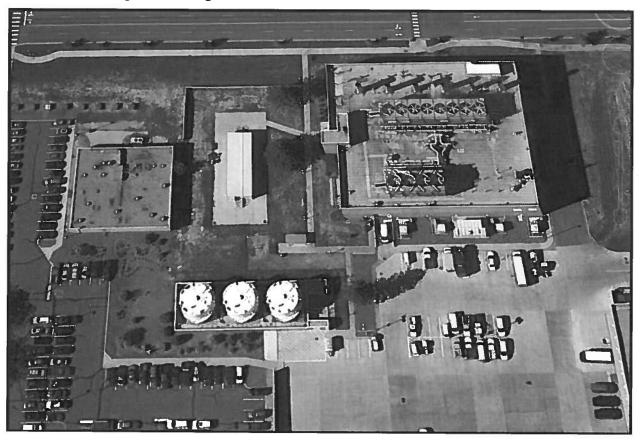
Spill Prevention, Control, & Countermeasures Plan

University of Colorado Denver Anschutz Medical Campus Petroleum Storage, Handling, & Transfer Facilities



Managed by:

Facilities Management Department 1945 North Wheeling Street Aurora, Colorado 80045

Issue Date:

March 18, 2013

Revision:

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Facility Information

Name:

University of Colorado Denver - Anschutz Medical Campus

Type of Facility:

Medical/Educational Institution (NAICS 611310/622110)

Location:

Northeast quadrant of East Colfax Avenue and Peoria Street

Aurora, Colorado; Adams County

Owner/Operator:

University of Colorado Denver – Anschutz Medical Campus

Facilities Management Department

1945 North Wheeling Street Aurora, Colorado 80045

Contact Person:

Scott Roen, P.E., MBA, Manager of Engineering

Office (303) 724-1103; After Hours (720) 252-8574

Contact Person:

Nancy Hostetler, Environmental Specialist

Telephone:

Telephone:

(303) 724-1821; After Hours (720) 641-4491

Operations Begun:

1996

Conformance with Regulatory Requirements

This Spill Prevention, Control, and Countermeasures (SPCC) Plan has been prepared in substantial conformance with applicable provisions of 40 CFR Part 112, including sections 112.7 and 112.9, and applicable appendices. The referenced facility operates aboveground hydrocarbon storage tanks with an aggregate capacity in excess of 1,320 gallons.

Management Commitment and Approval

This SPCC Plan has been approved and implemented as herein described.

Signed:

Name/Title:

David C. Turngdist, P.E., MBA

Associate Vice Chancellor for Facilities Management

Certification

"I hereby certify that I have examined the facility, and being familiar with the provisions of the 40 CFR, Part 112, attest that this SPCC Plan has been prepared in accordance with good engineering practices."

Signed:

Name:

Registration No.:

Thomas D. Atwood, P.E.

Colorado #22866

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Facility Description

The University of Colorado Denver Anschutz Medical Campus (UCD-AMC) is an integrated facility composed of educational institutions, research laboratories, hospitals, medical clinics, offices, shops, a Central Utilities Plant, and supporting infrastructure. The campus is located within a 227-acre site at the northeast corner of East Colfax Avenue and Peoria Street, and includes public access roadways.

Although UCD-AMC receives electricity from Xcel Energy of Colorado, other utility services and backup electrical power are provided by on-campus systems. Specifically, the Central Utilities Plant (CUP) generates and distributes low-pressure steam for heating and chilled water for cooling to numerous buildings located throughout the campus. The steam boilers are primarily fueled by natural gas, but can fire fuel oil as a backup. In addition, diesel-fueled emergency power generators are installed at various locations to supply backup electrical power in the event of an outage by Xcel Energy. Last, several small fuel tanks are located on the campus for special purpose applications.

