



Title	ES-301-2.03 Power Generation
Document Owner:	John Hambright
Revision Date:	January 2, 2019

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1) Activity Description: Power Generation

The Department of Aviation operates a number of emergency power generators and auxiliary fire pump power units at the airport. These generators can be either fixed (i.e., bolted to the ground) or portable (i.e., on wheels or a trailer). The generators are tested on a regular basis by DEN Technical Maintenance staff in order to ensure their proper operation in the event of a power failure. The Department of Aviation owns and operates fixed generators at the following locations:

- West Airfield Electrical Vault (8529 Irvington Way);
- East Airfield Electrical Vault (8732 Allium Street);
- Taxiway WC Electrical Vault (9775 Kewaunee Street);
- Maintenance Support Center, Building A (27500 E. 80th Avenue, Building A);
- Vehicle Maintenance Building;
- A Concourse North and West External;
- All ARFF Stations – Two diesel and two natural gas (NG);
- Paint Vehicle Storage Building (NG);
- Lift Station #1;
- Airport Office Building (AOB) (8500 Peña Boulevard), outside the loading dock on the west side;
- Antenna Farm, Tower No. 1 (8713 Quincy Street);
- Antenna Farm, Tower No. 2 (8877 Shawnee Street);
- Pikes Peak Parking Lot (3 units); and
- Fire pump auxiliary power units in AOB, Terminal, and at each Concourse

In addition, portable generators are present throughout DEN but are not assigned an address, because they can be relocated at any time.

Each of the diesel-powered fixed and portable generators has a fuel storage container associated with the generator.

Airport operators, tenants, and contractors may also operate generators such as emergency power generators or auxiliary power units (APUs).

2) Potential Environmental Risks

A. The following environmental concerns are associated with these activities:

- i) Air pollution
- ii) Fuel spills
- iii) Contamination of soils
- iv) Contamination of surface water
- v) Contamination of groundwater
- vi) Contamination of sanitary sewer system

B. Potential consequences from performing the activity incorrectly:

- i) Property damage, personal injury, or damage to the environment
- ii) Regulatory and judicial enforcement actions and related [financial & non-financial] penalties

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3) Critical Operating Requirements

A. Prohibited Activities

- i) For the City-operated generators at the East Airfield Electrical Vault and West Airfield Electrical Vault, do not burn more than 20,000 gallons of diesel total per rolling twelve months. This limit is set by the City's air quality emissions permit from the State of Colorado. This limit can be changed, but a 6-month lead time is required.
- ii) For the City-operated generator outside the AOB loading dock, do not burn more than 28,000 gallons of diesel fuel per rolling twelve months. This limit is set by the City's air quality emissions permit from the State of Colorado. This limit can be changed, but a 6-month lead time is required.
- iii) Spills of any kind shall not be washed into any sewer system or waterway, or onto any soils.

B. General Considerations

- i) Each airport tenant, contractor, and operator conducting power generation operations is responsible for understanding the applicable regulations and managing their activities accordingly; this Environmental Guideline is meant as guidance and does not supersede any regulations.
- ii) Under State of Colorado air quality regulations, the following types of generators are exempt from reporting and permitting requirements:
 - o Emergency power generators that have a rated horsepower less than 260;
 - o Emergency power generators that have a rated horsepower less than 737 and operate less than 250 hours per year; or
 - o Emergency power generators that have a rated horsepower less than 1840 and operate less than 100 hours per year.

For any generator that does not meet the criteria above, the generator's operator should contact DEN Environmental Services and may be required to prepare and submit an Air Pollutant Emissions Notice (APEN) to the state Air Pollution Control Division.

- iii) Each generator operator must submit a tank registration to the State Division of Oil and Public Safety for each generator fuel tank that has a capacity between 660 gallons and 39,999 gallons (see EG ES-301-4.09 Management of Petroleum Storage Tanks & Containers).
- iv) Each generator operator must prepare a Spill Prevention, Control, and Countermeasure (SPCC) Plan if total petroleum aboveground storage capacity (including generator fuel tanks) exceeds 1,320 gallons. A copy of any such SPCC Plan must be submitted to DEN Environmental Services for review (see EG ES-301-4.09 Management of Petroleum Storage Tanks & Containers).

C. Training Requirements

- i) Employee training programs shall inform personnel at all levels of responsibility who are involved in industrial activities that may impact stormwater runoff. Training shall address topics such as spill response, good housekeeping, and material management practices. Contractor or temporary personnel shall be informed of plant operation and design features in order to prevent discharges or spills from occurring.

D. Storage and Materials Management Requirements

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- i) For City-operated generators, the Department of Aviation stores generator fuel according to its SPCC Plan (see EG ES-301-4.09 Management of Petroleum Storage Tanks & Containers).

4) Planning Requirements

- A. None.

5) Critical Tasks

- A. For City-operated generators, the Department of Aviation will conduct generator monitoring and recordkeeping according to Section 4.3 of the state air quality Operating and Maintenance (O&M) Plan.
- B. For City-operated generator tanks, the Department of Aviation will conduct generator monitoring, inspections, and recordkeeping according to the SPCC Plan.

6) Emergency Response

- A. If a spill occurs, refer to Environmental Guideline ES-301-5.02 Spill Response.
 - i) Call DEN Communications Center immediately at 303-342-4200 for all spills.

7) Inspection and Maintenance Requirements

- A. For City-operated generators, the Department of Aviation will conduct generator inspection and maintenance according to Section 4.4 (Maintenance and Operational Testing) of the state air quality O&M Plan.

8) Expected Records and Outputs

- A. APEN
 - i) The form covers City-operated generators that are regulated under the City's air quality emissions permit. Each airport operator, tenant, and contractor with a regulated generator should develop its own APEN.
- B. Monthly Rolling Annual Emissions for (current month)
 - i) Generator operations (duration of operation and quantity of fuel used) are tracked using this spreadsheet to ensure compliance with state air permit. The spreadsheet is located in the EMS Documents Portal: ES Data Files/Air folder.
- C. Spill and release records for any spills
 - i) Responsible party (for the spill) notifies DEN Communications Center and completes spill report.
 - ii) Spill reporting forms are available through the DEN Communications Center.

9) References

- A. Phone Numbers

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- i) DEN Communications Center (for spill reporting) (303) 342-4200
 - ii) DEN Environmental Services (Main Line) (303) 342-2730
 - iii) John Hambright (DEN Environmental Services) (303) 342-2759
- B. Guidance Materials (list is not limited to the following)
- i) Manufacturer’s operating and maintenance (O&M) manuals
- C. Related Environmental Documents (list is not limited to the following)
- i) ES-301-4.09 Management of Petroleum Storage Tanks & Containers
 - ii) ES-301-5.02 Spill Response
- D. Applicable Regulations (list is not limited to the following)
- i) State air quality permit (Permit No. 99DE0142)
 - ii) State air quality regulations (5 CCR 1001-2, -3, and -5)
 - iii) State air quality Operating and Maintenance (O&M) Plan, Section 4 (Emergency Generators)
 - iv) Local air quality regulations (D.R.M.C. Title II, Chapter 4 (Air Pollution Control), Article III)
 - v) DEN rules and regulations
- E. Other Documents (list is not limited to the following)
- i) DEN Electrical Vault Fuel Calculator and AOB Emergency Generator Worksheets (contained within the workbook titled “Monthly Rolling Annual Emissions for (current month)” located in the EMS Documents Portal/ES Data Files/Air folder)

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