

DRAFT PERMIT

PERMIT NO: 12AR2037

INITIAL APPROVAL

DATE ISSUED:

ISSUED TO: Buckley Air Force Base

THE SOURCE TO WHICH THIS PERMIT APPLIES IS DESCRIBED AND LOCATED AS FOLLOWS:

Electric power generation facility, part of the Mountainview Power Plant, to be located at Building 494, **to be constructed to house these sources**, at Buckley Air Force Base, in Arapahoe County, Colorado.

THE SPECIFIC EQUIPMENT OR ACTIVITY SUBJECT TO THIS PERMIT INCLUDES THE FOLLOWING:

Facility Equipment ID	AIRS Point	Description
Building 494 Power Plant	128	<p>Ten (10) diesel fueled, reciprocating, internal combustion, turbocharged four stroke, rich burn engines powering ten (10) electrical generators.</p> <p>Make/Model/Serial Number: TBD</p> <p>Design capacity of equipment (each engine): site-rated at 3,834 bhp (sea level rated at 4,423 bhp);</p> <p>Generators rated at 2,500 kW each.</p> <p>Control Equipment includes air/fuel ratio controller, Selective Catalytic Reduction for Oxides of Nitrogen (NOx) and Diesel Oxidation Catalyst for Particulate Matter. Make/Model/Serial Number: TBD</p> <p>Manufacture date and date of entry into Colorado: TBD (For NSPS IIII applicability)</p> <p>These engines are subject to NSPS IIII Interim Tier #4 Standards.</p> <p>Fuels used in these engines may include ultra low sulfur diesel (ULSD), or other fuels which meet the specifications of ULSD fuel.</p> <p>Estimated engine displacement: Approx. 5.3 L/cyl.</p>

THIS PERMIT IS GRANTED SUBJECT TO ALL RULES AND REGULATIONS OF THE COLORADO AIR QUALITY CONTROL COMMISSION AND THE COLORADO AIR POLLUTION PREVENTION AND CONTROL ACT C.R.S. (25-7-101 et seq), TO THOSE GENERAL TERMS AND CONDITIONS INCLUDED IN THIS DOCUMENT AND THE FOLLOWING SPECIFIC TERMS AND CONDITIONS:

REQUIREMENTS TO SELF-CERTIFY FOR FINAL APPROVAL

1. **YOU MUST notify the Air Pollution Control Division (the Division) no later than fifteen days after commencement of the permitted operation or activity by submitting a Notice of Startup form to the Division.** The Notice of Startup form may be downloaded online at www.cdphe.state.co.us/ap/downloadforms.html. Failure to notify the Division of startup of the permitted source is a violation of Air Quality Control Commission (AQCC) Regulation No. 3, Part B, Section III.G.1 and can result in the revocation of the permit.
2. Within one hundred and eighty days (180) after commencement of operation, compliance with the conditions contained on this permit shall be demonstrated to the Division. It is the permittee's responsibility to self certify compliance with the conditions. Failure to demonstrate compliance within 180 days may result in revocation of the permit or enforcement action by the Division. Information on how to certify compliance was mailed with the permit or can be obtained from the Division. (Reference: Regulation No. 3, Part B, II.G.2)
3. This permit shall expire if the owner or operator of the source for which this permit was issued: (i) does not commence construction/modification or operation of this source within 18 months after either, the date of issuance of this construction permit or the date on which such construction or activity was scheduled to commence as set forth in the permit application associated with this permit; (ii) discontinues construction for a period of eighteen months or more; (iii) does not complete construction within a reasonable time of the estimated completion date. The Division may grant extensions of the deadline per Regulation No. 3, Part B, III.F.4.b. (Reference: Regulation No. 3, Part B, III.F.4.)
4. Within one hundred and eighty days (180) after commencement of operation, the operator shall complete all initial compliance testing and sampling as required in this permit and submit the results to the Division as part of the self-certification process. (Reference: Regulation No. 3, Part B, Section III.E.)
5. Within one hundred and eighty days (180) after commencement of operation, the AIRS ID number shall be marked on the subject equipment for ease of identification. (Reference: Regulation No. 3, Part B, III.E.) (State only enforceable)
6. The manufacturer, model number, serial number, add-on emissions controls and efficiency of those add-on controls, manufactured date, displacement, and date of original entry into Colorado of the subject equipment shall be provided to the Division within fifteen days (15) after commencement of operation. This information shall be included on the Notice of Startup (NOS) submitted for the equipment. (Reference: Regulation No. 3, Part B, III.E.)
7. The source descriptions and conditions of this engine shall be incorporated into Operating Permit Number 95OPAR118 (Facility ID: 0050028) upon completion of self certification for Final Approval.

