



Department of Energy
National Nuclear Security Administration
Sandia Field Office
P.O. Box 5400
Albuquerque, NM 87185



JAN 29 2021

Mr. Israel Tavarez
Manager, Environmental Health Department
Air Quality Program
1 Civic Plaza NW, Room 3023
P.O. Box 1293
Albuquerque, New Mexico 87103

Subject: Application for Construction Permit to Install a New 2500 kW Emergency Generator

Dear Mr. Tavarez:

Enclosed is the Subject application to install a new emergency generator at Sandia National Laboratories Building 810, which is owned by the Department of Energy. This permit application is required for the installation of one 2500 kW emergency generator, which will operate 500 hours or less per year.

Building 810 currently has three 2 MMBtu natural gas-fired boilers registered with the City of Albuquerque under Registration Certification No. NM/001/00024 (Air Quality Tracking No. 2111). These units will be included in the application as exempted sources per Subparagraph (a) of Paragraph (3) of Subsection F of 20.11.41.2 NMAC and Paragraph (4) of Subsection F of 20.11.41.2 NMAC.

If you have questions, please contact Carolyn Holloway of our staff at (505) 845-5248 or Carolyn.Holloway@nnsa.doe.gov.

Sincerely,

**William V.
Wechsler**

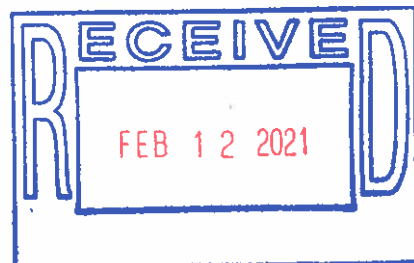
William V. Wechsler
Assistant Manager for Engineering

Digitally signed by William
V. Wechsler
Date: 2021.01.28 12:42:04
-07'00'

Enclosure

cc w/enclosure:
Elizabeth Pope, SNL/NM
William Wechsler, SFO/ENG
Carolyn Holloway, SFO/ENG

cc w/o enclosure:
Rosemary Avery, SNL/NM
NNSA-2021-000336



EXECUTIVE SUMMARY

In accordance with 20.11.41.29 NMAC, the U.S. Department of Energy (DOE) is submitting this application to install a new 2500 kW emergency generator. The new generator will be located at Sandia National Laboratories/New Mexico (SNL/NM) Building 810.

Per City of Albuquerque Air Quality Program's Internal Combustion Engine Permitting Policy, SNL/NM personnel and the DOE are requesting to operate the emergency generator for a maximum of 500 hours per year. The generator will only be operated during unavoidable loss of commercial power or during required maintenance/exercising.

SNL/NM personnel and the DOE are including Building 810's three existing 2 MMBtu natural gas-fired boilers in the application. The boilers are used for comfort heating purposes and are considered exempt sources under Subparagraph (a) of Paragraph (3) of Subsection F of 20.11.41.2 NMAC and Paragraph (4) of Subsection F of 20.11.41.2 NMAC. These units are currently operating under Registration Certificate # NM/001/00024 (Air Quality Tracking # 2111). These units will be included as exempted sources in the application.

1. PRE-PERMIT APPLICATION MEETING

Per email dated November 25, 2020. Regan Eyerman granted a waiver from performing a pre-permit application meeting to SNL/NM personnel and the DOE (see attached email) for this application to install a new emergency generator. The Pre-permit Application Meeting Checklist is attached to this section.

1.a. Pre-permit Application Meeting Waiver

From: [Eyerman, Regan V.](#)
To: [Avery, Penny](#)
Cc: [Pope, Callan](#); [Holloway, Carolyn \(EGDS\)](#); [Stonesifer, Jeff W.](#); [Munoz-Dyer, Carina G.](#)
Subject: [EXTERNAL] RE: Two new emergency generator applications
Date: Wednesday, November 25, 2020 10:53:21 AM



Good morning Penny, Carolyn and Callan,
Thank you for contacting the City of Albuquerque Environmental Health Department Air Quality Program (Program). Everything is fine, as much as it can be. We are all still teleworking and looking forward to the holiday season.

Per 20.11.41.13A. NMAC, the Program waives the pre-application meeting requirement for DOE/SNL's two planned permitting projects. The link to the regulation is below:
<http://164.64.110.134/parts/title20/20.011.0041.html>

We will provide a memo of neighborhood associations and coalitions to contact around the base.
How are you doing on your supply of weather proof-signs?

I hope you have a great Thanksgiving!



Regan Eyerman, P.E.
senior environmental health scientist | environmental health department
o 505.767.5625
cabq.gov/environmentalhealth/

From: Avery, Penny <rpavery@sandia.gov>
Sent: Thursday, November 19, 2020 15:31
To: Eyerman, Regan V. <reyerman@cabq.gov>
Cc: Pope, Callan <epope@sandia.gov>; Holloway, Carolyn (EGDS) <carolyn.holloway@nnsa.doe.gov>; Stonesifer, Jeff W. <JStonesifer@cabq.gov>
Subject: Two new emergency generator applications

External

Hi Regan,

Hope everything's going well and you and your family are staying healthy and safe.

We're still mostly working from home, but need to start the process to apply for a couple of new emergency generators.

1. We will be applying to convert Registration #2111 to a Construction permit to add an emergency generator to Building 810. Registration #2111 is for three 2MMBtu/hr natural gas-fired boilers used for comfort heating. Although the boilers are exempt from Construction permitting according to 20.11.41.2.F(3)(a) NMAC, we will be including the relevant equipment information in the "Exempted Sources" table in the application. Please let us know if we should also include the emissions information in any of the other tables.
2. We will also be applying for a Construction permit to install an emergency generator at Building 726

Since emergency generators are exempt from dispersion modeling requirements (October 2019 City of Albuquerque Air Quality Program's Air Dispersion Modeling Guidelines for Air Quality Permitting) and we're familiar with the permitting process including timelines, fees, and public notice, I'm thinking we won't need to schedule a pre-application meeting.

On behalf of Carolyn Holloway (DOE/NNSA/SFO) I would like to request that the Air Quality Program waive the requirement for pre-application meetings for the installation of these two new emergency generators.

When you can, please provide a current list of emails of the neighborhood associations and coalitions within 0.5 miles of the KAFB fence line for us to notify prior to our application submittal.

Thanks and if I don't talk to you before then, have a great Thanksgiving holiday!
Penny



**ENVIRONMENT
SAFETY & HEALTH**

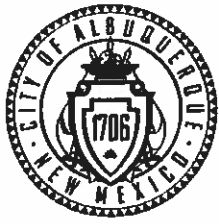
Penny Avery
Sandia National Laboratories

Air Quality Compliance Program Lead (00641)
Environmental Compliance & Monitoring
pah.199@sl.nsl.gov
(505) 283-3185 | Cell: (505) 273-1047 | Surge 2208

We are integrated E&SH technical experts solving national and global challenges.

=====
This message has been analyzed by Deep Discovery Email Inspector.

1.b. Pre-Permit Application Meeting Checklist



City of Albuquerque

Environmental Health Department

Air Quality Program



Pre-Permit Application Meeting 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 submitting an application, the applicant shall contact the department in writing and request a pre-application meeting for information regarding the contents of the application and the application process. This checklist is provided to aid the applicant and a **copy must be submitted 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.

Name: Building 810 – New Emergency Generator and Boilers

Contact: Carolyn Holloway (505) 845-5248/Penny Avery (505) 273-1047

Company/Business: Dept. of Energy/Sandia Field Office (DOE/SFO)/Sandia National Laboratories/New Mexico (SNL/NM)

- Fill out and submit a Pre-Permit Application Meeting Request form
 - ⇒ Available online at <http://www.cabq.gov/airquality>
 - ⇒ The department waived the pre-application meeting requirement in an email from Regan Eyerman on November 25, 2020
- Emission Factors and Control Efficiencies
Notes: N/A
- Air Dispersion modeling guidelines and protocol
Notes: N/A
- Department Policies
Notes: N/A
- Air quality permit fees
Notes: N/A
- Public notice requirements
 - Replacement Part 41 Implementation
 - 20.11.41.13 B. Applicant’s public notice requirements
 - Providing public notice to neighborhood association/coalitions
 - Neighborhood association: _____
 - Coalition: _____

- Posting and maintaining a weather-proof sign

Notes: N/A

- Regulatory timelines

- 30 days to rule application complete
- 90 days to issue completed permit
- Additional time allotted if there is significant public interest and/or a significant air quality issue
 - Public Information Hearing
 - Complex permitting action

Notes: N/A

2. PUBLIC NOTICE

Attached to this section are all completed public notice requirements including:

- a) Notice of Intent to Construct Form
- b) Public Sign Notice Guidelines
- c) Public Notice Sign Photograph

2.a. Notice of Intent to Construct Form



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 within 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:

Nombre y domicilio del solicitante: Department of Energy
Sandia Field Office (SFO)
P.O. Box 5400, Albuquerque, NM, 87185

Owner or operator's name and address:

Nombre y domicilio del propietario u operador: Sandia National Laboratories
P.O. Box 5800 MS 1512, Albuquerque, NM 87185-1512

Actual or estimated date the application will be submitted to the department:

Fecha actual o estimada en que se entregará la solicitud al departamento: January 29, 2021

Description of the source:

Descripción de la fuente: Emergency Generator

Exact location of the source or proposed source:

Ubicación exacta de la fuente o fuente propuesta: Building 810 (K Street and 7th Street)

Nature of business:

Tipo de negocio: Research and Development

Process or change for which the permit is requested:

Proceso or cambio para el cuál se solicita el permiso: Addition of an emergency diesel generator

Preliminary estimate of the maximum quantities of each regulated air contaminant the source will emit:

Estimación preliminar de las cantidades máximas de cada contaminante de aire regulado que la fuente va a emitir:

Air Contaminant <i>Contaminante de aire</i>	Proposed Construction Permit <i>Permiso de Construcción Propuesto</i>		Net Changes <i>(for permit modification or technical revision)</i> <i>Cambio Neto de Emisiones</i> <i>(para modificación de permiso o revisión técnica)</i>	
	pounds per hour <i>libras por hora</i>	tons per year <i>toneladas por año</i>	pounds per hour <i>libras por hora</i>	tons per year <i>toneladas por año</i>
CO	6.09	1.52	N/A	N/A
NOx	51.11	12.78	N/A	N/A
VOC	1.12	0.28	N/A	N/A
SO2	0.037	0.009	N/A	N/A
PM10	0.40	0.10	N/A	N/A
PM2.5	0.40	0.10	N/A	N/A

HAP	N/A	N/A	N/A	N/A
-----	-----	-----	-----	-----

Maximum operating schedule:

Horario máximo de operaciones: 365 days/yr, 24 hrs/day

Normal operating schedule:

Horario normal de operaciones: 6 AM to 5 PM

Current contact information for comments and inquires:

Datos actuales para comentarios y preguntas:

Name (*Nombre*): Tami Moore - DOE Public Affairs Director

Address (*Domicilio*): PO Box 5400, Albuquerque, NM 87185

Phone Number (*Número Telefónico*): (505) 845-5264

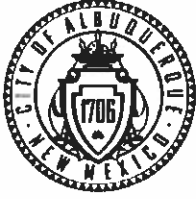
E-mail Address (*Correo Electrónico*): tami.moore@nnsa.doe.gov

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

Environmental Health Manager
Permitting Division
Albuquerque Environmental Health Department
Air Quality Program
P.O. 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 on the City of Albuquerque's website, <https://www.cabq.gov/airquality/air-quality-permits> and sent to neighborhood associations and neighborhood coalitions near the facility location or near the facility proposed location.



Environmental Health Department

Air Quality Program

Interoffice Memorandum



TO: PENNY AVERY, PROGRAM MANAGER, AIR QUALITY COMPLIANCE PROGRAM LEAD
FROM: NOEL BEGAY, PROGRAM SPECIALIST
SUBJECT: VERIFICATION OF NEIGHBORHOOD ASSOCIATIONS AND COALITIONS WITHIN 0.5 MILES OF KIRTLAND AIR FORCE BASE PROPERTY, ALBUQUERQUE, NM
DATE: 12/4/2020

DETERMINATION:

On 12/4/2020, I used the City of Albuquerque Zoning Advanced Map Viewer (<http://coagisweb.cabq.gov/>) to verify which City of Albuquerque Neighborhood Associations (NA), Homeowner Associations (HOA) and Neighborhood Coalitions (NC) are located within 0.5 miles of Kirtland Air Force Base Property, Albuquerque, NM in Bernalillo County.

I then used the City of Albuquerque (COA) Office of Neighborhood Coordination Monthly Neighborhood Association List dated November 2020 and the Bernalillo County (BC) Monthly Neighborhood Association November 2020 Excel file to determine the contact information for each NA, HOA and NC populated by the Albuquerque Zoning Advanced Map Viewer.

