

STATE OF COLORADO

DEPARTMENT OF TRANSPORTATION

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PROCEDURES FOR HAZARDOUS MATERIAL SPILLS THAT OCCUR ON STATE AND FEDERAL HIGHWAYS WITHIN COLORADO AS A RESULT OF A HIGHWAY TRANSPORTATION INCIDENT

PURPOSE AND SCOPE

This document is written to help explain to motor carriers and others, their responsibilities regarding spills of petroleum fuel and other hazardous materials due to transportation incidents or crashes on state or federal highways within Colorado. This document is a compilation of state rules, statutes, procedures, state and local contacts, and other information. This compilation is intended to help explain the requirements on reporting, permitting, remediating, and receiving “No Further Action” determinations on incidents involving spills in Colorado within a highway right-of-way.

Most spills on highways within Colorado involve vehicle fuel, such as diesel or gasoline. For this reason, additional information is given for these products where appropriate. This document is intended to be as complete as possible for most spills; however, it is not necessarily a comprehensive set of requirements.

APPLICABLE RULES AND REGULATIONS

Notification

- National Response Center (40 C.F.R., Part 302.6, 40 C.F.R., Part 116);
- Colorado State Patrol (8 C.C.R. 1507-25, HMT 3);
- Colorado Department of Public Health and Environment (CDPHE), Environmental Emergency Spill Reporting Line (6 C.C.R. 1007-2, Section 263.30; §25-8-601, C.R.S.; 40 C.F.R., Part 116); and,
- U.S. Department of Transportation (49 C.F.R., Parts 171.15 and 171.16).

Remediation

SOIL: Solid waste: 6 C.C.R. 1007-2; §30-20-100.5, C.R.S., et seq., and §30-20-110(j), C.R.S.; Hazardous waste: 6 C.C.R. 1007-3, and §25-15-101, C.R.S., et seq.; Article 80 of the Uniform Fire Code; 29 C.F.R. 1910.120; and others.

WATER: Colorado Water Quality Control Act, §25-8-101, C.R.S., et seq.; Colorado Basic Standards for Ground Water, 5 C.C.R. 1002-8; Clean Water Act; Oil Pollution Act; Illegal Take of Wildlife §33-6-109, C.R.S., Article 80 of the Uniform Fire Code; 29 C.F.R. 1910.120; and others.

Transportation

49 C.F.R., Parts 100 – 185; 4 C.C.R. 723-6

NOTIFICATION

Spill Reporting

Where a transportation accident/incident results in product/fuel spill, reporting and clean-up by the responsible party is necessary:

- If the amount of petroleum fuel spilled exceeds **25 gallons**, or other reportable quantity according to EPA SARA Title III, List of Lists; and/or,
- The spilled materials have impacted or threaten to impact waters of the state; and/or,
- If the incident fits the conditions outlined in the information provided at the following Uniform Resource Locator (URL) link:

www.cdphe.state.co.us/emp/spillsandreleases.htm#_Transportation_Accidents

Notification should be provided immediately to:

- CDPHE 24-hour spill reporting number: **1 (877) 518-5608**
- National Response Center (NRC): **1 (800) 424-8802**
- Designated Emergency Response Authority¹ (DERA): **9-1-1**
- Colorado State Patrol (CSP) : **9-1-1** or **(303) 239-4501**
- CDOT Water Quality Hot Line: **(303) 512-4426**

Any accidental discharge to a sanitary sewer system must be reported **immediately** to the local sewer authority and the affected wastewater treatment facility.

If the spill has affected surface water, downstream water users should be notified **immediately**. This may be coordinated with the CDPHE through the 24-hour spill reporting line.

If the spill did or may affect waters of the State, in addition to calling the numbers listed above, two copies of a written notification report within five days must follow to:

¹ The Colorado State Patrol is the DERA for federal, state, and county roads, outside of a municipal city limits.