EMISSION LIMITATIONS AND RECORDS

8. Emissions of air pollutants shall not exceed the following limitations (as calculated using the emission factors included in the Notes to Permit Holder section of this permit). Monthly records of the actual emission rates shall be maintained by the applicant and made available to the Division for inspection upon request. (Reference: Regulation No. 3, Part B, Section II.A.4)

Hourly Limits:

Facility Equipment ID	AIRS Point	Pounds per hour per engine			Emission Type
		NO _x	VOC	CO	
Building 494 Power Plant	128	4.2	2.5	22.1	Point

Monthly hours of operation will be recorded on a rolling 12-month basis and be available for review upon request by the Division. The rolling 12-month total of hours of operation shall not exceed the annual "Process/Consumption Limits" in Condition #11.

Emissions will be calculated on a rolling 12-month basis. The rolling 12-month total of emissions shall not exceed the annual emissions given in the "Annual Limits" below.

Monthly emissions of each pollutant shall be calculated by the end of the subsequent month using the above emission factors and the monthly power production (monitored or calculated maximum) in the equations below (emission factors based upon use of diesel or biodiesel fuel):

$$Emissions_{Monthly} = \frac{[Emission\ Factor\ (lb/hr) * Hours\ of\ Operation(hr/month)]}{(2000lb/1\ ton)}$$

OR

$$ton/mo = CEF\ (g/kW-hr) \times hours\ of\ operation\ (hr/mo) \times maximum\ rated\ power\ (kW) / 453.59\ (g/lb) / 2000\ lb/ton.$$

OR

$$ton/mo = CEF\ (g/kW-hr) \times power\ generated\ (kW-hr/mo) / 453.59\ (g/lb) / 2000\ lb/ton.$$

Emission factors used to calculate limits shall be those found in "Notes to Permit Holder #3".

Annual Limits:

Facility Equipment ID	AIRS Point	Tons per year (all engines)			Emission Type
		NO _x	VOC	CO	
Building 494 Power Plant	128	6.3	3.8	33.1	Point

See "Notes to Permit Holder #3" for information on emission factors and methods used to calculate limits.

During the first twelve (12) months of operation, compliance with both the hourly and yearly emission limitations shall be required. After the first twelve (12) months of operation, compliance with only the yearly limitation shall be required.

Compliance with the annual limits shall be determined by recording the facility's annual criteria pollutant emissions, (including all HAPs above the de-minimis reporting level) from each emission unit, on a rolling (12) month total. By the end of each month a new twelve-month total shall be calculated based on the previous twelve months' data. The permit holder shall calculate monthly emissions and keep a compliance record on site, or at a local field office with site responsibility, for Division review. This rolling twelve-month total shall apply to all emission units, requiring an APEN, at this facility.

9. The emission points in the table below shall be maintained and operated with the control equipment as listed. The uncontrolled emissions shall be reduced by at least the control efficiencies listed. Operating parameters of the control equipment shall be identified in the operating and maintenance plan. The identified operating parameters will replace the control efficiency requirement on the final permit. (Reference: Regulation No. 3, Part B, Section III.E.)

Facility Equipment ID	AIRS Point	Control Device	Controlled Emissions	Control Efficiency
Building 494 Power Plant	128	Selective Catalytic Reduction (SCR)	NOx	83%
		Diesel Oxidation Catalyst (DOC)	PM, PM10, PM2.5	50%
		Diesel Oxidation Catalyst (DOC)	VOC	83%

This control equipment shall be maintained according to the manufacturer's recommendations. Records of all maintenance of the control equipment shall be kept by the operator and made available to the Division upon request. Failure to provide maintenance records in accordance with the manufacturer's recommendations may result in the Division's requirement of a stack test.

PROCESS LIMITATIONS AND RECORDS

10. This source shall be limited to the following maximum consumption, processing and/or operational rates as listed below. Annual and hourly records of the actual process rate shall be maintained by the applicant and made available to the Division for inspection upon request. (Reference: Regulation 3, Part B, II.A.4)

Process/Consumption Limits

Facility Equipment ID	AIRS Point	Process Parameter	Annual Limit
Building 494 Power Plant	128	Hours of Operation	3000 hr/yr/all units in total
		Kilowatts Generated	7,500,000 kw-hr/yr all units in total

Compliance with these consumption limits will be demonstrated by installing a non-resettable hour meter on the engine and recording the hours of the engine's operation. The kilowatts generated will be based on the generator power rating in kilowatts time hours.