Duplicates have been deleted. Contact information is as follows:

COA/BC Association or Coalition	Name	Email or Mailing Address
District 6 Coalition of NA	Mandy Warr Patricia Willson	mandy@theremedyspa.com info@willsonstudio.com
East Gateway Coalition	Michael Brasher James Andrews Association E-mail	brasher@aps.edu jamesw.andrews01@gmail.com eastgatewaycoalition@gmail.com
East Mountain District 5 Coalition	Paul Butler Lisa Davis	info@eatmountaincoalition.org ldavis@eastmountaincoalition.org
Elder Homestead NA	Sandra Perea Marian Jordan	sp-wonderwoman@comcast.net marianjor@aol.com
Four Hills Village Association	Steve Brugge Dave Wallace	s.brugge@yahoo.com cactuscrownm@yahoo.com
Juan Tabo Hills NA	Richard Lujan Catherine Cochrane	richtriple777@msn.com catcochrane1@gmail.com
La Mesa Community Improvement	Dayna Mares Idalia Lechuga-Tena Association E-mail	dayna.mares76@gmail.com idalialt@gmail.com latesainternationaldistrict@gmail.com
Parkland Hills NA	Mary Darling Robert Leming	mldarling56@yahoo.com phnapresident@gmail.com
Siesta Hills NA	Rachel Baca	rbaca@bizjournals.com

	Kathy Pierson Association Email	kp-shna@centurylink.net siesta2na.pres@gmail.com
South Los Altos	Jim Ahrend Arthur Bazan	notices@slananm.org sla4onc@gmail.com
South San Pedro NA	Khadijah Bottom Zabdiel Aldaz	khadijahasili@vizionz.org zabdiel505@gmail.com
Southeast Heights NA	Pete Belletto John Pate	pmbdoc@yahoo.com jpate@molzencorbin.com
Trumbull Village NA	Alyce Ice Joanne Landry	alyceice@gmail.com landry54@msn.com
Victory Hills NA	Erin Engelbrecht Association Email	e2brecht@gmail.com victoryhillsabq@gmail.com
Willow Wood NA	Pamela Meyer Samantha Martinez	pmeyer@sentrymgt.com samijoster@gmail.com
Yale Village NA	Donald Love Kim Love Association Email	donaldlove08@comcast.net klove726@gmail.com yalevillage@comcast.net

From: Moore, Tami L.
To: mandy@theremedydayspa.com; info@wilsonstudio.com; brasher@aps.edu; jamesw.andrews01@gmail.com; eastgatewaycoalition@gmail.com; info@eastmountaincoalition.org; ldavis@eastmountaincoalition.org; sp-wonderwoman@comcast.net; marianior@aol.com; s.brugge@yahoo.com; cactuscrownm@yahoo.com; richtriple777@msn.com; catcochrane1@gmail.com; dayna.mares76@gmail.com; ldallait@gmail.com; jamesainternationaldistrict@gmail.com; mldarling56@yahoo.com; phnapresident@gmail.com; rbaca@bizjournals.com; kp-shna@centurylink.net; siesta2na.pres@gmail.com; notices@slananm.org; khadijahassil@vizionz.org; zabdel505@gmail.com; sla4onc@gmail.com; ombdoc@yahoo.com; jpate@molzencorbin.com; alyceice@gmail.com; landry54@msn.com; s2brecht@gmail.com; victoryhillsabo@gmail.com; pmever@sentrymot.com; samitoster@gmail.com; donaldiove08@comcast.net; klove726@gmail.com; yalevillage@comcast.net
Cc: Pope, Callan; Holloway, Carolyn (EGDS)
Subject: [EXTERNAL] Public Notice of Proposed Air Quality Construction Permit Application for Sandia National Laboratories (Bldg. 810)
Date: Wednesday, January 6, 2021 11:48:37 AM
Attachments: [810_Notice_of_Intent_11242020.pdf](#)

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	United States Department of Energy (DOE)
Site or Facility Name	Building 810
Site or Facility Address	K Street and 7 th Street
New or Existing Source	New Source
Anticipated Date of Application Submittal	January 29, 2021
Summary of Proposed Source to Be Permitted	Installation of a new Tier II emergency diesel generator.

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?

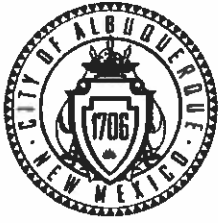
For inquiries regarding the proposed source, contact:

- Tami Moore – DOE Public Affairs Director
- tami.moore@nnsa.doe.gov
- (505) 845-5264

For inquiries regarding the air quality permitting process, contact:

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

2.b. Public Sign Notice Guidelines



City of Albuquerque

Environmental Health Department Air Quality Program



Public Notice Sign Guidelines

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 submitting an application, the applicant shall post and maintain a weather-proof sign provided by the department. The applicant shall keep the sign posted until the department takes final action on the permit application; if an applicant can establish to the department's satisfaction that the applicant is prohibited by law from posting, at either location required, the department may waive the posting requirement and may impose different notification requirements. A copy of this form must be submitted with your 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.

Name: Department of Energy

Contact: Tami Moore (DOE)

Company/Business: Address: PO Box 5400, Albuquerque NM, 87185

Phone: (505) 845-5264

Email: tami.moore@nnsa.doe.gov

- The sign must be posted at the more visible of either the proposed or existing facility entrance (or, if approved in advance and in writing by the department, at another location on the property that is accessible to the public)
 - The sign shall be installed and maintained in a condition such that members of the public can easily view, access, and read the sign at all times.
 - The lower edge of the sign board should be mounted a minimum of 2' above the existing ground surface to facilitate ease of viewing
 - Attach a picture of the completed, properly posted sign to this document
 - Check here if the department has waived the sign posting requirement.
- Alternative public notice details:

2.c. Public Notice Sign Photograph





Proposed Air Quality Construction Permit
Permiso de Construcción de Calidad del Aire Propuesto



1. Applicant's Name: U.S. Department of Energy
 Applicant's Name: Sandia National Laboratories
2. Actual or Estimated Date the Application will be Submitted to the Department: January 28, 2021
3. Exact Location of the Source or Proposed Source: Building 310, K St and 7th St
4. Description of the Source: Research and Development - Emergency Generator
 Nature of Business: Research and Development
 Process or change for which a permit is requested: Addition of an Emergency Generator

Preliminary estimate of the maximum quantities of each regulated air contaminant the source will emit.
 Estimación preliminar de las cantidades máximas de cada contaminante de aire regulado que se emitirán en el sitio.

Air Contaminant Contaminante de Aire	Proposed Construction Permit Permiso de Construcción Propuesta		Net Change (Emissions for permit modification or technical revision) Cambio Neto de Emisiones (para modificación de permiso o emisión técnica)	
	Pounds per hour libras por hora	Tons per year toneladas por año	Pounds per hour libras por hora	Tons per year toneladas por año
CO	6.09	1.52	N/A	N/A
NOx	51.11	12.78		
SO ₂	0.037	0.009		
PM ₁₀	0.40	0.10		
PM _{2.5}	0.30	0.10		
HAP				
VOC	1.12	0.28		

5. Maximum Operating Schedule: 365 days/yr, 24 hrs/day
 Máximo de Operaciones: 6 am to 5 pm
6. Current Contact Information for Comments and Inquiries
 Datos actuales para Comentarios y Preguntas:
 Name (Nombre): Tami Moore - DOE Public Affairs Director
 Address (Dirección): PO Box 5400
 Phone Number (Número Telefónico): (505) 845-5264
 Email Address (Correo Electrónico): Tami.moore@nsls.doe.gov

Call 248 for additional information regarding this permit, the Air Quality Program, or to file a complaint.
 Llame al 248 para obtener información adicional sobre este permiso, del Programa de Calidad del Aire, o para presentar una queja.
 Or 311 for both (both using the Code of Municipalities or the City of Albuquerque, or both using the City of Albuquerque).

City of Albuquerque, Environmental Health Department, Air Quality Program - Stationary Source Permitting
 Ciudad de Albuquerque, Departamento de Salud Ambiental, Programa de Calidad del Aire - Permisos para Fuentes Fijas
 (505) 768-3772, aeid@ceaq.gov

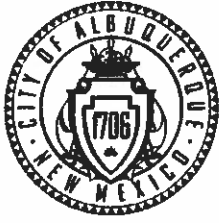
THIS SIGN SHALL REMAIN POSTED UNTIL THE DEPARTMENT TAKES FINAL ACTION ON THE PERMIT APPLICATION
 ESTE AVISO DEBERÁ DE MANTENERSE PUESTO HASTA QUE EL DEPARTAMENTO TOMA UNA DECISIÓN SOBRE LA SOLICITUD DE PERMISO

3. AIR PERMIT APPLICATION

Attached to this section are as follows:

- a) Required Permit Application Forms:
 - o Permit Application Checklist
 - o Permit Application Review Fee Checklist
 - o Short Permit Application Form
- b) Plot Pan identifying the location of the new emergency generator
 - o USGS 7.5'- Quadrangle Map
 - o Google Map
- c) Process flow diagram
- d) Emission calculations and supporting information used to calculate emissions
- e) Regulatory Requirements
- f) Operational and Maintenance Strategy
- g) Air Dispersion Modeling Ambient Impact Analysis

3.a. Required Permit Application Forms



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. Attached is a waiver from the Pre-permit Application Meeting Request
2. Attend the pre-permit application meeting
 - a. Attached is a waiver from the *Pre-permit Application Meeting Checklist*
3. Provide public notice to the appropriate parties
 - a. Attach a copy of the completed *Notice of Intent to Construct* form to this form
 - i. Neighborhood Association(s): See Attached Memo from Regan
 - ii. Coalition(s): _____
 - 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).

- 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.
- 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. 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.
- 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.
- 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.



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	United States Department of Energy (DOE)		
Company Address	1515 Wyoming Boulevard SE		
Facility Name	Sandia National Laboratories/New Mexico		
Facility Address	K Street and 7 th Street (Building 810)		
Contact Person	Carolyn Holloway (SFO)/ Penny Avery (SNL/NM)		
Contact Person Phone Number	(505) 845-5248/ (505) 273-1047		
Are these application review fees for an existing permitted source located within the City of Albuquerque or Bernalillo County?	Yes	<input type="radio"/> No	
If yes, what is the permit number associated with this modification?	Permit #		
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	<input type="radio"/> 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	\$573.00	2801
	AQN Technical Amendment	\$313.00	2802
	AQN Transfer of a Prior Authorization	\$313.00	2803
X	<i>Not Applicable</i>	<i>See Sections Below</i>	
Stationary Source Review Fees (Not Based on Proposed Allowable Emission Rate)			
	Source Registration required by 20.11.40 NMAC	\$ 584.00	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	\$ 1,168.00	2301
X	<i>Not Applicable</i>	<i>See Sections Below</i>	
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	\$876	2302
X	Proposed Allowable Emission Rate Equal to or greater than 5 tpy and less than 25 tpy	\$1,752	2303
	Proposed Allowable Emission Rate Equal to or greater than 25 tpy and less than 50 tpy	\$3,503	2304
	Proposed Allowable Emission Rate Equal to or greater than 50 tpy and less than 75 tpy	\$5,255	2305
	Proposed Allowable Emission Rate Equal to or greater than 75 tpy and less than 100 tpy	\$7,006	2306
	Proposed Allowable Emission Rate Equal to or greater than 100 tpy	\$8,758	2307
	<i>Not Applicable</i>	<i>See Section Above</i>	

Federal Program Review Fees (In addition to the Stationary Source Application Review Fees above)			
X	40 CFR 60 - "New Source Performance Standards" (NSPS)	\$1,168	2308
	40 CFR 61 - "Emission Standards for Hazardous Air Pollutants (NESHAPs)	\$1,168	2309
	40 CFR 63 - (NESHAPs) Promulgated Standards	\$1,168	2310
	40 CFR 63 - (NESHAPs) Case-by-Case MACT Review	\$11,677	2311
	20.11.61 NMAC, Prevention of Significant Deterioration (PSD) Permit	\$5,838	2312
	20.11.60 NMAC, Non-Attainment Area Permit	\$5,838	2313
	<i>Not Applicable</i>	<i>Not Applicable</i>	

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	\$ 1,168.00	2321
X	<i>Not Applicable</i>	<i>See Sections Below</i>	
Modification Application 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	\$876	2322
	Proposed Allowable Emission Rate Equal to or greater than 5 tpy and less than 25 tpy	\$1,752	2323
	Proposed Allowable Emission Rate Equal to or greater than 25 tpy and less than 50 tpy	\$3,503	2324
	Proposed Allowable Emission Rate Equal to or greater than 50 tpy and less than 75 tpy	\$5,255	2325
	Proposed Allowable Emission Rate Equal to or greater than 75 tpy and less than 100 tpy	\$7,006	2326
	Proposed Allowable Emission Rate Equal to or greater than 100 tpy	\$8,758	2327
X	<i>Not Applicable</i>	<i>See Section Above</i>	
Major Modifications Review Fees (In addition to the Modification Application Review Fees above)			
	20.11.60 NMAC, Permitting in Non-Attainment Areas	\$5,838	2333
	20.11.61 NMAC, Prevention of Significant Deterioration	\$5,838	2334
X	<i>Not Applicable</i>	<i>Not Applicable</i>	
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)			
	40 CFR 60 - "New Source Performance Standards" (NSPS)	\$1,168	2328
	40 CFR 61 - "Emission Standards for Hazardous Air Pollutants (NESHAPs)	\$1,168	2329
	40 CFR 63 - (NESHAPs) Promulgated Standards	\$1,168	2330
	40 CFR 63 - (NESHAPs) Case-by-Case MACT Review	\$11,677	2331
	20.11.61 NMAC, Prevention of Significant Deterioration (PSD) Permit	\$5,838	2332
	20.11.60 NMAC, Non-Attainment Area Permit	\$5,838	2333
X	<i>Not Applicable</i>	<i>Not Applicable</i>	

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	\$ 2,920.00
Section III Total	\$ 0.00
Section IV Total	\$ 0.00
Section V Total	\$ 0.00
Total Application Review Fee	\$ 2,920.00

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 _____ day of _____ 20____

William V. Wechsler
Print Name

Assistant Manager for Engineering
Print Title

William V. Wechsler
Digitally signed by William V. Wechsler
Date: 2021.01.28 12:36:01 -0700
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.