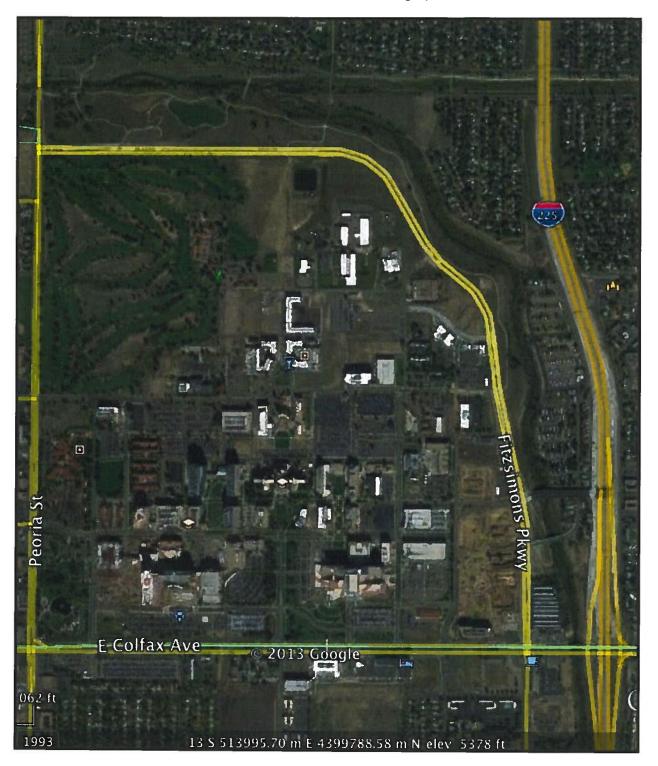
It should be noted that low sulfur No. 2 Grade fuel oil (diesel) is used by most services, including boiler backup fuel, generator engine fuel, and by other fuel oil consuming equipment.

The following fuel tanks are located at UCD-AMC and managed by the Facilities Management Department, and are therefore incorporated within this SPCC plan. It should be noted that other fuel tanks are also located within the UCD-AMC site, but are managed by other institutions, including The Children's Hospital of Colorado and University of Colorado Hospital.

- CUP fuel oil main supply tanks (three 105,000 gallon ASTs)
- CUP fuel oil recirculation tank (one 25,000 gallon AST)
- CUP emergency power generator integral base tank (one 500 gallon AST)
- Building 500 emergency power generator auxiliary supply tank (one 2,000 gallon AST)
- Building 500 emergency power generator integral base tank (one 3,200 gallon AST)
- RC-I emergency power generator main supply tank (one 12,000 gallon UST)
- RC-I emergency power generator integral base tanks (two 400 gallon ASTs)
- RC-II emergency power generator main supply tank (one 6,000 gallon UST)
- RC-II emergency power generator day tank (one 400 gallon AST)
- B. Davis Center emergency power generator integral base tank (one 765 gallon AST)
- Dental School emergency power generator integral base tank (one 850 gallon AST)
- Academic Office 1 emergency power generator integral base tank (one 666 gallon AST)
- Henderson Garage snow melt system fuel supply tank (one 2,000 gallon AST)
- School of Pharmacy emergency power generator integral base tank (one 2,627 gallon AST)
- Campus Services Remote Yard (one 250 gallon AST and one 300 gallon AST)
- Campus Services emergency power generator integral base tank (one 366 gallon AST)
- Library emergency power generator integral base tank (one 523 gallon AST)
- Education Bldg 1 emergency power generator integral base tank (one 600 gallon AST)
- Ed Bldg 2 North emergency power generator integral base tank (one 366 gallon AST)
- Ed Bldg 2 South emergency power generator integral base tank (one 366 gallon AST)
- Health & Wellness emergency power generator integral base tank (one 660 gallon AST)
- Bldg 260 Perinatal emergency power generator integral base tank (one 260 gallon AST)