Greg Stasinios
Hazardous Materials and Waste Management Division
Colorado Department of Public Health and Environment
4300 Cherry Creek Drive South
Denver, Colorado 80220
Email: gstasino@smtpgate.dphe.state.co.us
Phone: (303) 692-3023
Fax: (303) 759-5355

Written notification of any reportable transportation accident involving a release of hazardous materials also must be provided to the U.S. Department of Transportation within 30 days (49 CFR 171.16). Send written notification to:

Information Systems Manager, DHM-63
Pipeline and Hazardous Materials Safety Administration
U.S. Department of Transportation
Washington, D.C. 20590-0001
(202) 366-4000

Or, complete an electronic Hazardous Material Incident Report at the following URL link:

<https://hazmatonline.volpe.dot.gov/incident/>.

REMEDIAION PLANNING

Initial Incident Stabilization

All appropriate actions should be taken to protect the incident scene, e.g., prevent vehicle/pedestrian access and move to a location upwind to await first response agencies. Persons should not attempt to mitigate or remediate the spill unless they have:

- been properly trained and certified;
- the appropriate Personnel Protective Equipment (PPE) available to them;
- the required support personnel available to effect an entry; and,
- the response equipment necessary to stabilize the scene.

First response agencies should make a good faith effort to stabilize the scene to keep the spill from spreading and affecting additional soil and water resources and other environmental receptors. Suggested actions include but are not limited to: covering the spill area with plastic, placement of absorbent booms in affected water, placement of clean soil berms and/or absorbent booms downhill of the spill and/or between the spill area and nearest waterway, neutralization or chemical stabilization if appropriate, and surface and storm water diversion.

Permits and Certification

All areas affected by the spill need to be remediated and restored in accordance with all applicable permits and their requirements.

Utility Notification: Except in emergency situations, owners of underground utilities must be notified before any type of excavation begins. Call the Utility Notification Center of Colorado at 1 (800) 922-1987. More information is available at the following URL link:

<http://www.uncc2.org> .

CDOT Special Use Permit and Access Permit: After initial emergency response operations have been completed, any further work in the State Highway Right-of -Way must be authorized through a Special Use Permit. The Special Use Permit is also required in situations where a special temporary access route to the work site must be constructed, and/or cleanup equipment will be repeatedly exiting and entering the highway. For Special Use Permit and contact information, check the CDOT Website at the following URL link:

<http://www.dot.state.co.us/UtilityProgram/Contacts.cfm>.

Access permit information is available at the following URL link:

<http://www.dot.state.co.us/AccessPermits/>

If the spill has affected areas outside of the highway right-of-way, other entities may require notification and plan approval as well, including local, state, and federal agencies, and affected property owners.

Additional permits may be required if the spill remediation affects various resources such as: surface water discharge due to dewatering, disturbances over 1 acre, or contaminated water treatment; wetlands disturbance; impacts to threatened or endangered species or cultural resources, hazardous waste generation, and other concerns. Contact information and an overview of the most pertinent permits can be obtained from:

CDOT Environmental Clearances:

<http://www.dot.state.co.us/UtilityProgram/Forms.cfm> (Click on: *Environmental Clearances Information Summary for Entities External to CDOT*)

Water discharge permits:

<http://www.cdphe.state.co.us/wq/PermitsUnit/wqcdpmt.html>

Solid and Hazardous Waste, and Radioactive Materials:

<http://www.cdphe.state.co.us/hm/pnchom.asp>

Worker health, safety, and training requirements of the U.S. Occupational Safety and Health Administration (OSHA):

http://www.osha.gov/pls/oshaweb/owadis.show_document?p_table=STANDARDS&p_id=9765

REMEDIATION

Clean-up of spilled materials is required of any quantity of spilled fuel above the reportable quantity into soil or ground surface, and/or if the spill impacted soil, or has the potential to impact waters of the state. Waters of the state include: lakes, reservoirs, ponds, streams, rivers, ditches, storm drains, manholes, wetlands, storm water, and ground water.

Spills need to be remediated to CDPHE and Environmental Protection Agency (EPA) approved thresholds where applicable and to the strictest standards where different. Other cleanup thresholds may depend on the material spilled, the media affected (soil, groundwater, surface water) and the risk of leaving the material in place. Cleanup thresholds need approval by CDOT in order to issue a “No Further Action” determination to the responsible party.