**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 8:00 am – 5:00 pm Monday-Friday to:
3rd Floor, Suite 3023 – One Civic Plaza NW, Albuquerque, NM 87102
(505) 768-1972 aqd@cabq.gov



**Application for Air Pollutant Sources in Bernalillo County
Source Registration (20.11.40 NMAC) and Construction Permits (20.11.41 NMAC)**

Submittal Date:

Corporate Information Check here and leave this section blank if information is exactly the same as Facility Information below.

Company Name: United States Department of Energy (DOE)			
Mailing Address: Sandia Field Office (SFO) P.O. Box 5400	City: Albuquerque	State: NM	Zip: 87185-5400
Company Phone: (505) 845-5178	Company Contact: William V. Wechsler		
Company Contact Title: Assistant Manager for Engineering	Phone: (505) 845-4262	E-mail: william.wechsler@nnsa.doe.gov	

Stationary Source (Facility) Information: Provide a plot plan (legal description/drawing of the facility property) with overlay sketch of facility processes, location of emission points, pollutant type, and distances to property boundaries.

Facility Name: Sandia National Laboratories/New Mexico			
Facility Physical Address: Building 810, K Avenue and 7th Street	City: Albuquerque	State: NM	Zip: 87123
Facility Mailing Address (if different): SNL/NM P.O. Box 5800, MS 1512	City: Albuquerque	State: NM	Zip: 87185-1512
Facility Contact: Carolyn Holloway/Penny Avery	Title: General Engineer/AQC Program Lead		
Phone: (505) 845-5248/(505) 273-1047	E-mail: carolyn.holloway@nnsa.doe.gov/rpavery@sandia.gov		
Authorized Representative Name ¹ :	Authorized Representative Title:		

Billing Information Check here if same contact and mailing address as corporate Check here if same as facility

Billing Company Name:			
Mailing Address:	City:	State:	Zip:
Billing Contact:	Title:		
Phone:	E-mail:		

Preparer/Consultant(s) Information Check here and leave section blank if no Consultant used or Preparer is same as Facility Contact.

Name:	Title:		
Mailing Address:	City:	State:	Zip:
Phone:	Email:		

1. See 20.11.41.13.E.(13) NMAC.

**Application for Air Pollutant Sources in Bernalillo County
Source Registration (20.11.40 NMAC) and Construction Permits (20.11.41 NMAC)**

General Operation Information (if any question does not pertain to your facility, type N/A on the line or in the box)

Permitting action being requested (please refer to the definitions in 20.11.40 NMAC or 20.11.41 NMAC):				
<input checked="" type="checkbox"/> New Permit	<input type="checkbox"/> Permit Modification Current Permit #:	<input type="checkbox"/> Technical Permit Revision Current Permit #:	<input type="checkbox"/> Administrative Permit Revision Current Permit #:	
UTM Coordinates or Latitude – Longitude of Facility: E: 359,745 N: 3,879,865				
Facility Type (description of your facility operations): Research and Development				
Standard Industrial Classification (SIC Code #): 8733		North American Industry Classification System (NAICS Code #): 541712		
Is this facility currently operating in Bernalillo County? Yes		If YES , list date of original construction: 1997 If NO , list date of planned startup:		
Is the facility permanent? Yes		If NO , list dates for requested temporary operation: From Through		
Is the application for a physical or operational change, expansion, or reconstruction (altering process, or adding, or replacing process or control equipment, etc.) to an existing facility? Yes				
Provide a description of the requested changes: Building 810 is requesting the installation and use of a new emergency generator.				
Is the facility operation: <input checked="" type="checkbox"/> Continuous <input type="checkbox"/> Intermittent <input type="checkbox"/> Batch				
Estimated percent of production/operation:	Jan-Mar: 25	Apr-Jun: 25	Jul-Sep: 25	Oct-Dec: 25
Requested operating times of facility:	24 hours/day	7 days/week	4 weeks/month	12 months/year
Will there be special or seasonal operating times other than shown above? This includes monthly- or seasonally-varying hours. No				
If YES , please explain:				
List raw materials processed: N/A				
List saleable item(s) produced: N/A				

**Application for Air Pollutant Sources in Bernalillo County
Source Registration (20.11.40 NMAC) and Construction Permits (20.11.41 NMAC)**

Regulated Emission Sources Table

(Generator-Crusher-Screen-Conveyor-Boiler-Mixer-Spray Guns-Saws-Sander-Oven-Dryer-Furnace-Incinerator-Haul Road-Storage Pile, etc.)
Match the Units listed on this Table to the same numbered line if also listed on Emissions Tables & Stack Table.

Unit Number and Description ¹	Manufacturer	Model #	Serial #	Manufac ture Date	Installation Date	Modification Date ²	Process Rate or Capacity (Hp, kW, Btu, ft ³ , lbs, tons, yd ³ , etc.) ³	Fuel Type
Ex. 1. Generator	Unigen	B-2500	A567321C	7/96	7/97	11/2020	250 Hp/HR	Diesel
Ex. 2. Spray Gun	HVLP Systems	Spra-N-Stay 1100	K26-56-95	01/2017	11/2017	N/A	0.25 gal./HR	Electric Compressor
1 Emergency Generator	Caterpillar	3516C	TBD	TBD	TBD	N/A	2500kW	Diesel

NOTE: To add extra rows in Word, click anywhere in the last row. A plus (+) sign should appear on the bottom right corner of the row. Click the plus (+) sign to add a row. Repeat as needed.

- Unit numbers must correspond to unit numbers in the previous permit unless a complete cross reference table of all units in both permits is provided.
- Have changes been made to the unit that impact emissions or that trigger modification as defined in 20.11.41.7.U NMAC?
- Basis for Equipment Process Rate or Capacity (Manufacturer's data, Field observation/test, etc.) **Manufacturer's data**
Submit information for each unit as an attachment.

**Application for Air Pollutant Sources in Bernalillo County
Source Registration (20.11.40 NMAC) and Construction Permits (20.11.41 NMAC)**

Emissions Control Equipment Table

Control Equipment Units listed on this Table should either match up to the same Unit number as listed on the Regulated Emission Sources, Controlled Emissions and Stack Parameters Tables (if the control equipment is integrated with the emission unit) or should have a distinct Control Equipment Unit Number and that number should then also be listed on the Stack Parameters Table.

Control Equipment Unit Number and Description	Controlling Emissions for Unit Number(s)	Manufacturer	Model # Serial #	Date Installed	Controlled Pollutant(s)	% Control Efficiency ¹	Method Used to Estimate Efficiency	Rated Process Rate or Capacity or Flow
Ex. 8b Baghouse	3,4,5	Best Baghouses	C-12010 A16925	11/12/2019	PM10, PM2.5	99%	Manufacturer spec sheet	1,500 ACFM
N/A								

NOTE: To add extra rows in Word, click anywhere in the last row. A plus (+) sign should appear on the bottom right corner of the row. Click the plus (+) sign to add a row. Repeat as needed.

1. Basis for Control Equipment % Efficiency (Manufacturers data, Field Observation/Test, AP-42, etc.). **N/A**
Submit information for each unit as an attachment.

**Application for Air Pollutant Sources in Bernalillo County
Source Registration (20.11.40 NMAC) and Construction Permits (20.11.41 NMAC)**

Exempted Sources and Exempted Activities Table

See 20.11.41 for exemptions.

Unit Number and Description		Manufacturer	Model #	Serial #	Manufacture Date	Installation Date	Modification Date ¹	Process Rate or Capacity (Hp, kW, Btu, ft ³ , lbs, tons, yd ³ , etc.) ²	Fuel Type
Ex. 1.	Boiler	Unigen	B-2500	A567321C	7/96	7/97	11/2020	3.5 MMBtu - HR	Natural Gas
Ex. 2.	Hot Water Heater	HVLP Systems	6500A	K26-56-95	01/2017	11/2017	N/A	80 gal. - HR	Natural Gas
1	Boiler	Lochinvar	2000	D09H00218475	2009	2009	N/A	2 MMBtu/hr	Natural Gas
2	Boiler	Lochinvar	2000	D09H00218476	2009	2009	N/A	2MMBtu/hr	Natural Gas
3	Boiler	Lochinvar	2000	D09H00218441	2009	2009	N/A	2MMBtu/hr	Natural Gas

NOTE: To add extra rows in Word, click anywhere in the last row. A plus (+) sign should appear on the bottom right corner of the row. Click the plus (+) sign to add a row. Repeat as needed.

1. Have changes been made to the unit that impact emissions, that trigger modification as defined in 20.11.41.7.U NMAC, or that change the status from exempt to non-exempt?
2. Basis for Equipment Process Rate or Capacity (Manufacturer's data, Field observation/test, etc.) **Manufacturer's Data**
Submit information for each unit as an attachment.

**Application for Air Pollutant Sources in Bernalillo County
Source Registration (20.11.40 NMAC) and Construction Permits (20.11.41 NMAC)**

Uncontrolled Emissions Table

(Process potential under physical/operational limitations during a 24 hr/day and 365 day/year = 8760 hrs)

Regulated Emission Units listed on this Table should match up to the same numbered line and Unit as listed on the Regulated Emissions and Controlled Tables. List total HAP values per Emission Unit if overall HAP total for the facility is ≥ 1 ton/yr.

Unit Number*	Nitrogen Oxides (NO _x)		Carbon Monoxide (CO)		Nonmethane Hydrocarbons/Volatile Organic Compounds (NMHC/VOCs)		Sulfur Dioxide (SO ₂)		Particulate Matter ≤ 10 Microns (PM ₁₀)		Particulate Matter ≤ 2.5 Microns (PM _{2.5})		Hazardous Air Pollutants (HAPs)		Method(s) used for Determination of Emissions (AP-42, Material Balance, Field Tests, etc.)
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	
Example 1.	27.7	121.3	9.1	39.9	1.3	5.7	0.5	2.2	2.0	8.8	0.2	0.4	0.2	0.4	AP-42
1	51.11	223.88	6.09	26.67	1.12	4.91	0.037	0.16	0.40	1.75	0.40	1.75	See HAP table below		Manufacturer Guarantee
Totals of Uncontrolled Emissions	51.11	223.88	6.09	26.67	1.12	4.91	0.037	0.16	0.40	1.75	0.40	1.75			

NOTE: To add extra rows in Word, click anywhere in the second-to-last row. A plus (+) sign should appear on the bottom right corner of the row. Click the plus (+) sign to add a row. Repeat as needed.

*A permit is required and this application along with the additional checklist information requested on the Permit Application checklist must be provided if:

- (1) any one of these process units or combination of units, has an uncontrolled emission rate greater than or equal to (\geq) 10 lbs/hr or 25 tons/yr for any of the above pollutants, excluding HAPs, based on 8,760 hrs of operation; or
- (2) any one of these process units or combination of units, has an uncontrolled emission rate ≥ 2 tons/yr for any single HAP or ≥ 5 tons/yr for any combination of HAPs based on 8,760 hours of operation; or
- (3) any one of the process units or combination of units is subject to an Air Board or federal emission limit or standard.

* If all of these process units, individually and in combination, have an uncontrolled emission rate less than ($<$) 10 lbs/hr or 25 tons/yr for all of the above pollutants (based on 8,760 hrs of operation), but > 1 ton/yr for any of the above pollutants, then a source registration is required. A Registration is required, at minimum, for any amount of HAP emissions. Please complete the remainder of this form.

**Application for Air Pollutant Sources in Bernalillo County
Source Registration (20.11.40 NMAC) and Construction Permits (20.11.41 NMAC)**

Controlled Emissions Table

(Based on current operations with emission controls OR requested operations with emission controls)

Regulated Emission Units listed on this Table should match up to the same numbered line and Unit as listed on the Regulated Emissions and Uncontrolled Tables. List total HAP values per Emission Unit if overall HAP total for the facility is ≥ 1 ton/yr.