During the first twelve (12) months of operation, compliance with the hours of operation limitations shall be required. After the first twelve (12) months of operation, compliance with only the yearly limitation shall be required.

Compliance with the yearly process limits shall be determined on a rolling twelve (12) month total. By the end of each month a new twelve-month total is calculated based on the previous twelve months' data. The permit holder shall calculate monthly process rate and keep a compliance record on site or at a local field office with site responsibility, for Division review.

STATE AND FEDERAL REGULATORY REQUIREMENTS

11. Visible emissions shall not exceed twenty percent (20%) opacity during normal operation of the source. During periods of startup, process modification, or adjustment of control equipment visible emissions shall not exceed 30% opacity for more than six minutes in any sixty consecutive minutes. Opacity shall be determined using EPA Method 9. (Reference: Regulation No. 1, Section II.A.1. & 4.)
12. This source is subject to the odor requirements of Regulation No. 2. (State only enforceable)
13. This source is subject to the New Source Performance Standards requirements of Regulation No. 6, Part A, Subpart III, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE) including, but not limited to, the following:
 - a. Emissions of Nitrogen Oxides shall not exceed 2.6 grams per horsepower hour.
 - b. Emissions of Non-Methane Hydrocarbons shall not exceed 0.3 grams per horsepower hour.
 - c. Emissions of Carbon Monoxide shall not exceed 2.6 grams per horsepower hour.
 - d. Emissions of Particulate Matter shall not exceed 0.07 grams per horsepower hour.
 - e. All fuel purchased shall meet the following specifications:
 - (1) Sulfur content shall not exceed 15 ppm.
 - (2) Have a minimum cetane index of 40 **or**
Have a maximum aromatic compound content of 35% by volume.

Compliance shall be demonstrated by maintaining copies of the fuel specifications provided by the supplier, **or copies of analytical sampling results for delivered fuel**, on-site or in a readily accessible location and made available to the Division for inspection upon request.
 - f. All engines and control devices must be installed, configured, operated, and maintained according to the specifications and instructions provided by the engine manufacturer.
 - g. If engine is equipped with a diesel particulate filter, the filter must be installed with a

backpressure monitor that notifies the owner or operator when the high backpressure limit of the engine is approached. Records shall be kept of any corrective action taken after the backpressure monitor has notified the owner or operator that the high backpressure limit is approached.

14. The following requirements of Regulation No. 6, Part A, Subpart A, General Provisions, apply.
 - a. At all times, including periods of start-up, shutdown, and malfunction, the facility and control equipment shall, to the extent practicable, be maintained and operated in a manner consistent with good air pollution control practices for minimizing emissions. Determination of whether or not acceptable operating and maintenance procedures are being used will be based on information available to the Division, which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. (Reference: Regulation No. 6, Part A. General Provisions from 40 CFR 60.11)
 - b. No article, machine, equipment or process shall be used to conceal an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere. (§ 60.12)
 - c. Written notification of construction and initial startup dates shall be submitted to the Division as required under § 60.7.
 - d. Records of startups, shutdowns, and malfunctions shall be maintained, as required under § 60.7.
15. This source is located in an ozone non-attainment or attainment-maintenance area and subject to the Reasonably Available Control Technology (RACT) requirements of Regulation Number 3, Part B, III.D.2.b. The requirements of condition numbers 13 and 14 above were determined to be RACT for this source.

OPERATING & MAINTENANCE REQUIREMENTS

16. This source shall follow the most recently approved operation and maintenance plan as required under the Operating Permit Number 95OPAR118.

COMPLIANCE TESTING AND SAMPLING

Initial Testing Requirements

17. **For each engine**, within 180 days of startup **of the engine**, the owner or operator shall demonstrate compliance with Condition 11, using EPA Method 9 to measure opacity from the engine exhaust. This measurement shall consist of a minimum twenty-four consecutive readings taken at fifteen second intervals over a 6 minute period. (Reference: Regulation No. 1, Section II.A.1 & 4)
18. **Per the schedule required by New Source Performance Standards, Subpart A**, source initial compliance test shall be conducted on all engine exhausts under AIRS ID 128 to measure the emission rate(s) for the pollutants listed below in order to demonstrate compliance with the EPA certification limits as provided from the engine manufacturer for compliance with the emission limits as described in Condition #8. The test protocol must be in accordance with the requirements of the Air Pollution Control Division Compliance Test Manual and shall be submitted

to the Division for review and approval at least thirty (30) days prior to testing. No compliance test shall be conducted without prior approval from the Division. Any compliance test conducted to show compliance with a monthly or annual emission limitation shall have the results projected up to the monthly or annual averaging time by multiplying the test results by the allowable number of operating hours for that averaging time (Reference: Regulation No. 3, Part B., Section III.G.3)

Oxides of Nitrogen using EPA approved methods.
Volatile Organic Compounds using EPA approved methods.
Carbon Monoxide using EPA approved methods.