Excavation and off-site disposal is the preferred and most common method of soil remediation at Colorado highway spill sites. If excavation is not feasible or allowed, clean-ups also may include a variety of technologies including but not limited to some combination of: excavation, air sparge, soil venting, bioremediation, steam cleaning, physical collection, and monitored natural attenuation.

Cleanup requirements may be flexible depending upon:

- Absence of water impacts;
- Public safety impacts if remediation could disrupt or weaken roadway;
- Needs and requirements of the landowner;
- Feasibility of technology options.

Petroleum Fuels: Gasoline and diesel fuel spills from transportation incidents in excess of 25 gallons that affect waters of the state need to be cleaned up to the following criteria:

- BTEX in residual soils: < 0.26 parts per million (ppm) benzene, 170 ppm toluene, 200 ppm ethylbenzene, 1900 ppm xylene; and,
- TPH, TEPH, or TVPH in soils: < 100 ppm; and,
- Benzene in water: < 5 micrograms per liter ($\mu\text{g/l}$); and,
- Xylenes in water: < 10,000 micrograms per liter ($\mu\text{g/l}$), and,
- MTBE in water: < 20 $\mu\text{g/l}$

Note: PID or OVM readings of volatile compounds at or above 10-20 ppm over background levels are a reasonable but not always reliable field screening tool, as long as the PID was properly calibrated that same day and the PID reading is done of headspace concentrations. This technique

involves placement of a soil sample in a sealed plastic bag, heating to ambient temperature (75 degrees Fahrenheit), then insertion of the PID probe into the bag headspace. After excavation and PID readings, samples still need to be collected of residual soils and affected water, and analyzed at an analytical laboratory, to confirm clean-up to required thresholds. These confirmation soil samples need to be taken as discrete samples and not composited from more than one location.

Soil:

If remediation will include soil disposal at a local licensed landfill, most landfills are permitted to accept petroleum-contaminated and non-hazardous highway spill media. For a list of permitted landfills, go to the following URL link:

<http://www.cdphe.state.co.us/hm/hmpubs.asp#swpolicy> (Scroll down to and click on: *Solid Waste Landfills List*)

Check with the landfill operator to see what soil sample analyses will be required for acceptance. Sampling may need to include:

- **Gasoline:** BTEX, TPH or TVPH, paint filter test, and ignitability. If free liquids are present, leachable **benzene** should be analyzed using the Toxicity Characteristic Leachate Procedure (TCLP). If the product was leaded gasoline, test for leachable **lead and cadmium** using the TCLP.
- **Diesel and similar fuels:** BTEX, TPH or TEPH, and paint filter test. Diesel contaminated soils, and most gasoline-contaminated soils, can be disposed in any approved solid waste facility which is licensed to accept these special wastes. Approval from the landfill must be obtained prior to shipment of soils. If gasoline contaminated soils fail the ignitability, leachable lead, and/or leachable benzene test, they require disposal as a hazardous waste.
- **Other spills:** Sampling of other spills will depend upon the nature of the product and disposal facility requirements. Possible sampling may include major or toxic compounds present in the product, as well as incidental characteristics. Some spills might be characterized by visual characteristics alone, such as asphalt and food product spills. For more information, check the various publications available at the following URL link:

<http://www.cdphe.state.co.us/hm/hmpubs.asp>

Water:

If ground water has been impacted and requires remediation, water can be treated on-site. Permits may require a Gasoline Cleanup permit or other discharge permit approved by the Water Quality Control Division and/or an Underground Injection Control notice by the U.S. EPA. Alternatively, the water can be collected and transported off-site to an approved water treatment facility.

Surface water remediation may or may not be feasible depending on site conditions. Every effort should be employed to provide spill containment and prevent its migration into water. Suggestions include but are not limited to: placement and as-needed replacement of absorbent booms downhill and/or downstream of the spill area; staged excavation to separate working area from surface water;

placement of barriers between working area and surface water; vacuuming up product and impacted water; upland water diversion; and prompt remediation completion.