Unit Number	Nitrogen Oxides (NO _x)		Carbon Monoxide (CO)		Nonmethane Hydrocarbons/Volatile Organic Compounds (NMHC/VOCs)		Sulfur Dioxide (SO ₂)		Particulate Matter ≤ 10 Microns (PM ₁₀)		Particulate Matter ≤ 2.5 Microns (PM _{2.5})		Hazardous Air Pollutants (HAPs)		Control Method	% Efficiency ¹
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr		
Example 1.	27.7	55.4	9.1	18.2	1.3	2.6	0.5	1.0	2.0	4.0	0.2	0.088	0.2	0.088	Operating Hours	N/A
1	51.11	12.78	6.09	1.52	1.12	0.28	0.037	0.009	0.40	0.10	0.40	0.10	See HAP table below		Operating Hours	N/A
Totals of Controlled Emissions	51.11	12.78	6.09	1.52	1.12	0.28	0.037	0.009	0.40	0.10	0.40	0.10				

NOTE: To add extra rows in Word, click anywhere in the second-to-last row. A plus (+) sign should appear on the bottom right corner of the row. Click the plus (+) sign to add a row. Repeat as needed.

1. Basis for Control Equipment % Efficiency (Manufacturers data, Field Observation/Test, AP-42, etc.). N/A
Submit information for each unit as an attachment.

**Application for Air Pollutant Sources in Bernalillo County
Source Registration (20.11.40 NMAC) and Construction Permits (20.11.41 NMAC)**

Hazardous Air Pollutants (HAPs) Emissions Table

Report the Potential Emission Rate for each HAP from each source on the Regulated Emission Sources Table that emits a given HAP. Report individual HAPs with ≥ 1 ton/yr total emissions for the facility on this table. Otherwise, report total HAP emissions for each source that emits HAPs and report individual HAPs in the accompanying application package in association with emission calculations. If this application is for a Registration solely due to HAP emissions, report the largest HAP emissions on this table and the rest, if any, in the accompanying application package.

Unit Number	Total HAPs															
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
Example 1.	6.3	18.2	3.2	8.5	2.3	7.7	0.5	1.0	0.3	1.0	N/A	N/A	N/A	N/A	N/A	N/A
Hazardous Air Pollutants and Volatile Organic Compounds are addressed in Site-wide registration for chemical use (Construction Permit #1901-M1)																
Totals of HAPs for all units:																

NOTE: To add extra rows in Word, click anywhere in the second-to-last row. A plus (+) sign should appear on the bottom right corner of the row. Click the plus (+) sign to add a row. Repeat as needed.

Copy and paste the HAPs table here if need to list more individual HAPs.

**Application for Air Pollutant Sources in Bernalillo County
Source Registration (20.11.40 NMAC) and Construction Permits (20.11.41 NMAC)**

Purchased Hazardous Air Pollutant Table*

Product Categories (Coatings, Solvents, Thinners, etc.)	Hazardous Air Pollutant (HAP), or Volatile Hazardous Air Pollutant (VHAP) Primary To The Representative As Purchased Product	Chemical Abstract Service Number (CAS) of HAP or VHAP from Representative As Purchased Product	HAP or VHAP Concentration of Representative As Purchased Product (pounds/gallon, or %)	Concentration Determination (CPDS, MSDS, etc.) ¹	Total Product Purchases For Category	(-)	Quantity of Product Recovered & Disposed For Category	(=)	Total Product Usage For Category
Example 1. Surface Coatings	Xylene	1330207	4.0 lbs/gal	MSDS	lbs/yr	(-)	lbs/yr	(=)	lbs/yr
					100 gal/yr		0 gal/yr		100 gal/yr
Example 2. Cleaning Solvents	Toluene	108883	70%	Product Label	lbs/yr	(-)	lbs/yr	(=)	lbs/yr
					200 gal/yr		50 gal/yr		150 gal/yr
1. N/A					lbs/yr	(-)	lbs/yr	(=)	lbs/yr
					gal/yr		gal/yr		gal/yr
2.					lbs/yr	(-)	lbs/yr	(=)	lbs/yr
					gal/yr		gal/yr		gal/yr
3.					lbs/yr	(-)	lbs/yr	(=)	lbs/yr
					gal/yr		gal/yr		gal/yr
4.					lbs/yr	(-)	lbs/yr	(=)	lbs/yr
					gal/yr		gal/yr		gal/yr
5.					lbs/yr	(-)	lbs/yr	(=)	lbs/yr
					gal/yr		gal/yr		gal/yr
6.					lbs/yr	(-)	lbs/yr	(=)	lbs/yr
					gal/yr		gal/yr		gal/yr
7.					lbs/yr	(-)	lbs/yr	(=)	lbs/yr
					gal/yr		gal/yr		gal/yr
8.					lbs/yr	(-)	lbs/yr	(=)	lbs/yr
					gal/yr		gal/yr		gal/yr
9.					lbs/yr	(-)	lbs/yr	(=)	lbs/yr
					gal/yr		gal/yr		gal/yr
					lbs/yr	(-)	lbs/yr	(=)	lbs/yr
					gal/yr		gal/yr		gal/yr
TOTALS					lbs/yr	(-)	lbs/yr	(=)	lbs/yr
					gal/yr		gal/yr		gal/yr

NOTE: To add extra rows in Word, click anywhere in the second-to-last row. A plus (+) sign should appear on the bottom right corner of the row. Click the plus (+) sign to add a row. Repeat as needed.

1. Submit, as an attachment, information on one (1) product from each Category listed above which best represents the average of all the products purchased in that Category.

***NOTE: A Registration is required, at minimum, for any amount of HAP or VHAP emission.
Emissions from purchased HAP usage should be accounted for on previous tables as appropriate.
A permit may be required for these emissions if the source meets the requirements of 20.11.41.**

**Application for Air Pollutant Sources in Bernalillo County
Source Registration (20.11.40 NMAC) and Construction Permits (20.11.41 NMAC)**

Material and Fuel Storage Table

(Tanks, barrels, silos, stockpiles, etc.)

Storage Equipment		Product Stored	Capacity (bbls, tons, gals, acres, etc.)	Above or Below Ground	Construction (Welded, riveted) & Color	Installation Date	Loading Rate ¹	Offloading Rate ¹	True Vapor Pressure	Control Equipment	Seal Type	% Eff. ²
Ex. 1.	Tank	Diesel Fuel	5,000 gal.	Below	Welded/Brown	3/93	3,000 gal/hr	500 gal/hr	N/A	N/A	N/A	N/A
Ex. 2.	Barrels	Solvent	55 gal. drum	Above	Welded/Green	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1.	N/A											

NOTE: To add extra rows in Word, click anywhere in the last row. A plus (+) sign should appear on the bottom right corner of the row. Click the plus (+) sign to add a row. Repeat as needed.

1. Basis for Loading/Offloading Rate (Manufacturer's data, Field Observation/Test, etc.). N/A
Submit information for each unit as an attachment.
2. Basis for Control Equipment % Efficiency (Manufacturer's data, Field Observation/Test, AP-42, etc.). N/A
Submit information for each unit as an attachment.

**Application for Air Pollutant Sources in Bernalillo County
Source Registration (20.11.40 NMAC) and Construction Permits (20.11.41 NMAC)**

Stack Parameters Table

If any equipment from the Regulated Emission Sources Table is also listed in this Stack Table, use the same numbered line for the emission unit on both tables to show the association between the Process Equipment and its stack.

Unit Number and Description		Pollutant (CO, NOx, PM10, etc.)	UTM Easting (m)	UTM Northing (m)	Stack Height (ft)	Stack Exit Temp. (°F)	Stack Velocity (fps)	Stack Flow Rate	Stack Inside Diameter (ft)	Stack Type
Ex. 1.	Generator	CO, NOx, PM10, PM2.5, SO2	349430.28	3884014.64	18	900 °F	150 fps	4524 acfm	0.8	Rain Cap
Ex. 2.	Spray Gun	PM10, xylene, toluene	348540.1	3882928.5	9.2	Ambient	50 fps	589 scfm	0.5	Vertical
1	Emergency Generator	CO, NOx, TSP, SO2, NMHC	358876.9	3879846.5	16.7	915 °F	76.4 fps	7002 scfm	1.3	Vertical

NOTE: To add extra rows in Word, click anywhere in the last row. A plus (+) sign should appear on the bottom right corner of the row. Click the plus (+) sign to add a row. Repeat as needed.

**Application for Air Pollutant Sources in Bernalillo County
Source Registration (20.11.40 NMAC) and Construction Permits (20.11.41 NMAC)**

I, the undersigned, an authorized representative 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 registration or permit.

Signed this _____ day of _____, 20_____

William V. Wechsler

Print Name

Assistant Manager of Engineering

Print Title

**William V.
Wechsler**

Digitally signed by William
V. Wechsler
Date: 2021.01.28
12:37:57 -0700

Signature

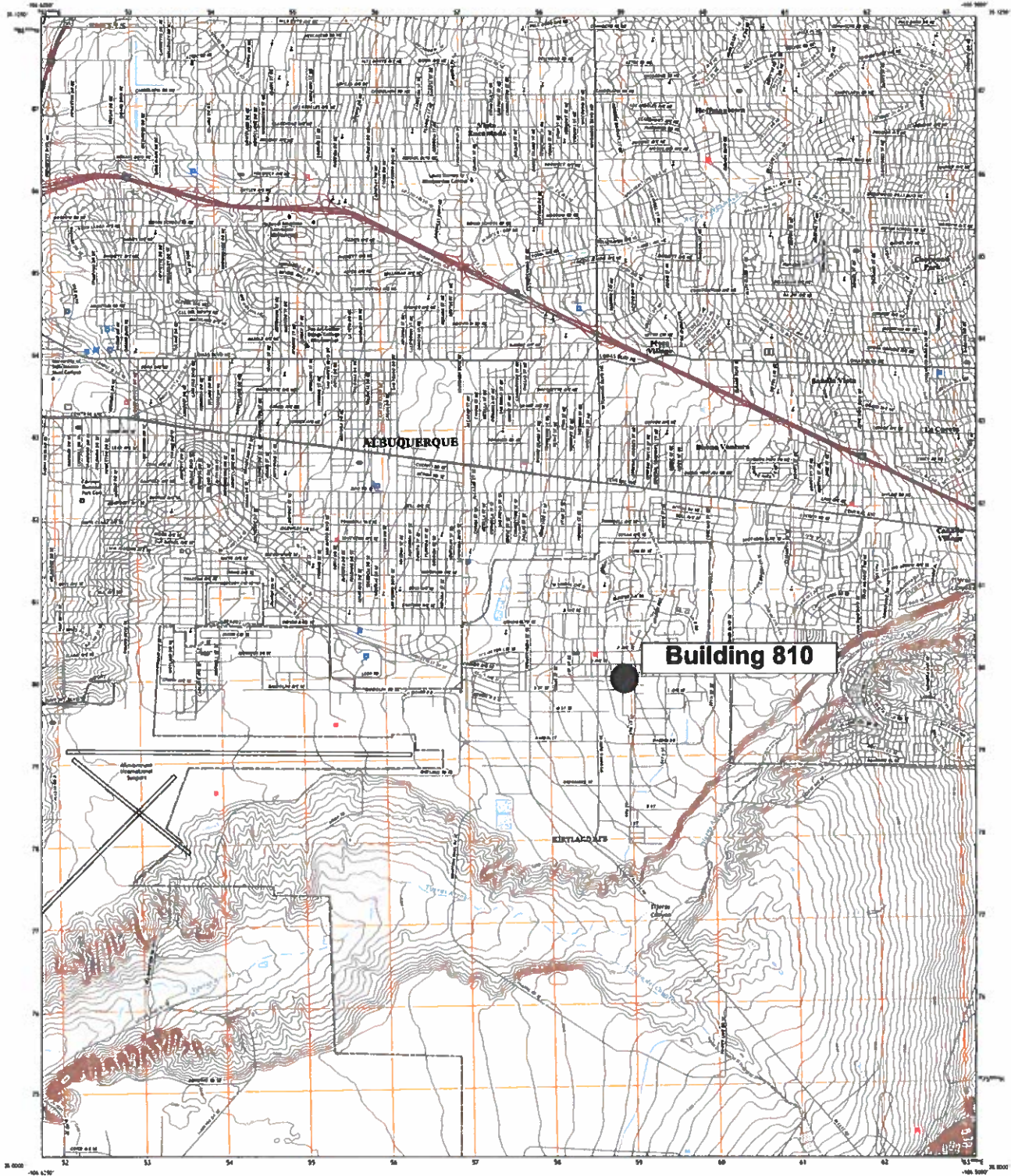
3.b. Plot Plans identifying the location of the new emergency generator



U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY



ALBUQUERQUE EAST QUADRANGLE
NEW MEXICO - BERNALILLO COUNTY
7.5-MINUTE SERIES



Produced by the United States Geological Survey
using aerial photography and other data.
World Geodetic System of 1984 (WGS84). The purpose and
1:50,000 scale of this map series is to provide a general
reference map for the area. It is not intended for
navigation. It is not a legal document. Boundaries may be
shown for general reference only. Boundaries shown for
general reference only. Boundaries shown for general
reference only. Boundaries shown for general reference
only. Boundaries shown for general reference only.