Periodic Testing Requirements

19. Periodic testing as required for compliance with New Source Performance Standards, Subpart IIII and National Emissions Standards for Hazardous Air Pollutants, Subpart ZZZZ.

ADDITIONAL REQUIREMENTS

20. The AIRS ID number shall be marked on the subject equipment for ease of identification. (Reference: Regulation No. 3, Part B, III.E.) (State only enforceable)
21. A Revised Air Pollutant Emission Notice (APEN) shall be filed: (Reference: Regulation No. 3, Part A, Section II.C.)

- a. Annually whenever a significant increase in emissions occurs as follows:

For any criteria pollutant:

For sources emitting **less than 100 tons per year**, a change in actual emissions of five tons per year or more, above the level reported on the last APEN submitted; or

For volatile organic compounds (VOC) and nitrogen oxide (NO_x) sources in an ozone non-attainment area emitting **less than 100 tons of VOC or nitrogen oxide per year**, a change in actual emissions of one ton per year or more or five percent, whichever is greater, above the level reported on the last APEN submitted; or

For sources emitting **100 tons per year or more of a criteria pollutant**, a change in actual emissions of five percent or 50 tons per year or more, whichever is less, above the level reported on the last APEN submitted; or

For sources emitting **any amount of lead**, a change in actual emissions, above the level reported on the last APEN submitted, of fifty (50) pounds of lead

For any non-criteria reportable pollutant:

If the emissions increase by 50% or five (5) tons per year, whichever is less, above the level reported on the last APEN submitted to the Division.

- b. Whenever there is a change in the owner or operator of any facility, process, or activity; or
- c. Whenever new control equipment is installed, or whenever a different type of control equipment replaces an existing type of control equipment; or
- d. Whenever a permit limitation must be modified; or

- e. No later than 30 days before the existing APEN expires.
22. Non-attainment New Source Review requirements shall apply to this source at any such time that this source becomes major solely by virtue of a relaxation in any permit condition. Any relaxation that increases the potential to emit above the applicable NSR threshold will require a full NSR review of the source as though construction had not yet commenced on the source. The source shall not exceed the NSR threshold until a NSR permit is granted. (Regulation No. 3, Part D, V.A.7)

GENERAL TERMS AND CONDITIONS:

23. This permit and any attachments must be retained and made available for inspection upon request. The permit may be reissued to a new owner by the Division as provided in Regulation No. 3, Part B, Section II.B upon a request for transfer of ownership and the submittal of a revised APEN and the required fee.
24. If this permit specifically states that final approval has been granted, then the remainder of this condition is not applicable. Otherwise, the issuance of this construction permit does not provide "final" authority for this activity or operation of this source. Final approval of the permit must be secured from the Division in writing in accordance with the provisions of 25-7-114.5(12)(a) C.R.S. and Regulation No. 3, Part B, Section III.G. Final approval cannot be granted until the operation or activity commences and has been verified by the Division as conforming in all respects with the conditions of the permit. Once self-certification of all points has been reviewed and approved by the Division, it will provide written documentation of such final approval. **Details for obtaining final approval to operate are located in the Requirements to Self-Certify for Final Approval section of this permit.**
25. This permit is issued in reliance upon the accuracy and completeness of information supplied by the applicant and is conditioned upon conduct of the activity, or construction, installation and operation of the source, in accordance with this information and with representations made by the applicant or applicant's agents. It is valid only for the equipment and operations or activity specifically identified on the permit.
26. Unless specifically stated otherwise, the general and specific conditions contained in this permit have been determined by the Division to be necessary to assure compliance with the provisions of Section 25-7-114.5(7)(a), C.R.S.
27. Each and every condition of this permit is a material part hereof and is not severable. Any challenge to or appeal of a condition hereof shall constitute a rejection of the entire permit and upon such occurrence, this permit shall be deemed denied *ab initio*. This permit may be revoked at any time prior to self-certification and final authorization by the Division on grounds set forth in the Colorado Air Pollution Prevention and Control Act and regulations of the AQCC including failure to meet any express term or condition of the permit. If the Division denies a permit, conditions imposed upon a permit are contested by the applicant, or the Division revokes a permit, the applicant or owner or operator of a source may request a hearing before the AQCC for review of the Division's action.
28. Section 25-7-114.7(2)(a), C.R.S. requires that all sources required to file an Air Pollution Emission Notice (APEN) must **pay an annual fee** to cover the costs of inspections and administration. If a source or activity is to be discontinued, the owner must notify the Division in writing requesting a cancellation of the permit. Upon notification, annual fee billing will terminate.

