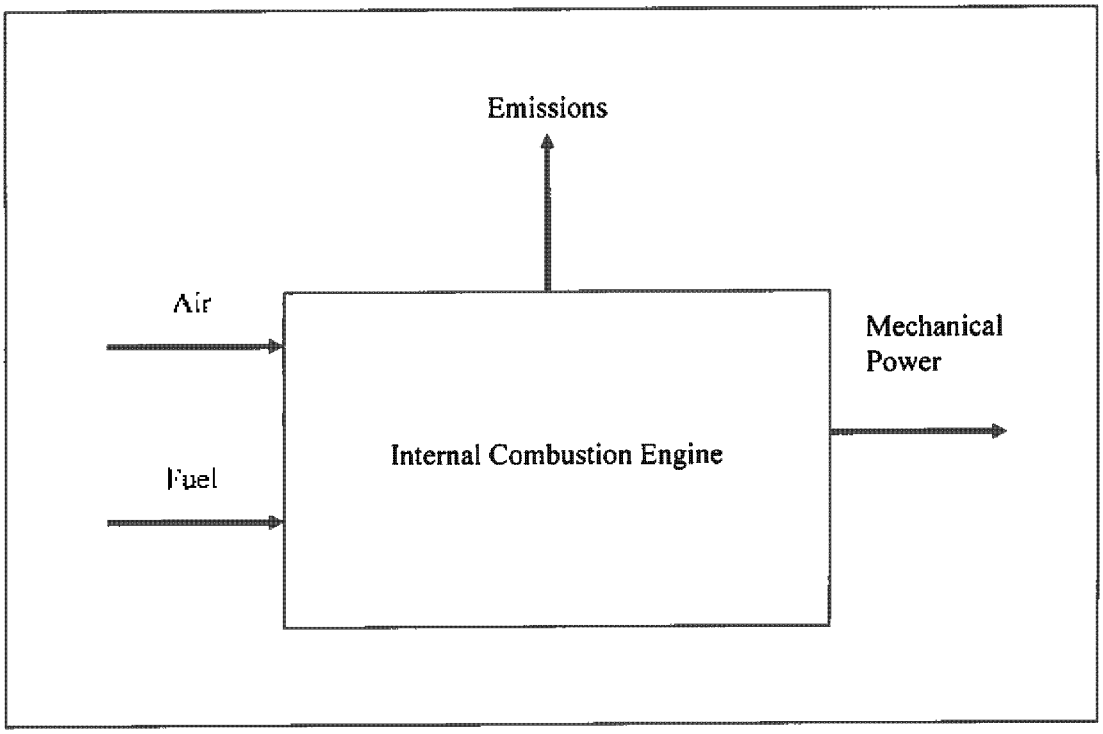
Unit ID 19181 - TACLab, Bldg 29999

Unit ID 19182 - Pump House 2 Manzano, Bldg 37528

Attachment E

Engine Process Flow Diagram

Process Flow Diagram for an Engine



Eyerman, Regan V.

From: CLARK, MELISSA B GS-13 USAF AFGSC 377 MSG/CEIE <melissa.clark.8@us.af.mil>
Sent: Tuesday, September 18, 2018 10:00 AM
To: Eyerman, Regan V.
Cc: CUEVAS, ANDRIA R CIV USAF AFGSC 377 MSG/CEIE; kafbaqstaff@hazair.com'
Subject: RE: [Non DoD Source] FW: Question about picking generator emission factors for NOx/VOC/NMHC

Hi Regan,

Sorry for the delay in getting back to you on this one. This question came up for application for two new generators at the water plant -- Permit 1786-M4. In this instance, the worst case manufacturer's emission limit for NOx is 3.22, which is higher than the TIER 3 NSPS Non-road Engine emission limit for NOx+NMHC. The 3.22 value is for the engine at 1/4 standby

We have decided to use the 3/4 standby manufacturer emission factors for all permit applications. You'll see that method used on the application that was submitted this AM for Permit 1786-M4.

Thanks
Melissa

From: Eyerman, Regan V. <reyerman@cabq.gov>
Sent: Tuesday, July 10, 2018 11:24 AM
To: CLARK, MELISSA B GS-13 USAF AFGSC 377 MSG/CEIE <melissa.clark.8@us.af.mil>
Cc: CUEVAS, ANDRIA R CIV USAF AFGSC 377 MSG/CEIE <andria.cuevas.1@us.af.mil>; 'kafbaqstaff@hazair.com' <kafbaqstaff@hazair.com>
Subject: RE: [Non-DoD Source] FW: Question about picking generator emission factors for NOx/VOC/NMHC

Hi Melissa,

You are correct, we have been assuming 95% NOx and 5% VOC in the absence of any other information. Regarding your application, we cannot permit an engine for a NOx limit higher than the federal standard. Please provide the specific example.

Thank you,
Regan Eyerman, P.E.
Senior Environmental Health Scientist
Air Quality Program
Environmental Health Department
City of Albuquerque
(505) 767-5625
reyerman@cabq.gov

From: CLARK, MELISSA B GS-13 USAF AFGSC 377 MSG/CEIE <melissa.clark.8@us.af.mil>
Sent: Tuesday, July 10, 2018 11:07 AM
To: Eyerman, Regan V. <reyerman@cabq.gov>
Cc: CUEVAS, ANDRIA R CIV USAF AFGSC 377 MSG/CEIE <andria.cuevas.1@us.af.mil>; 'kafbaqstaff@hazair.com' <kafbaqstaff@hazair.com>
Subject: RE: [Non-DoD Source] FW: Question about picking generator emission factors for NOx/VOC/NMHC

Hi Regan,

My email has been acting up so I'm not sure if I ever saw a response to this email.

Thanks
Melissa

From: CLARK, MELISSA B GS-13 USAF AFGSC 377 MSG/CEIE <melissa.clark.8@us.af.mil>
Sent: Sunday, June 17, 2018 5:23 PM
To: reyerman@cabq.gov
Cc: CUEVAS, ANDRIA R CIV USAF AFGSC 377 MSG/CEIE <andria.cuevas.1@us.af.mil>; 'kafbaqstaff@hazair.com' <kafbaqstaff@hazair.com>
Subject: Question about picking generator emission factors for NOx/VOC/NMHC

Hi Regan,

I was helping out with an application and a question came up – in situations where the manufacturer EF for NOx is higher than the NOx+NMHC EF limit – how do you handle? In the past I recall we used an assumed ratio to come up with the specific portion for NOx and VOC/NMHC separately.

Do you have guidance on how to handle this, or do I need to provide the specific example?

I feel uncomfortable using the manufacturer EF for NOx when it is higher than the combined limit.

Thanks,
Melissa

//SIGNED//
Melissa Clark, GS-13, 377 MSG/CEIE
Chief, Environmental Management
DSN 263-1588 Comm (505) 853 1588
Fax (505) 853-6970