1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20

ROAD CLASSIFICATION	
Expressway	Local Connector
State/Highway	Local Road
Interstate	Other
Interstate Bypass	US Route
	State Route

ALBUQUERQUE EAST, NM
2020

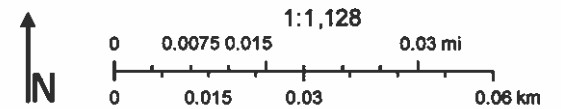


ArcGIS WebMap



November 16, 2020

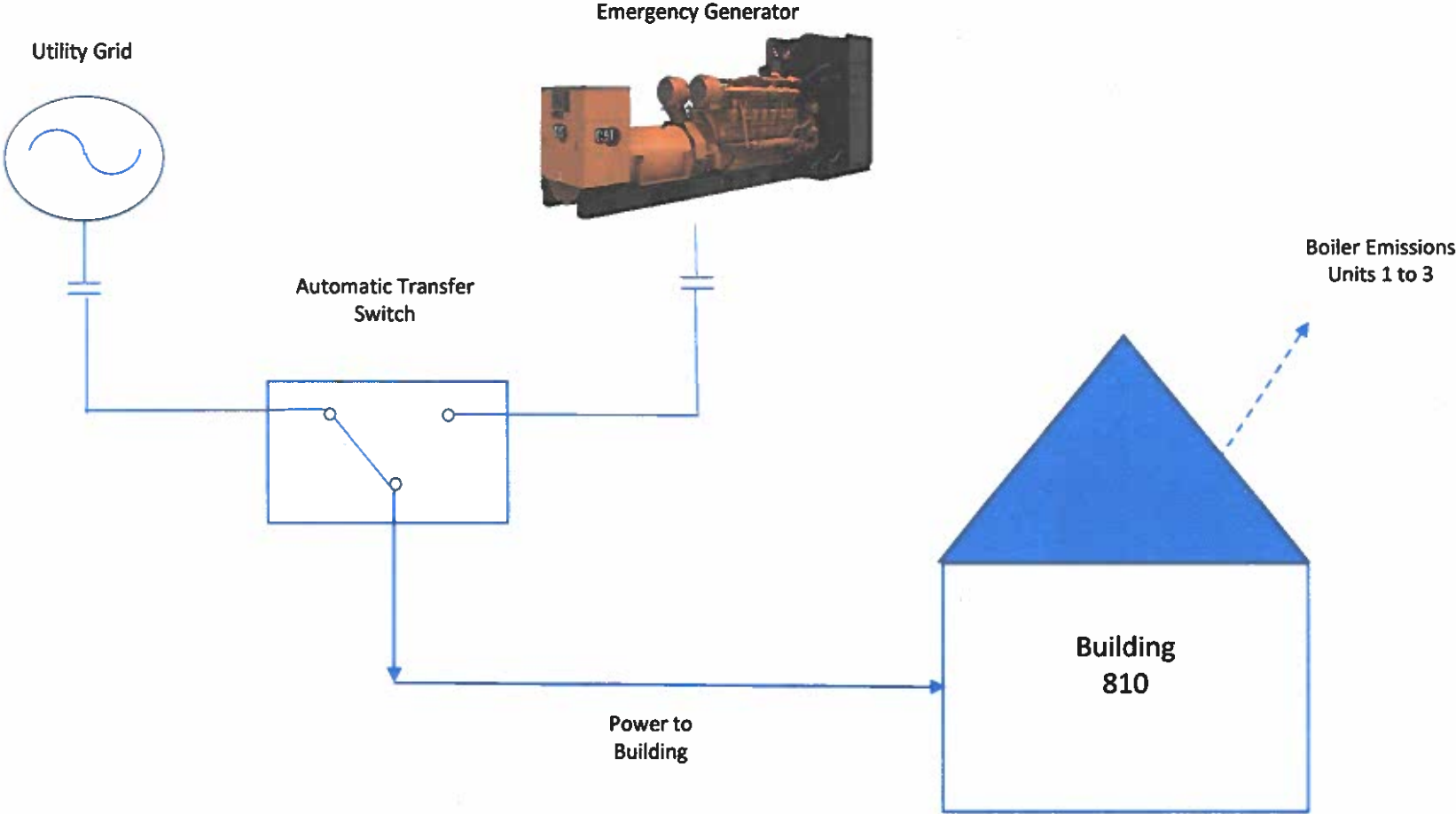
 Parking



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

3.c. Process flow diagram

Building 810 Process Flow Diagram



3.d. Emission calculations and supporting information used to calculate emissions

Emissions Calculations
Caterpillar 3516C HV (2500kW)

System Information		
Quantity	Value	Units
Engine Specifications	2500.00	kW
	3634.00	hp
	25.44	MMBtu/hr
	175.30	gal/hr
Uncontrolled Runtime	8,760	hrs
Controlled Runtime	500	hrs
Mass Conversion	453.6	g/lb
	2.205	lb/kg
BSFC	7,000	Btu/hp-hr
Concentration	15.00	ppm(wt)
	0.0015%	---
Density	7.10	lb/gal
MW SO2	64.06	lb SO2 / lb-mol
MW S	32.06	lb S / lb-mol

Pollutant Emissions						
Pollutant	Emission Factors		Uncontrolled Emissions		Controlled Emissions	
	EF	Units	lb/hr	tpy	lb/hr	tpy
NOx*	6.38E+00	g/hp-hr	51.11	223.88	51.11	12.78
CO*	7.60E-01	g/hp-hr	6.09	26.67	6.09	1.52
PM*	5.00E-02	g/hp-hr	0.40	1.75	0.40	0.10
SO2**	2.13E-04	lb/gal	0.037	0.16	0.037	0.009
HC*	1.40E-01	g/hp-hr	1.12	4.91	1.12	0.28

* Emissions factors are based on the manufacture guarantee. A sample calculation is provided below for NOx:

$$NO_x \text{ (lb/hr)} = \frac{6.38 \text{ g}}{\text{hp-hr}} \times \frac{3634 \text{ hp}}{453.6 \text{ g}} = 51.11 \text{ lb/hr}$$

$$NO_x \text{ (tpy)} = \frac{51.11 \text{ lb}}{\text{hr}} \times \frac{8760 \text{ hr}}{2000 \text{ lb}} = 223.88 \text{ tpy}$$

** SO2 emissions are based on 15 ppm weight% of sulfur. A sample calculation is provided below for SO2:

$$SO_2 \text{ (lb/hr)} = \frac{15 \text{ ppm S}}{1000000 \text{ ppm S}} \times \frac{1 \text{ wt\% S}}{175.3 \text{ gal}} \times \frac{7.1 \text{ lb}}{64.06 \text{ lb SO}_2/\text{lb-mol}} \times 32.06 \text{ lb S / lb-mol} = 0.037 \text{ lb/hr}$$

$$SO_2 \text{ (tpy)} = \frac{0.04 \text{ lb}}{\text{hr}} \times \frac{8760 \text{ hr}}{2000 \text{ lb}} = 0.16 \text{ tpy}$$

Cat® 3516C

Diesel Generator Sets

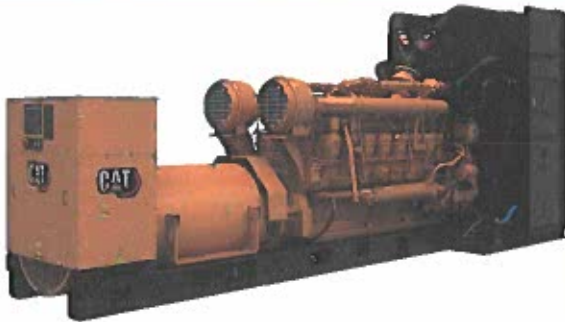


Image shown may not reflect actual configuration

Bore – mm (in)	170 (6.69)
Stroke – mm (in)	215 (8.46)
Displacement – L (in³)	78 (4764.73)
Compression Ratio	14.7:1
Aspiration	TA
Fuel System	EUI
Governor Type	ADEM™ A3

Standby 60 Hz kW (kVA)	Mission Critical 60 Hz kW (kVA)	Prime 60 Hz kW (kVA)	Continuous 60 Hz kW (kVA)	Emissions Performance
2500 (3125)	2500 (3125)	2250 (2812)	2050 (2562)	U.S. EPA Stationary Emergency Use Only (Tier 2)

Standard Features

Cat® Diesel Engine

- Meets U.S. EPA Stationary Emergency Use Only (Tier 2) emission standards
- Reliable performance proven in thousands of applications worldwide

Generator Set Package

- Accepts 100% block load in one step and meets NFPA 110 loading requirements
- Conforms to ISO 8528-5 G3 load acceptance requirements
- Reliability verified through torsional vibration, fuel consumption, oil consumption, transient performance, and endurance testing

Alternators

- Superior motor starting capability minimizes need for oversizing generator
- Designed to match performance and output characteristics of Cat diesel engines

Cooling System

- Cooling systems available to operate in ambient temperatures up to 50°C (122°F)
- Tested to ensure proper generator set cooling

EMCP 4 Control Panels

- User-friendly interface and navigation
- Scalable system to meet a wide range of installation requirements
- Expansion modules and site specific programming for specific customer requirements

Warranty

- 24 months/1000-hour warranty for standby and mission critical ratings
- 12 months/unlimited hour warranty for prime and continuous ratings
- Extended service protection is available to provide extended coverage options

Worldwide Product Support

- Cat dealers have over 1,800 dealer branch stores operating in 200 countries
- Your local Cat dealer provides extensive post-sale support, including maintenance and repair agreements

Financing

- Caterpillar offers an array of financial products to help you succeed through financial service excellence
- Options include loans, finance lease, operating lease, working capital, and revolving line of credit
- Contact your local Cat dealer for availability in your region

Optional Equipment

Engine

Air Cleaner

- Single element
- Dual element

Muffler

- Industrial grade (15 dB)

Starting

- Standard batteries
- Oversized batteries
- Standard electric starter(s)
- Heavy duty electric starter(s)
- Air starter(s)
- Jacket water heater

Alternator

Output voltage

- 380V 6300V
- 440V 6600V
- 480V 6900V
- 600V 12470V
- 2400V 13200V
- 4160V 13800V

Temperature Rise (over 40°C ambient)

- 150°C
- 125°C/130°C
- 105°C
- 80°C

Winding type

- Random wound
- Form wound

Excitation

- Internal excitation (IE)
- Permanent magnet (PM)

Attachments

- Anti-condensation heater
- Stator and bearing temperature monitoring and protection

Power Termination

Type

- Bus bar
- Circuit breaker
- 1600A 2000A
- 2500A 3000A
- 3200A 4000A
- 5000A
- IEC UL
- 3-pole 4-pole
- Manually operated
- Electrically operated

Trip Unit

- LSI LSI-G
- LSI-G-P

Control System

Controller

- EMCP 4.2B
- EMCP 4.3
- EMCP 4.4

Attachments

- Local annunciator module
- Remote annunciator module
- Expansion I/O module
- Remote monitoring software

Charging

- Battery charger – 10A
- Battery charger – 20A
- Battery charger – 35A

Vibration Isolators

- Rubber
- Spring
- Seismic rated

Cat Connect

Connectivity

- Ethernet
- Cellular
- Satellite

Extended Service Options

Terms

- 2 year (prime)
- 3 year
- 5 year
- 10 year

Coverage

- Silver
- Gold
- Platinum
- Platinum Plus

Ancillary Equipment

- Automatic transfer switch (ATS)
- Uninterruptible power supply (UPS)
- Paralleling switchgear
- Paralleling controls

Certifications

- UL 2200 Listed
- CSA
- IBC seismic certification
- OSHPD pre-approval

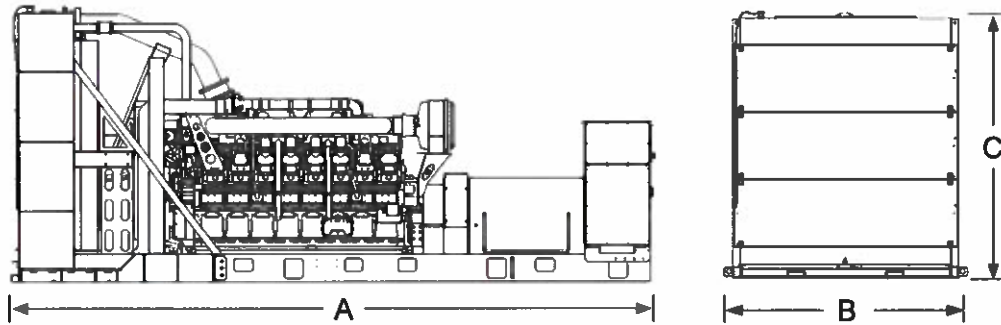
Note: Some options may not be available on all models. Certifications may not be available with all model configurations. Consult factory for availability.