29. Violation of the terms of a permit or of the provisions of the Colorado Air Pollution Prevention and Control Act or the regulations of the AQCC may result in administrative, civil or criminal enforcement actions under Sections 25-7-115 (enforcement), -121 (injunctions), -122 (civil penalties), -122.1 (criminal penalties), C.R.S.

 Charles N. Pray, P.E.-P.L.S.
 Permit Engineer

 R K Hancock III, P.E.
 Construction Permit Unit Supervisor

Permit History

Issuance	Date	Description
Initial Approval	This Issuance	Issued to Buckley Air Force Base

Notes to Permit Holder (as of date of permit issuance):

- The production or raw material processing limits and emission limits contained in this permit are based on the production/processing rates requested in the permit application. These limits may be revised upon request of the permittee providing there is no exceedence of any specific emission control regulation or any ambient air quality standard. A revised air pollution emission notice (APEN) and application form must be submitted with a request for a permit revision.
- This source is subject to the Common Provisions Regulation Part II, Subpart E, Affirmative Defense Provision for Excess Emissions During Malfunctions. The permittee shall notify the Division of any malfunction condition which causes a violation of any emission limit or limits stated in this permit as soon as possible, but no later than noon of the next working day, followed by written notice to the Division addressing all of the criteria set forth in Part II.E.1. of the Common Provisions Regulation. See: <http://www.cdphe.state.co.us/regulations/airregs/5CCR1001-2.pdf>.
- The emission levels contained in this permit are based on the following emission factors:

Points 128:

Pollutant	Emission Factors - Controlled	
	lbs/hr/engine	Source
NO _x	4.22	MFR.
VOC	2.52	MFR.
CO	22.06	MFR.

OR

Points 128:

Pollutant	Emission Factors - Controlled	
	g/kW-hr/engine	Source
NO _x	0.6700	MFR.
VOC	0.4000	MFR.
CO	3.5000	MFR.

- In accordance with C.R.S. 25-7-114.1, each Air Pollutant Emission Notice (APEN) associated with this permit is valid for a term of five years from the date it was received by the Division. A revised APEN shall be submitted no later than 30 days before the five-year term expires. Please refer to

the most recent annual fee invoice to determine the APEN expiration date for each emissions point associated with this permit. For any questions regarding a specific expiration date call the Division at (303)-692-3150.

- 5) This source is classified as follows:

Applicable Requirement	Status
Operating Permit	Synthetic Minor Source for NO _x , VOC and CO at a facility which is a Title V Major Source for NO _x and CO.
PSD	Synthetic Minor Source for CO at a facility which is a PSD Major Stationary Source for NO _x .
NANSR	Synthetic Minor Source for NO _x and VOC at a facility which is a NANSR Major Stationary Source for NO _x .

- 6) This engine is subject to 40 CFR, Part 63, Subpart ZZZZ - **National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (Federally enforceable only)**. A copy of the complete subpart is available on the EPA website at: <http://www.epa.gov/ttn/atw/rice/ricepg.html>. All initial notifications, compliance demonstrations, and required documentation should be submitted directly to U.S. EPA Region 8 and copies sent to the Colorado Air Pollution Control Division
- 7) Full text of the Title 40, Protection of Environment Electronic Code of Federal Regulations can be found at the website listed below:

Get rid of the number 7). This is part of 6).

<http://ecfr.gpoaccess.gov/>

Part 60: Standards of Performance for New Stationary Sources		
NSPS	60.4200-60.4219	Subpart IIII
Part 63: National Emission Standards for Hazardous Air Pollutants for Source Categories		
MACT	63.6580-63.6675	Subpart ZZZZ

- 8) Certification documentation of compliance with the NSPS IIII emission standards was not received with the initial application.