Storm water needs to be protected before, during and after remediation including but not limited to placement of upland diversions, erosion control, and final site stabilization. A storm water permit may be required if the affected area exceeds 1 acre in size. For more information, see the CDOT pocketbook at:

<http://www.dot.state.co.us/environmental/envWaterQual/wqms4.asp>

Spills which impact surface water may be subject to U.S. Environmental Protection Agency sanctions including fines. Spills which result in fish kills may be subject to Colorado Division of Wildlife sanctions including fines.

Transportation of Contaminated Materials:

Transportation of contaminated materials needs to be done in accordance with rules adopted by the U.S. Department of Transportation, Federal Motor Safety Carrier Administration, and the Colorado Department of Public Safety. For further information go to the following URL links:

<http://hazmat.dot.gov>

<http://www.fmcsa.dot.gov/rules-regulations/truck/hazmat/hazmat.htm>

<http://csp.state.co.us/hazard.cfm>

To obtain a state Hazardous Materials or Nuclear Transportation Permit, contact the Colorado Public Utilities Commission at (303) 894-2868. Or, obtain an application on-line at the following URL link:

http://www.dora.state.co.us/puc/applications/trans_aps/transaps.htm

Site Restoration:

Site restoration needs to be done to the satisfaction of the landowner(s). CDOT is the landowner if the spill was contained within the highway right-of-way. If the spill extends beyond CDOT's property boundary, the other affected property owners should also be involved in determining site restoration requirements. Such property owners might include the U.S. Forest Service, Bureau of Land Management, local residents, etc.

CDOT site restoration requirements will be both site-specific and in accordance with state-wide construction specifications. Most requirements will be spelled out in the CDOT Special Use Permit and, if required, the CDOT Access permit issued for the site.

Additional CDOT state-wide specifications can be found at the following URL link:

<http://www.dot.state.co.us/DesignSupport/Construction/2005SpecsBook/2005index.htm>

(Sections of particular note will pertain to environmental, hazardous materials, erosion control, and facilities such as asphalt, guardrails, backfill type and compaction)

CLOSURE REPORT/NO FURTHER ACTION DETERMINATION

A closure report is required for all transportation incidents involving spills in excess of 100 gallons on property owned by the Colorado Department of Transportation (CDOT). This report should be compiled by the responsible party or their designee after clean-up is complete. The report at a minimum must include:

- Name, address, and telephone number of responsible party, and addresses of other parties to whom the closure letter should be sent;
- The CDPHE “Spill Reporting Line” Incident Report Case Number;
- The DERA’s Incident Report Number;
- A description of the incident including when and where the accident occurred (highway number, milepost, county, nearest town or city, preferably the UTM coordinates in meters using the NAD83 Datum, what and how much was spilled, and what media the spill has or may have affected [soil, water, wetlands, etc.]);
- A map or sketch showing the spill area including features of interest such as: roadway surface, intersections if any, nearby surface water features such as ditches, wet or dry creek beds, rivers, ponds or lakes; adjacent wells; highway property boundary; spill area; excavation area; sample locations; topography; and anything else of note. The map or sketch should include a north arrow, scale, and explanation of features;
- A description of measures taken to remediate the spill and affected areas;
- Sufficient number of soil and water samples to represent residual conditions when remediation is complete, including discrete (not composite) soil samples collected from the base and sides of the excavated area, water samples at the conclusion of remediation if applicable, one-year’s groundwater monitoring after remediation systems have been turned off or removed if applicable;
- Analytical results of residual soil and affected water demonstrating that clean-up was achieved to required thresholds, including copies of laboratory analyses and completed Chain-of-Custody paperwork;
- Description of site restoration activities as required or approved by the property owner;
- Volume and location of where soils and affected water were disposed, including completed waste manifests or manifest summaries;
- A completed Inspection Form signed by CDOT maintenance staff verifying completion of work to CDOT’s standards.

Two copies (preferably double-sided) of the closure report need to be provided within three months of completion of remediation, to:

Andy Flurkey
Colorado Department of Transportation, Property Management
15285 S. Golden Road, Building 47
Golden, CO 80401
Telephone: 303-512-5520 Fax: 303-512-5550
Email: Andy.Flurkey@dot.state.co.us