Package Performance

Performance	Standby	Mission Critical	Prime	Continuous
Frequency	60 Hz	60 Hz	60 Hz	60 Hz
Gen set power rating with fan	2500 ekW	2500 ekW	2250 ekW	2050 ekW
Gen set power rating with fan @ 0.8 power factor	3125 kVA	3125 kVA	2812 kVA	2562 kVA
Emissions	EPA ESE (TIER 2)	EPA ESE (TIER 2)	EPA ESE (TIER 2)	EPA ESE (TIER 2)
Performance number	EM1894-01	EM1895-02	DM8447-04	DM8268-03
Fuel Consumption				
100% load with fan – L/hr (gal/hr)	656.8 (175.3)	656.8 (175.3)	593.0 (156.6)	549.3 (145.1)
75% load with fan – L/hr (gal/hr)	510.8 (134.9)	510.8 (134.9)	467.8 (123.8)	435.6 (115.1)
50% load with fan – L/hr (gal/hr)	372.4 (98.4)	372.4 (98.4)	341.9 (90.3)	316.8 (83.7)
25% load with fan – L/hr (gal/hr)	219.3 (57.9)	219.3 (57.9)	203.0 (53.6)	188.9 (49.9)
Cooling System				
Radiator air flow restriction (system) – kPa (in. water)	0.12 (0.48)	0.12 (0.48)	0.12 (0.48)	0.12 (0.48)
Radiator air flow – m ³ /min (cfm)	2356 (83201)	2356 (83201)	2356 (83201)	2356 (83201)
Engine coolant capacity – L (gal)	233.0 (61.6)	233.0 (61.6)	233.0 (61.6)	233.0 (61.6)
Radiator coolant capacity – L (gal)	180.0 (47.6)	180.0 (47.6)	180.0 (47.6)	180.0 (47.6)
Total coolant capacity – L (gal)	413.0 (109.2)	413.0 (109.2)	413.0 (109.2)	413.0 (109.2)
Inlet Air				
Combustion air inlet flow rate – m ³ /min (cfm)	242.2 (7212.2)	242.2 (7212.2)	193.1 (6819.8)	183.8 (6491.7)
Exhaust System				
Exhaust stack gas temperature – °C (°F)	490.7 (915.2)	490.7 (915.2)	471.3 (880.4)	463.6 (866.5)
Exhaust gas flow rate – m ³ /min (cfm)	554.5 (19578.8)	554.5 (19578.8)	507.9 (17935.1)	476.5 (16826.7)
Exhaust system backpressure (maximum allowable) – kPa (in. water)	6.7 (27.0)	6.7 (27.0)	6.7 (27.0)	6.7 (27.0)
Heat Rejection				
Heat rejection to jacket water – kW (Btu/min)	826 (46992)	826 (46992)	777 (44160)	739 (42021)
Heat rejection to exhaust (total) – kW (Btu/min)	2502 (142265)	2502 (142265)	2243 (127532)	2092 (118949)
Heat rejection to aftercooler – kW (Btu/min)	786 (44723)	786 (44723)	690 (39224)	619 (35176)
Heat rejection to atmosphere from engine – kW (Btu/min)	161 (9146)	161 (9146)	150 (8542)	145 (8229)
Heat rejection from alternator – kW (Btu/min)	121 (6853)	121 (6853)	99 (5607)	94 (5368)
Emissions* (Nominal)				
NOx mg/Nm ³ (g/hp-h)	2349.1 (5.32)	2349.1 (5.32)	2206.7 (4.95)	2038.1 (4.62)
CO mg/Nm ³ (g/hp-h)	195.4 (0.42)	195.4 (0.42)	141.2 (0.30)	124.8 (0.27)
HC mg/Nm ³ (g/hp-h)	42.1 (0.10)	42.1 (0.10)	44.4 (0.11)	49.2 (0.12)
PM mg/Nm ³ (g/hp-h)	14.1 (0.04)	14.1 (0.04)	10.9 (0.03)	11.0 (0.03)
Emissions* (Potential Site Variation)				
NOx mg/Nm ³ (g/hp-h)	2818.9 (6.38)	2818.9 (6.38)	2648.0 (5.94)	2445.8 (5.55)
CO mg/Nm ³ (g/hp-h)	351.8 (0.76)	351.8 (0.76)	254.2 (0.55)	224.6 (0.49)
HC mg/Nm ³ (g/hp-h)	55.9 (0.14)	55.9 (0.14)	59.1 (0.15)	65.5 (0.16)
PM mg/Nm ³ (g/hp-h)	19.7 (0.05)	19.7 (0.05)	15.2 (0.04)	15.3 (0.04)

*mg/Nm³ levels are corrected to 5% O₂. Contact your local Cat dealer for further information.

Weights and Dimensions



Dim "A" mm (in)	Dim "B" mm (in)	Dim "C" mm (in)	Dry Weight kg (lb)
6800 (267.7)	2339 (92.1)	2997 (118.0)	17 590 (38,780)

*Note: For reference only. Do not use for installation design.
Contact your local Cat dealer for precise weights and dimensions.*

Ratings Definitions

Standby

Output available with varying load for the duration of the interruption of the normal source power. Average power output is 70% of the standby power rating. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

Mission Critical

Output available with varying load for the duration of the interruption of the normal source power. Average power output is 85% of the mission critical power rating. Typical peak demand up to 100% of rated power for up to 5% of the operating time. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

Prime

Output available with varying load for an unlimited time. Average power output is 70% of the prime power rating. Typical peak demand is 100% of prime rated kW with 10% overload capability for emergency use for a maximum of 1 hour in 12. Overload operation cannot exceed 25 hours per year.

Continuous

Output available with non-varying load for an unlimited time. Average power output is 70-100% of the continuous power rating. Typical peak demand is 100% of continuous rated kW for 100% of the operating hours.

Applicable Codes and Standards

AS 1359, CSA C22.2 No. 100-04, UL 142, UL 489, UL 869, UL 2200, NFPA 37, NFPA 70, NFPA 99, NFPA 110, IBC, IEC 60034-1, ISO 3046, ISO 8528, NEMA MG1-22, NEMA MG1-33, 2014/35/EU, 2006/42/EC, 2014/30/EU.

Note: Codes may not be available in all model configurations. Please consult your local Cat dealer for availability.

Data Center Applications

- ISO 8528-1 Data Center Power (DCP) compliant per DCP application of Cat diesel generator set prime power rating.
- All ratings Tier III/Tier IV compliant per Uptime Institute requirements.
- All ratings ANSI/TIA-942 compliant for Rated-1 through Rated-4 data centers.

Fuel Rates

Fuel rates are based on fuel oil of 35° API [16°C (60°F)] gravity having an LHV of 42,780 kJ/kg (18,390 Btu/lb) when used at 29°C (85°F) and weighing 838.9 g/liter (7.001 lbs/U.S. gal.)

www.cat.com/electricpower

©2020 Caterpillar
All rights reserved.

Materials and specifications are subject to change without notice.
The International System of Units (SI) is used in this publication.

CAT, CATERPILLAR, LET'S DO THE WORK, their respective logos, "Caterpillar Yellow", the "Power Edge" and Cat "Modern Hex" trade dress as well as corporate and product identity used herein, are trademarks of Caterpillar and may not be used without permission.

PERFORMANCE DATA[EM1894]

November 10, 2020

Performance Number: EM1894

Change Level: 04

SALES MODEL:	3516C	COMBUSTION:	DIRECT INJECTION
BRAND:	CAT	ENGINE SPEED (RPM):	1,800
ENGINE POWER (BHP):	3,834	HERTZ:	60
GEN POWER WITH FAN (EKW):	2,500.0	FAN POWER (HP):	130.1
COMPRESSION RATIO:	14.7	ASPIRATION:	TA
RATING LEVEL:	STANDBY	AFTERCOOLER TYPE:	ATAAC
PUMP QUANTITY:	1	AFTERCOOLER CIRCUIT TYPE:	JW+OC, ATAAC
FUEL TYPE:	DIESEL	INLET MANIFOLD AIR TEMP (F):	122
MANIFOLD TYPE:	DRY	JACKET WATER TEMP (F):	219.2
GOVERNOR TYPE:	ADEM3	TURBO CONFIGURATION:	PARALLEL
ELECTRONICS TYPE:	ADEM3	TURBO QUANTITY:	4
CAMSHAFT TYPE:	STANDARD	TURBOCHARGER MODEL:	GT8041BN-46T-1.10
IGNITION TYPE:	CI	CERTIFICATION YEAR:	2008
INJECTOR TYPE:	EUI	CRANKCASE BLOWBY RATE (FT3/HR):	3,619.4
FUEL INJECTOR:	3920221	FUEL RATE (RATED RPM) NO LOAD (GAL/HR):	16.0
UNIT INJECTOR TIMING (IN):	84.34	PISTON SPD @ RATED ENG SPD (FT/MIN):	2,539.4
REF EXH STACK DIAMETER (IN):	12		
MAX OPERATING ALTITUDE (FT):	2,953		

INDUSTRY	SUBINDUSTRY	APPLICATION
ELECTRIC POWER	STANDARD	PACKAGED GENSET
OIL AND GAS	LAND PRODUCTION	PACKAGED GENSET

General Performance Data

THIS STANDBY RATING IS FOR A STANDBY ONLY ENGINE ARRANGEMENT, RERATING THE ENGINE TO A PRIME OR CONTINUOUS RATING IS NOT PERMITTED.

THE INLET MANIFOLD AIR TEMP LISTED IN THE HEADER, AND IN THE GENERAL PERFORMANCE DATA, IS THE AVERAGE INLET MANIFOLD TEMP FRONT TO REAR ON THE ENGINE.

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	BRAKE MEAN EFF PRES (BMEP)	BRAKE SPEC FUEL CONSUMPTN (BSFC)	VOL FUEL CONSUMPTN (VFC)	INLET MFLD PRES	INLET MFLD TEMP	EXH MFLD TEMP	EXH MFLD PRES	ENGINE OUTLET TEMP
EKW	%	BHP	PSI	LB/BHP-HR	GAL/HR	IN-HG	DEG F	DEG F	IN-HG	DEG F
2,500.0	100	3,833	336	0.334	171.3	78.1	121.9	1,235.8	67.6	915.2
2,250.0	90	3,283	303	0.335	155.1	71.3	119.4	1,190.0	61.3	881.2
2,000.0	80	2,935	271	0.339	140.4	64.3	116.9	1,158.9	55.3	864.0
1,875.0	75	2,760	255	0.342	133.2	60.7	115.8	1,145.8	52.3	858.5
1,750.0	70	2,586	239	0.346	125.9	57.0	114.7	1,133.3	49.3	854.6
1,500.0	60	2,237	207	0.354	111.5	49.5	112.7	1,112.4	43.2	851.2
1,250.0	50	1,889	174	0.365	97.1	41.3	111.0	1,091.8	36.8	850.7
1,000.0	40	1,547	143	0.373	81.4	31.4	108.4	1,061.5	29.3	856.6
750.0	30	1,203	111	0.385	65.3	21.7	107.9	1,010.3	22.1	848.2
625.0	25	1,029	95	0.394	57.2	17.2	107.2	988.3	18.7	831.1
500.0	20	854	79	0.403	48.6	12.7	106.4	902.0	15.5	796.1
250.0	10	497	46	0.441	30.9	4.6	104.1	700.7	9.8	647.3

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	COMPRESSOR OUTLET PRES	COMPRESSOR OUTLET TEMP	WET INLET AIR VOL FLOW RATE	ENGINE OUTLET WET EXH GAS VOL FLOW RATE	WET INLET AIR MASS FLOW RATE	WET EXH GAS MASS FLOW RATE	WET EXH VOL FLOW RATE (32 DEG F AND 29.98 IN HG)	DRY EXH VOL FLOW RATE (32 DEG F AND 29.98 IN HG)
EKW	%	BHP	IN-HG	DEG F	CFM	CFM	LB/HR	LB/HR	FT3/MIN	FT3/MIN
2,500.0	100	3,833	85	466.7	7,212.2	19,578.8	32,048.3	33,260.4	7,001.7	6,362.4
2,250.0	90	3,283	78	443.0	6,831.6	17,980.7	30,219.3	31,318.8	6,593.0	6,013.7
2,000.0	80	2,935	70	417.8	6,404.5	16,560.6	28,284.6	29,277.2	6,151.5	5,625.4
1,875.0	75	2,760	66	404.7	6,173.3	15,893.2	27,261.3	28,202.4	5,928.1	5,427.1
1,750.0	70	2,586	63	391.2	5,929.9	15,232.6	26,196.0	27,086.8	5,698.4	5,222.0
1,500.0	60	2,237	55	363.5	5,411.9	13,979.0	23,947.5	24,739.5	5,205.5	4,779.1
1,250.0	50	1,889	46	334.6	4,843.3	12,413.0	21,444.3	22,133.2	4,657.5	4,263.2
1,000.0	40	1,547	36	297.5	4,121.4	10,609.5	18,262.0	18,840.0	3,963.0	3,647.2
750.0	30	1,203	25	249.8	3,423.0	8,763.8	15,175.3	15,840.3	3,294.6	3,037.8
625.0	25	1,029	21	223.4	3,104.6	7,844.6	13,765.1	14,171.6	2,988.1	2,760.8
500.0	20	854	16	197.2	2,791.2	6,823.5	12,376.2	12,722.2	2,671.7	2,476.1
250.0	10	497	7	152.3	2,237.9	4,800.2	9,917.6	10,136.8	2,132.0	1,999.8

Heat Rejection Data

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	REJECTION TO JACKET WATER	REJECTION TO ATMOSPHERE	REJECTION TO EXH	EXHAUST RECOVERY TO 380F	FROM OIL COOLER	FROM AFTERCOOLER	WORK ENERGY	LOW HEAT VALUE ENERGY	HIGH HEAT VALUE ENERGY
EKW	%	BHP	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN
2,500.0	100	3,633	46,992	8,146	142,265	79,907	19,835	44,723	154,077	372,403	396,702
2,250.0	90	3,283	44,242	8,557	127,929	70,449	17,960	39,380	139,243	337,204	359,207
2,000.0	80	2,935	41,477	8,162	118,879	63,561	16,262	34,167	124,444	305,311	325,233
1,875.0	75	2,760	40,076	8,007	111,588	60,518	15,425	31,612	117,053	289,608	308,505
1,750.0	70	2,586	38,657	7,874	106,293	57,637	14,588	29,085	109,651	273,881	281,752
1,500.0	60	2,237	35,755	7,684	95,729	52,220	12,915	24,201	94,874	242,485	256,307
1,250.0	50	1,889	32,626	7,527	85,184	46,626	11,245	19,401	80,109	211,118	224,893
1,000.0	40	1,547	29,235	7,262	72,693	40,153	9,427	13,873	65,583	176,995	188,544
750.0	30	1,203	25,476	6,784	59,425	32,726	7,565	8,706	51,005	142,037	151,305
625.0	25	1,029	23,394	6,435	52,542	28,568	6,821	6,496	43,653	124,317	132,429
500.0	20	854	21,006	5,995	44,739	23,683	5,624	4,534	36,223	105,594	112,484
250.0	10	497	15,737	5,028	27,795	12,371	3,578	1,916	21,071	67,181	71,564

Sound Data

SOUND PRESSURE DATA FOR THIS RATING CAN BE FOUND IN PERFORMANCE NUMBER - DM8779.

