



FUELING AIRCRAFT, VEHICLES, AND AUXILIARY EQUIPMENT

ENVIRONMENTAL GUIDELINES



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ACTIVITY DESCRIPTION

The Department of Aviation and tenants on DEN property dispense fuel to aircraft, vehicles, and auxiliary equipment using a variety of methods. Specialized trained tenants use the hydrant fueling system or a fueling truck to fuel aircraft. Several tenant and Department of Aviation owned vehicles and equipment are fueled from the stationary fueling system or from mobile sources, including fueling from fuel trucks and portable fuel cans. Auxiliary power generation equipment is fueled from mobile sources. On an as needed basis, fuel is sometimes removed from aircraft, vehicles, or equipment (“defueling”) for transport or maintenance purposes.

POTENTIAL ENVIRONMENTAL RISKS

The following environmental concerns are associated with these activities:

- Fuel spills
- Fire and health hazards
- Air pollution and odors
- Disposal of contaminated spill response media
- Contamination of soils
- Contamination of ground water
- Contamination of surface water
- Contamination of stormwater runoff

Potential consequences from performing this activity incorrectly:

- Property damage, personal injury, damage to the environment, and potentially expensive site remediation
- Regulatory and judicial enforcement actions and related [financial & non-financial] penalties

RECOMMENDED OPERATING CONTROLS

Prohibited Activities

- Operating fueling systems without applicable regulatory permits, plans, and required training.
- Disconnection or faulting of deadman switches or other spill control or countermeasure equipment for convenience.
- Spills of any kind shall not be washed into any sewer system or waterway, or onto any soils.
- Fueling of aircraft, vehicles, or equipment outside of designated fueling areas.
- Filling portable containers in or on a vehicle.
- Dispensing fuel into vehicles or equipment whose engine is running.

General Considerations

- Each airport tenant, contractor, and operator conducting fueling activities 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.
- Fueling and defueling operations are typically associated with a petroleum storage system; therefore, refer to Environmental Guideline Management of Petroleum Storage Tanks and Containers.
- Fueling and defueling must occur in designated areas. The “areas” are specific for each type of fueling; remote vehicles, permanent vehicle locations, aircraft at gates and/or hangars, auxiliary generators, etc.



- Follow fueling procedures focused on prevention of fire, overfills, and spills, and use appropriate spill prevention and containment equipment during fueling activities, including fueling from the hydrant system.
- Be aware of posted warning signs and follow all posted instructions in fuel dispensing areas.
- Applicable emissions control equipment will be installed, inspected, and maintained.
- Follow proper operational procedures, including company policies, for:
 - Fueling aircraft,
 - Filling fuel trucks from fuel storage and then transporting fuel to remote locations and dispensing fuel to vehicles and equipment,
 - Fueling vehicles at fueling stations,
 - Fueling auxiliary power generation equipment to prevent spills and other releases, and
 - Transferring fuels between any container system(s).
- Stay with the vehicle or equipment while fuel is being dispensed or the equipment is being defueled; never leave a dispensing pump unattended.
- Know the location of all automatic shut-off devices or controls, fire extinguishers, and spill response materials in the vicinity of the fuel dispensing/defueling area.
- Contaminated spill response material must be disposed of in accordance with Environmental Guideline Management of Special Wastes (e.g., for diesel or Jet A spills). Spill response materials from gasoline spills are considered hazardous because gasoline contains benzene, and must, therefore, be disposed of in accordance with Environmental Guideline Management of Hazardous Wastes.

Training Requirements

- All operators of aircraft fueling equipment must be adequately trained in proper fueling procedures (DEN Rules and Regulations Part 150 – Aircraft Fueling and Defueling Regulations).
- Training on Spill Prevention, Control, and Countermeasure (SPCC) Plan requirements will be provided to all oil-handling personnel if they conduct operations with SPCC-regulated containers and activities.
- Employee training programs shall inform personnel at all levels of responsibility who are involved in industrial activities that may impact stormwater runoff. Stormwater pollution prevention (SWPP) 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.
- Trained on Spill Response procedures.