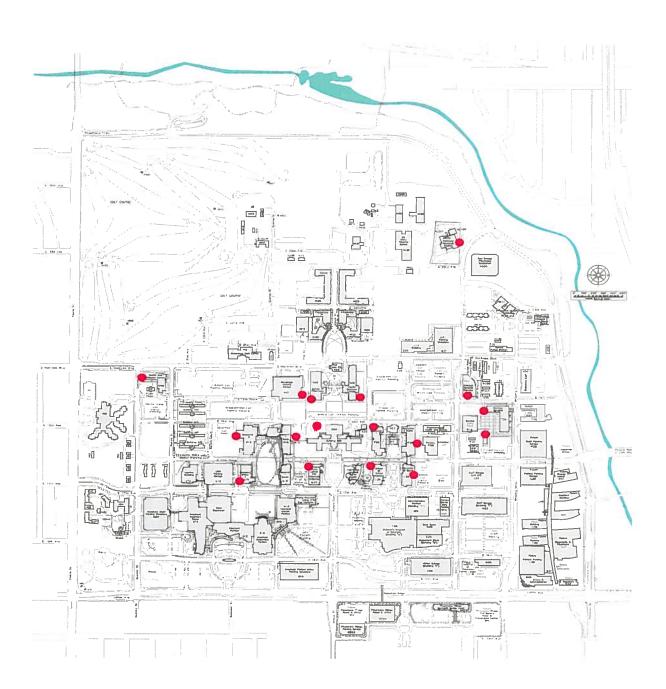
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General Location Aerial Photograph



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UCD-AMC Facility Map



Fuel tank sites are shown as red dots in the image above.

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Spill History

There have been no major EPCRA threshold spills, releases, or discharges at UCD-AMC managed facilities as related to Clean Water Act or CERCLA reporting requirements.

 A minor spill incident occurred on 12/12/2012 during fuel delivery operations and resulted in the release of less than 25 gallons of diesel. This spill was promptly cleaned up and the incident was reported to CDLE/OPS.

Potential Spill Scenarios

A spill may arise as a result of an accident, equipment failure, or operator error as described below.

- Spills may arise from leakage or rupture of a tank containing liquid fuel. At UCD-AMC, fuel tanks range in size from large cylindrical storage tanks (105,000 gallons) to small rectangular tanks incorporated within an emergency power generator base frame.
- 2. Spills may arise from leakage or rupture of vessels, pumps, transfer piping, valves and related equipment associated with fuel storage tanks and fuel consuming equipment.
- 3. Spills may arise from accidental overfilling of fuel storage tanks.
- 4. Spills may arise during fuel delivery operations, either during filling or while in transit across campus grounds.
- 5. Spills may arise during transfer of fuel oil from the CUP main storage tanks into the recirculation tank located below the boiler room.
- 6. Spills may arise from an accidental release of lubricants or other maintenance-related liquids used in support of general operations and motorized equipment areas.
- 7. Spills may arise from an accidental release occurring in connection with equipment used in research and development activities at medical research facilities.

Spill Prevention

Spill prevention is the first line of defense against spills. The probability of a spill occurrence is proactively reduced by the following methods.

- All utility equipment, vessels, tanks, and piping are engineered to safely and reliably contain applicable hydrocarbon fluids under normal operating conditions. UCD-AMC utilizes appropriate industry standards and practices in the design, construction, and maintenance of all equipment.
- 2. Under abnormal operating conditions, tanks, vessels, equipment, and piping are protected against overpressure and rupture by safety relief valves and vents.

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- 3. All aboveground fuel storage tanks and containers are constructed of carbon steel. All tanks are visually inspected monthly for mechanical integrity. Any tank deemed to be unsuitable for service is promptly taken out of service and repaired or replaced.
- 4. All fuel-related transfer piping is inspected annually. Corroded or compromised piping is promptly repaired or replaced.
- 5. All fuel-related pump seals, valves seals, engine seals, filter seals, and connections are inspected annually for mechanical integrity. Worn or compromised elements are promptly repaired or replaced.
- 6. Standard operating procedures are employed as follows:
 - a) Central Utility Plant operators conduct routine inspections several times per shift. Boilers, equipment, flow-lines, vessels, tanks, piping, and grounds are visually inspected for signs of abnormal conditions, leakage, spills or other releases. All spills are immediately reported to the on-duty shift supervisor and a response action is promptly initiated.
 - b) Emergency power generators are inspected and test-run once each month. Any indication of abnormal operation, leakage, or other problem is immediately reported to the maintenance supervisor for corrective action.
 - c) Lubricants, used oil storage drums, and other maintenance fluid containers are located within a secondary containment pan or dike, or within a suitable, flame resistant cabinet.
 - d) All fuel filling and transfer operations are attended and monitored full-time. Designated Electrical Shop employees escort fuel delivery trucks to the location of applicable tanks and indicate the quantity of fuel desired. UCD-AMC staff will not directly participate in fuel delivery operations, but have authority to prohibit improper or unsafe delivery operations. A spill kit is also present during fuel delivery.