Emissions Data

RATED SPEED POTENTIAL SITE VARIATION: 1800 RPM

GENSET POWER WITH FAN	EKW	2,500.0	1,875.0	1,250.0	625.0	250.0
PERCENT LOAD	%	100	75	60	25	10
ENGINE POWER	BHP	3,633	2,760	1,889	1,029	497
TOTAL NOX (AS NO2)	G/HR	22,948	14,101	7,004	3,568	3,185
TOTAL CO	G/HR	2,726	1,304	1,092	1,496	2,098
TOTAL HC	G/HR	500	499	543	408	437
PART MATTER	G/HR	185.5	123.7	132.1	139.5	141.0
TOTAL NOX (AS NO2)	(CORR 5% O2) MG/NM3	2,818.9	2,229.5	1,544.3	1,352.7	2,230.2
TOTAL CO	(CORR 5% O2) MG/NM3	351.8	213.9	252.3	594.6	1,552.7
TOTAL HC	(CORR 5% O2) MG/NM3	55.9	72.8	108.8	140.7	282.4
PART MATTER	(CORR 5% O2) MG/NM3	19.7	16.5	25.8	48.5	88.2
TOTAL NOX (AS NO2)	(CORR 5% O2) PPM	1,373	1,086	752	659	1,086
TOTAL CO	(CORR 5% O2) PPM	281	171	202	476	1,242
TOTAL HC	(CORR 5% O2) PPM	104	136	203	263	527
TOTAL NOX (AS NO2)	G/HP-HR	8.38	5.15	3.74	3.50	6.47
TOTAL CO	G/HP-HR	0.76	0.48	0.58	1.47	4.26
TOTAL HC	G/HP-HR	0.14	0.18	0.29	0.40	0.89
PART MATTER	G/HP-HR	0.05	0.05	0.07	0.14	0.29
TOTAL NOX (AS NO2)	LB/HR	50.59	31.09	15.44	7.87	7.02
TOTAL CO	LB/HR	6.01	2.88	2.41	3.30	4.62
TOTAL HC	LB/HR	1.10	1.10	1.20	0.90	0.96
PART MATTER	LB/HR	0.41	0.27	0.29	0.31	0.31

RATED SPEED NOMINAL DATA: 1800 RPM

GENSET POWER WITH FAN	EKW	2,500.0	1,875.0	1,250.0	625.0	250.0
PERCENT LOAD	%	100	75	60	25	10
ENGINE POWER	BHP	3,633	2,760	1,889	1,029	497
TOTAL NOX (AS NO2)	G/HR	19,123	11,751	5,837	2,974	2,654
TOTAL CO	G/HR	1,515	725	607	831	1,165
TOTAL HC	G/HR	376	375	408	307	329
TOTAL CO2	KG/HR	1,740	1,340	966	559	296
PART MATTER	G/HR	132.5	88.4	94.3	99.6	100.7
TOTAL NOX (AS NO2)	(CORR 5% O2) MG/NM3	2,349.1	1,857.9	1,286.9	1,127.3	1,858.5
TOTAL CO	(CORR 5% O2) MG/NM3	195.4	118.8	140.1	330.3	882.8
TOTAL HC	(CORR 5% O2) MG/NM3	42.1	54.8	81.8	105.8	212.3
PART MATTER	(CORR 5% O2) MG/NM3	14.1	11.8	18.4	34.7	63.0
TOTAL NOX (AS NO2)	(CORR 5% O2) PPM	1,144	905	627	549	905

PERFORMANCE DATA[EM1894]

November 10, 2020

TOTAL CO	(CORR 5% O2)	PPM	156	95	112	264	690
TOTAL HC	(CORR 5% O2)	PPM	79	102	153	197	396
TOTAL NOX (AS NO2)		G/HP-HR	5.32	4.30	3.12	2.92	5.39
TOTAL CO		G/HP-HR	0.42	0.26	0.32	0.82	2.37
TOTAL HC		G/HP-HR	0.10	0.14	0.22	0.30	0.67
PART MATTER		G/HP-HR	0.04	0.03	0.05	0.10	0.20
TOTAL NOX (AS NO2)		LB/HR	42.16	25.91	12.87	6.56	5.85
TOTAL CO		LB/HR	3.34	1.60	1.34	1.83	2.57
TOTAL HC		LB/HR	0.83	0.83	0.90	0.88	0.72
TOTAL CO2		LB/HR	3,836	2,955	2,130	1,233	654
PART MATTER		LB/HR	0.29	0.19	0.21	0.22	0.22
OXYGEN IN EXH		%	9.4	10.4	11.3	12.2	14.4
DRY SMOKE OPACITY		%	1.7	1.4	1.9	2.6	4.0
BOSCH SMOKE NUMBER			0.58	0.49	0.62	0.92	1.27

Regulatory Information

EPA EMERGENCY STATIONARY		2011 - —	
GASEOUS EMISSIONS DATA MEASUREMENTS PROVIDED TO THE EPA ARE CONSISTENT WITH THOSE DESCRIBED IN EPA 40 CFR PART 60 SUBPART III AND ISO 8178 FOR MEASURING HC, CO, PM, AND NOX. THE "MAX LIMITS" SHOWN BELOW ARE WEIGHTED CYCLE AVERAGES AND ARE IN COMPLIANCE WITH THE EMERGENCY STATIONARY REGULATIONS.			
Locality	Agency	Regulation	Tier/Stage
U.S. (INCL CALIF)	EPA	STATIONARY	EMERGENCY STATIONARY
			Max Limits - G/BKW - HR
			CO: 3.5 NOx + HC: 6.4 PM: 0.20

Altitude Derate Data

ALTITUDE CORRECTED POWER CAPABILITY (BHP)

AMBIENT OPERATING TEMP (F)	30	40	50	60	70	80	90	100	110	120	NORMAL
ALTITUDE (FT)											
0	3,634	3,634	3,634	3,634	3,634	3,634	3,634	3,634	3,634	3,634	3,634
1,000	3,634	3,634	3,634	3,634	3,634	3,634	3,634	3,634	3,634	3,561	3,634
2,000	3,634	3,634	3,634	3,634	3,634	3,634	3,634	3,604	3,541	3,480	3,634
3,000	3,628	3,628	3,628	3,628	3,628	3,603	3,537	3,474	3,413	3,354	3,628
4,000	3,504	3,504	3,504	3,504	3,504	3,471	3,408	3,347	3,289	3,232	3,504
5,000	3,384	3,384	3,384	3,384	3,384	3,344	3,283	3,225	3,168	3,113	3,384
6,000	3,269	3,269	3,269	3,269	3,269	3,221	3,162	3,105	3,051	2,998	3,269
7,000	3,159	3,159	3,159	3,159	3,159	3,101	3,044	2,990	2,937	2,887	3,159
8,000	3,052	3,052	3,052	3,052	3,041	2,985	2,930	2,878	2,827	2,779	3,052
9,000	2,950	2,950	2,950	2,950	2,926	2,872	2,820	2,769	2,721	2,674	2,950
10,000	2,851	2,851	2,851	2,851	2,815	2,763	2,713	2,664	2,617	2,544	2,851

Cross Reference

Test Spec	Setting	Engine Arrangement	Engineering Model	Engineering Model Version	Start Effective Serial Number	End Effective Serial Number
4577175	LL1857	5084280	GS336	-	SBK02483	
4581586	LL6759	5157721	PG243	-	LYM00001	

Supplementary Data

Type	Classification	Performance Number
SOUND	SOUND PRESSURE	DM8779

Performance Parameter Reference

Parameters Reference:DM9600-12
PERFORMANCE DEFINITIONS

PERFORMANCE DEFINITIONS DM9600

APPLICATION:

Engine performance tolerance values below are representative of a typical production engine tested in a calibrated dynamometer test cell at SAE J1995 standard reference conditions. Caterpillar maintains ISO9001:2000 certified quality management systems for engine test Facilities to assure accurate calibration of test equipment. Engine test data is corrected in accordance with SAE J1995. Additional reference material SAE J1228, J1349, ISO 8665, 3046-1 2002E, 3046-3, 1989, 1585, 2534, 2288, and 9249 may apply in part or are similar to SAE J1995. Special engine rating request (SERR) test data shall be noted.

PERFORMANCE PARAMETER TOLERANCE FACTORS:

Power +/- 3%

Torque +/- 3%

Exhaust stack temperature +/- 8%

Inlet airflow +/- 5%

Intake manifold pressure-gage +/- 10%

Exhaust flow +/- 6%

Specific fuel consumption +/- 3%

Fuel rate +/- 5%

Specific DEF consumption +/- 3%

DEF rate +/- 5%

Heat rejection +/- 5%

Heat rejection exhaust only +/- 10%

Heat rejection CEM only +/- 10%

Heat Rejection values based on using treated water.

Torque is included for truck and industrial applications, do not use for Gen Set or steady state applications.

On C7 - C18 engines, at speeds of 1100 RPM and under these values are provided for reference only, and may not meet the tolerance listed.

These values do not apply to C280/3600. For these models, see the tolerances listed below.

C280/3600 HEAT REJECTION TOLERANCE FACTORS:

Heat rejection +/- 10%

Heat rejection to Atmosphere +/- 50%

Heat rejection to Lube Oil +/- 20%

Heat rejection to Aftercooler +/- 5%

TEST CELL, TRANSDUCER TOLERANCE FACTORS:

Torque +/- 0.5%

Speed +/- 0.2%

Fuel flow +/- 1.0%

Temperature +/- 2.0 C degrees

Intake manifold pressure +/- 0.1 kPa

OBSERVED ENGINE PERFORMANCE IS CORRECTED TO SAE J1995 REFERENCE

AIR AND FUEL CONDITIONS.

REFERENCE ATMOSPHERIC INLET AIR

FOR 3500 ENGINES AND SMALLER

SAE J1228 AUG2002 for marine engines, and J1995 JAN2014 for other engines, reference atmospheric pressure is 100 KPA (29.81 in hg), and standard temperature is 25deg C (77 deg F) at 30% relative humidity at the stated aftercooler water temp, or inlet manifold temp.

FOR 3600 ENGINES

Engine rating obtained and presented in accordance with ISO 3046/1 and SAE J1995 JAN2014 reference atmospheric pressure is 100 KPA (29.81 in hg), and standard temperature is 25deg C (77 deg F) at 30% relative humidity and 150M altitude at the stated aftercooler water temperature.

MEASUREMENT LOCATION FOR INLET AIR TEMPERATURE

Location for air temperature measurement air cleaner inlet at stabilized operating conditions.

REFERENCE EXHAUST STACK DIAMETER

The Reference Exhaust Stack Diameter published with this dataset is only used for the calculation of Smoke Opacity values displayed in this dataset. This value does not necessarily represent the actual stack diameter of the engine due to the variety of exhaust stack adapter options available. Consult the price list, engine order or general dimension drawings for the actual stack diameter size ordered or options available.

REFERENCE FUEL

DIESEL

Reference fuel is #2 distillate diesel with a 35API gravity;

A lower heating value is 42,760 KJ/KG (16,390 BTU/LB) when used at

15 deg C (59 deg F), where the density is

850 G/Liter (7.0936 Lbs/Gal).

GAS

Reference natural gas fuel has a lower heating value of 33.74 KJ/L

(905 BTU/CU Ft). Low BTU ratings are based on 18.64 KJ/L (500 BTU/CU FT) lower heating value gas. Propane ratings are based on

87.56 KJ/L (2350 BTU/CU Ft) lower heating value gas.

PERFORMANCE DATA[EM1894]

November 10, 2020

ENGINE POWER (NET) IS THE CORRECTED FLYWHEEL POWER (GROSS) LESS EXTERNAL AUXILIARY LOAD

Engine corrected gross output includes the power required to drive standard equipment; lube oil, scavenge lube oil, fuel transfer, common rail fuel, separate circuit aftercooler and jacket water pumps. Engine net power available for the external (flywheel) load is calculated by subtracting the sum of auxiliary load from the corrected gross flywheel output power. Typical auxiliary loads are radiator cooling fans, hydraulic pumps, air compressors and battery charging alternators. For Tier 4 ratings additional Parasitic losses would also include Intake, and Exhaust Restrictions.