Storage and Materials Management

- Maintain legible labels and markings on, and required signage around, all containers and tanks as well as at fuel dispensing system locations.
- Ensure that secondary containment and other fuel-related equipment are adequate and in good operating condition. This includes storage units, receiving units, dispensing units, and ancillary monitoring and safety equipment.
- Refer to the appropriate SPCC Plan for guidance on specific requirements.
- Ensure that mobile storage tanks (such as fueling trucks) are operated and stored in compliance with the applicable Spill Prevention, Control, and Countermeasure (SPCC) Plan.
- Ensure that spill response equipment is adequately stocked and maintained.

PLANNING REQUIREMENTS



- As applicable, prepare an SPCC Plan. See Environmental Guideline Management of Petroleum Storage Tanks and Containers.
- Review air permit requirements associated with fueling, HAPs, and APENs – Contact CDPHE AQCD for permitting information. File any required Air Pollutant Emission Notices (APENs) or other required permits prior to conducting any fueling activities.
- Review equipment and devices for spill control and countermeasures (e.g., deadman switches, valves, overfill alarms).
- Complete the Stormwater Management Plan (SWMP) survey/matrix to assist in determining the Environmental Guideline(s) applicable to the activity.
 - This document is available in Appendix B of the SWMP and also at DEN Environmental Services.
 - If applicable, the operator will need to decide whether to operate under the DEN SWMP or generate their own SWMP for review by DEN ES.
- Prepare and maintain a training program and a preventative maintenance plan for all fueling and related equipment, including tanks, support facilities, buried piping, and mobile fueling equipment.
 - All personnel should be trained in appropriate spill prevention and response procedures in accordance with workplace safety and emergency response plans, whether or not an SPCC Plan is required.
 - Operating procedures should be written, communicated, and available.
 - Maintain adequate supplies of spill response equipment and materials in locations where spills are likely to occur.
 - Maintain a spill response equipment inventory.

CRITICAL TASKS

- Conduct training for all staff involved in fueling activities prior to conducting fueling activities, in accordance with plans and procedures for spill prevention and response requirements. This training **is required** for SPCC-regulated containers.
- Demonstrate compliance with the on-site SPCC Plan prior to conducting any fueling activities.
- Demonstrate compliance with applicable air permitting requirements.
- Demonstrate compliance with the SWMP (e.g., stormwater pollution prevention training) prior to conducting any fueling activities. Maintain a copy of the SWMP on site.
- Visually inspect fueling hoses, valves, and piping for leaks and tears. Notify facility operations personnel immediately of spills, leaks, broken/damaged equipment, or any other hazardous condition.

EMERGENCY RESPONSE

- If a spill occurs, refer to Environmental Guideline Spill Response.
- **Call DEN Communications Center immediately at 303-342-4200 for all spills.**
- Use absorbent materials to manage spills. Contain used materials in an appropriate container and dispose off site at an approved and permitted facility.
- Use barriers or blocking devices to prevent petroleum contamination from entering any sewer, drainage, waterway, or soils.
- Control spills to eliminate risk to human health and the environment and to minimize property damage.

INSPECTION AND MAINTENANCE REQUIREMENTS

- Monitor and maintain all spill and release control systems, including vapor collection systems, leak detection systems, overfill and release prevention systems, and secondary containment systems.
- Document all maintenance activities, especially on spill and release control and containment systems.



- During every use, visually inspect fueling hoses, valves, and piping for leaks and tears. Notify facility operations personnel immediately of spills, leaks, broken/damaged equipment, or any other hazardous condition.
- Conduct documented inspections on SPCC-regulated containers (as required by the applicable SPCC Plan).

EXPECTED RECORDS AND OUTPUTS

- Plans and procedures for fueling operations, spill prevention and control, and training
 - In accordance with operator requirements
- Spill and release records for any spills
 - Responsible party (for the spill) notifies DEN Communications Center at 303-342-4200.
 - Verbal or written reporting to regulatory agencies as required by their specific guidance is the responsibility of the operator.
- Operator records of fuel farm and aircraft fueling operations relating to equipment operation, preventative maintenance, and repair
 - Operator must maintain these records at their facility.
- DEN Stormwater Management Plan (SWMP) survey/matrix.
 - Obtain a copy of this document from DEN Environmental Services (ES) or Appendix B of the SWMP.
 - Complete form and return to DEN ES for evaluation.
 - Maintain survey/matrix on file after review by DEN ES.
- Evidence of training on SWMP, SPCC Plan, Spill Response and operator SOPs.
 - While formal certifications are not always necessary, some form of “proof of training” (such as sign-in sheets, handouts, access to a computer-based class and electronic training records) is expected and should be maintained on file by the operator.
- SPCC Plan and compliance records, as applicable (e.g., monthly inspections, fueling and defueling operations, witnessing).
 - Operator must maintain SPCC Plan-related inspection and compliance records at their facility.
- Waste management records (profiles, manifests, sample results, etc.).
 - Based on the disposal profile, manifests and related forms may be required. Manifests and profile forms can be obtained from the disposal facility for off-site disposal activities (manifests **are required** for hazardous wastes).
 - Operator must maintain waste management records at their facility for a minimum of 3 years.
- Air permits, notifications, compliance data, reports, and certifications.
 - Notification forms can be obtained from the Colorado Department of Public Health and Environment (CDPHE).
 - Operator must maintain these records at their facility.

REFERENCES

Contacts

- DEN Communications Center (for spill reporting) 303-342-4200
- DEN Environmental Services (Main Line): 303-342-2730; DIA.Environmental@flydenver.com
- Kim Ohlson, DEN Environmental Services: 303-342-2637; Kim.Ohlson@flydenver.com

Guidance Materials

- DOT Labeling and Placarding Guidance



- Metro Wastewater Contribution Permit
- CDPS Industrial Stormwater Permit / Stormwater Management Plan
- Leak Detection System Design and Operation Information
- DEN Cathodic Protection Specification – Section 16642 (Buried Piping)
- DEN Manager’s Bulletins
- Ramp drainage design (as-builts)
- Colorado Water Quality Control Division “Guidance for Reporting Spills under the Colorado Water Quality Control Act and Colorado Discharge Permits”

Training Materials

- Operational procedures training (on-the-job)
- Operator standard operating procedures for fueling activities (if available)

Related Environmental Documents

- Remediation of Contaminated Soils
- Management of Petroleum Storage Tanks and Containers
- Abandoned Material Response
- Spill Response
- General Waste Management
- Management of Hazardous Waste
- Management of Special Wastes
- Notification Handbook for Spills and Releases to the Environment

Applicable Regulations

- 40 CFR 50 – 95 Clean Air Act Regulations
- 40 CFR 110.3 Discharge of Oil
- 40 CFR 112 Oil Pollution Prevention (SPCC/FR Plans)
- 40 CFR 240 – 299 RCRA hazardous waste regulations
- 49 CFR 100 – 185 DOT Regulations
- 6 CCR 1007 Colorado hazardous waste regulations
- 7 CCR 1101 – 14 Colorado storage tank regulations
- NFPA 415 Standard on Airport Terminal Buildings, Fueling Ramp Drainage, and Loading Walkways. Chapter 5 has specific requirements for ramp slope and drain design, including the existence of a trench drain in areas of aircraft fueling and defueling.
- Denver Fire Department Codes
- DEN Rules and Regulations Part 150 - Aircraft Fueling and Defueling Regulations

Other Documents

- Air permit applications
- Air Pollutant Emission Notice (APEN) forms
- SPCC Plan
- UST registration/upgrade/closure documentation
- Land Disposal Restrictions (LDRs) for waste materials
- Shipping manifests/papers



- Any Incident Report forms utilized by the operator
- Operator standard operating procedures for equipment operations, aircraft servicing, and spill prevention, control, and countermeasure activities