ALTITUDE CAPABILITY

Altitude capability is the maximum altitude above sea level at standard temperature and standard pressure at which the engine could develop full rated output power on the current performance data set.

Standard temperature values versus altitude could be seen on TM2001.

When viewing the altitude capability chart the ambient temperature is the inlet air temp at the compressor inlet.

Engines with ADEM MEUI and HEUI fuel systems operating at conditions above the defined altitude capability derate for atmospheric pressure and temperature conditions outside the values defined, see TM2001.

Mechanical governor controlled unit injector engines require a setting change for operation at conditions above the altitude defined on the engine performance sheet. See your Caterpillar technical representative for non standard ratings.

REGULATIONS AND PRODUCT COMPLIANCE

TMI Emissions information is presented at 'nominal' and 'Potential Site Variation' values for standard ratings. No tolerances are applied to the emissions data. These values are subject to change at any time. The controlling federal and local emission requirements need to be verified by your Caterpillar technical representative.

Customer's may have special emission site requirements that need to be verified by the Caterpillar Product Group engineer.

EMISSION CYCLE LIMITS:

Cycle emissions Max Limits apply to cycle-weighted averages only. Emissions at individual load points may exceed the cycle-weighted limit.

EMISSIONS DEFINITIONS:

Emissions : DM1176

EMISSION CYCLE DEFINITIONS

1. For constant-speed marine engines for ship main propulsion, including diesel-electric drive, test cycle E2 shall be applied, for controllable-pitch propeller sets test cycle E2 shall be applied.
2. For propeller-law-operated main and propeller-law-operated auxiliary engines the test cycle E3 shall be applied.
3. For constant-speed auxiliary engines test cycle D2 shall be applied.
4. For variable-speed, variable-load auxiliary engines, not included above, test cycle C1 shall be applied.

HEAT REJECTION DEFINITIONS:

Diesel Circuit Type and HHV Balance : DM9500

HIGH DISPLACEMENT (HD) DEFINITIONS:

3500: EM1500

RATING DEFINITIONS:

Agriculture : TM6008

Fire Pump : TM6009

Generator Set : TM6035

Generator (Gas) : TM6041

Industrial Diesel : TM6010

Industrial (Gas) : TM6040

Irrigation : TM5749

Locomotive : TM6037

Marine Auxiliary : TM6036

Marine Prop (Except 3600) : TM5747

Marine Prop (3600 only) : TM5748

MSHA : TM6042

Oil Field (Petroleum) : TM6011

Off-Highway Truck : TM6039

On-Highway Truck : TM6038

SOUND DEFINITIONS:

Sound Power : DM8702

Sound Pressure : TM7080

Date Released : 07/10/19

AIR INTAKE SYSTEM		
<i>THE INSTALLED SYSTEM MUST COMPLY WITH THE SYSTEM LIMITS BELOW FOR ALL EMISSIONS CERTIFIED ENGINES TO ASSURE REGULATORY COMPLIANCE.</i>		
MAXIMUM ALLOWABLE INTAKE RESTRICTION WITH CLEAN ELEMENT	15	IN-H2O
MAXIMUM ALLOWABLE INTAKE RESTRICTION WITH DIRTY ELEMENT	25	IN-H2O
MAXIMUM PRESSURE DROP FROM COMPRESSOR OUTLET TO MANIFOLD INLET (OR MIXER INLET FOR EGR)	7.1	IN-HG
TURBO COMPRESSOR OUTLET TEMPERATURE AT RATED SPEED	468	DEG F
MAXIMUM ALLOWABLE STATIC WEIGHT ON AIR INLET	101.4	LB
MAXIMUM ALLOWABLE STATIC WEIGHT ON AIR INLET (AIR SHUT OFF INCLUDED)	19.8	LB
MAXIMUM ALLOWABLE STATIC BENDING MOMENT ON AIR INLET	11.8	LB-FT
MAXIMUM ALLOWABLE STATIC WEIGHT ON TURBO OUTLET CONNECTION	0	LB
MAXIMUM ALLOWABLE STATIC BENDING MOMENT ON TURBO OUTLET CONNECTION	0	LB-FT
COOLING SYSTEM		
ENGINE ONLY COOLANT CAPACITY	61.6	GAL
MAXIMUM ALLOWABLE JACKET WATER OUTLET TEMPERATURE	219	DEG F
REGULATOR LOCATION FOR JW (HT) CIRCUIT	OUTLET	
MAXIMUM UNINTERRUPTED FILL RATE	5.0	G/MIN
ENGINE SPEC SYSTEM		
CYLINDER ARRANGEMENT	VIE	
NUMBER OF CYLINDERS	16	
CYLINDER BORE DIAMETER	6.7	IN
PISTON STROKE	8.5	IN
TOTAL CYLINDER DISPLACEMENT	4765	CU IN
STANDARD CRANKSHAFT ROTATION FROM FLYWHEEL END	CCW	
STANDARD CYLINDER FIRING ORDER	1-2-5-6-3-4- 9-10-15-16- 11-12-13- 14-7-8	
NUMBER 1 CYLINDER LOCATION	RIGHT FRONT	
STROKES/COMBUSTION CYCLE	4	
EXHAUST SYSTEM		
<i>THE INSTALLED SYSTEM MUST COMPLY WITH THE SYSTEM LIMITS BELOW FOR ALL EMISSIONS CERTIFIED ENGINES TO ASSURE REGULATORY COMPLIANCE.</i>		
MAXIMUM ALLOWABLE SYSTEM BACK PRESSURE	27	IN-H2O
MANIFOLD TYPE	DRY	
MAXIMUM ALLOWABLE STATIC WEIGHT ON EXHAUST CONNECTION	61.7	LB
MAXIMUM ALLOWABLE STATIC BENDING MOMENT ON EXHAUST CONNECTION	31.0	LB-FT
FUEL SYSTEM		
MAXIMUM FUEL FLOW FROM TRANSFER PUMP TO ENGINE	443.8	G/HR
MAXIMUM ALLOWABLE FUEL SUPPLY LINE RESTRICTION	8.9	IN-HG
MAXIMUM ALLOWABLE FUEL TEMPERATURE AT TRANSFER PUMP INLET	151	DEG F
MAXIMUM FUEL FLOW TO RETURN LINE FROM ENGINE	429.8	G/HR
MAXIMUM ALLOWABLE FUEL RETURN LINE RESTRICTION	8.0	IN-HG
NORMAL FUEL PRESSURE IN A CLEAN SYSTEM	60.2	PSI
FUEL SYSTEM TYPE	EUI	
MAXIMUM TRANSFER PUMP PRIMING LIFT WITHOUT PRIMING PUMP	12.1	FT
MAXIMUM HEAT REJECTION TO FUEL	722	BTU/MIN
LUBE SYSTEM		
CRANKCASE VENTILATION TYPE	TO ATM	
MOUNTING SYSTEM		
CENTER OF GRAVITY LOCATION - X DIMENSION - FROM REAR FACE OF BLOCK - (REFERENCE TM7077)	47.2	IN
CENTER OF GRAVITY LOCATION - Y DIMENSION - FROM CENTERLINE OF CRANKSHAFT - (REFERENCE TM7077)	8.0	IN
CENTER OF GRAVITY LOCATION - Z DIMENSION - FROM CENTERLINE OF CRANKSHAFT - (REFERENCE TM7077)	0.0	IN
MASS MOMENT OF INERTIA - X AXIS	10621	LB IN SEC2
MASS MOMENT OF INERTIA - Y AXIS	123910	LB IN SEC2
MASS MOMENT OF INERTIA - Z AXIS	132761	LB IN SEC2
STARTING SYSTEM		
MINIMUM CRANKING SPEED REQUIRED FOR START	120	RPM



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
2020 MODEL YEAR
CERTIFICATE OF CONFORMITY
WITH THE CLEAN AIR ACT**

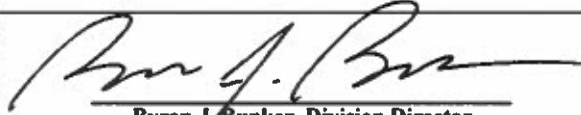
**OFFICE OF TRANSPORTATION
AND AIR QUALITY
ANN ARBOR, MICHIGAN 48105**

Certificate Issued To: Caterpillar Inc.
(U.S. Manufacturer or Importer)

Certificate Number: LCPXL78.1NZS-022

Effective Date:
07/25/2019

Expiration Date:
12/31/2020


 Byron J. Bunker, Division Director
 Compliance Division

Issue Date:
07/25/2019

Revision Date:
N/A

Model Year: 2020
Manufacturer Type: Original Engine Manufacturer
Engine Family: LCPXL78.1NZS

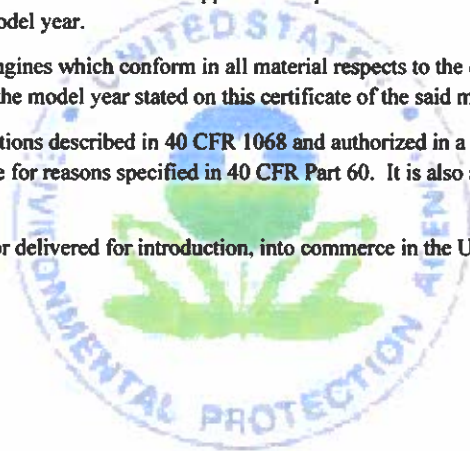
Mobile/Stationary Indicator: Stationary
Emissions Power Category: kW>560
Fuel Type: Diesel
After Treatment Devices: No After Treatment Devices Installed
Non-after Treatment Devices: Electronic Control, Engine Design Modification

Pursuant to Section 111 and Section 213 of the Clean Air Act (42 U.S.C. sections 7411 and 7547) and 40 CFR Part 60, and subject to the terms and conditions prescribed in those provisions, this certificate of conformity is hereby issued with respect to the test engines which have been found to conform to applicable requirements and which represent the following engines, by engine family, more fully described in the documentation required by 40 CFR Part 60 and produced in the stated model year.

This certificate of conformity covers only those new compression-ignition engines which conform in all material respects to the design specifications that applied to those engines described in the documentation required by 40 CFR Part 60 and which are produced during the model year stated on this certificate of the said manufacturer, as defined in 40 CFR Part 60.

It is a term of this certificate that the manufacturer shall consent to all inspections described in 40 CFR 1068 and authorized in a warrant or court order. Failure to comply with the requirements of such a warrant or court order may lead to revocation or suspension of this certificate for reasons specified in 40 CFR Part 60. It is also a term of this certificate that this certificate may be revoked or suspended or rendered void *ab initio* for other reasons specified in 40 CFR Part 60.

This certificate does not cover engines sold, offered for sale, or introduced, or delivered for introduction, into commerce in the U.S. prior to the effective date of the certificate.



3.e. Regulatory Requirements

The emergency diesel generator that will be installed had not been ordered at the time of this application submittal. The unit will be a new purchase and meet the requirements of 40 CFR 63 Subpart ZZZZ (MACT ZZZZ) and 40 CFR 60 Subpart IIII (NSPS IIII) specified here.

40 CFR 63 Subpart ZZZZ (MACT ZZZZ)

Per 63.6590(C)(1), the unit is a new stationary RICE located at an area source and meets the requirements of MACT ZZZZ by meeting the requirements of NSPS IIII. No further requirements apply for the unit under MACT ZZZZ.

40 CFR 60 Subpart IIII (NSPS IIII)

The new emergency generator has a displacement of 4.8 liters per cylinder, a maximum horsepower of 3,634.00, and is a Tier 2 certified engine. The unit meets the definition of emergency stationary ICE under §60.4211(f).

Per §60.4202 (b)(2), 2011 model year and later emergency stationary CI ICE, must certify emissions standards for new emergency nonroad CI engine to emission standards in 40 CFR §89.112 and 40 CFR §89.113. The engine has been certified to 40 CFR §89.112 and 40 CFR §89.113 as the engine is a Tier 2 certified engine.

The owner or operator is not required to submit an initial notification but since the engine does not meet the standards applicable to non-emergency engines, the owner and operator must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time (60.4214(b)).

3.f. Operational and Maintenance Strategy

The generator and boilers will be maintained and operated in accordance with manufacturer's specifications and the facility's standard operating procedures. The new standby generator will have the capability to detect faulty operations that would result in higher than normal emissions and alert the operator at the control panel, who would simply shut the unit down and service it.

If an issue with the operation of one of the boilers is observed, the unit will be taken out of service and repaired.

3.g. Air Dispersion Modeling Ambient Impact Analysis

Note: Per the Air Quality Program's Internal Combustion Engine Permitting Policy and the Air Dispersion Modeling Guidelines for Air Quality Permitting, "internal combustion engines permitted for emergency use do not require an air dispersion modeling analysis." Therefore, no modeling analysis is provided.