Spill Controls

The following controls have been installed to contain spills and prevent off-site migration.

- The main CUP fuel oil storage tanks are located outdoors within a concrete secondary containment basin. The interior CUP recirculation tank is also located within a concrete secondary containment basin. All fuel-transfer equipment, including pumps, valves, meters, and piping, are also located within secondary containment structures and doublewalled pipe.
- 2. All emergency power generator fuel storage tanks incorporate secondary containment systems, including double-walled tanks and double-walled transfer piping.

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- 3. Some emergency power generator fuel storage tanks are equipped with a visual overfill indicator and/or audible overfill alarm.
- 4. Spill cleanup materials, including absorbent socks and pads, are pre-positioned in close proximity to potential spill sites and available for immediate use in case of a spill.

Spill Response Procedure

In the event that a spill occurs, employees will implement the following procedures.

- 1. Safety is always the first priority. Assess and respond to imminent safety hazards first.
 - a) The first person to discover a spill event must alert any nearby persons that a spill has occurred and warn them away from the site.
 - b) This employee must then immediately notify the Facilities Management Department Environmental Compliance staff and provide initial information regarding the type and approximate size of the spill. (See Spill Notification Telephone List).
 - c) The Environmental Specialist, or designated representative, shall serve as the Incident Commander and must promptly inspect the spill site and conduct an initial assessment to determine the severity and urgency of potential hazards.
 - d) The Incident Commander shall promptly report spill assessment information to other Facilities Management Department Environmental Compliance staff, as necessary to ensure a safe and effective response.
 - e) For any spill event in which the quantity of fuel released is approximately 25 gallons or less, and for which the spill is substantially confined to the local area and does not threaten to migrate off-campus, and for which there is not an imminent safety threat to employees, contractors, or the public-at-large; then the spill may be judged as a minor spill event and a response may be undertaken by UCD-AMC staff and resources.
 - f) For any spill event in which the quantity of fuel release is significantly above 25 gallons, or for which the spill may escape the local area, or for which an imminent and acute safety hazard may exist, then the spill may be judged as a major spill event and an emergency response may be initiated in consultation with the Facilities Management Department, Environmental Health & Safety Department, or the University Police. An emergency response includes the immediate notification and potential participation of municipal, state, or federal authorities, as applicable.

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- g) For major spill events in which an emergency response is initiated and public authorities are notified, the on-site manager shall undertake the following actions.
 - Contact University Police and establish an exclusion zone at the spill site.
 - Notify the Environmental Health & Safety Department at (303) 724-0345.
 - Eliminate area ignition sources and assign a fire watch to the site.
 - Cover or blockade nearby storm sewer inlets.
 - Meet arriving Fire Department/HAZMAT team and provide information.
 - Assist in area evacuation actions, if so directed.
- 2. For minor spill events in which UCD-AMC staff and resources will be used, the Environmental Specialist, or designated representative, will first devise a plan and then arrange for and implement appropriate response actions. All response actions are incident specific, but may include the following key elements:
 - a) If a minor spill escalates in severity and threatens to escape the tank area or into a public space, an emergency response should be initiated and public authorities should be notified; otherwise:
 - b) Personnel responding to the spill must don appropriate protective equipment prior to implementing response actions; e.g. use of protective gloves, aprons, boots, goggles, face shields, or respirators, as appropriate. Consult with the Environmental Health & Safety Department for assistance.
 - c) If a significant fire hazard may exist, then the plan may include retrieval of fire extinguishers and assigning a fire watch to oversee the site while the spill response is in progress.
 - d) In general, the first response task should be to stop the source of the spill; e.g. shutdown effected equipment, turn off pumps, close valves, cap off piping, or implement other flow termination measures, as applicable.
 - e) If the spill is not already contained within a secondary containment structure and may be spreading in an uncontrolled manner, then the second response task should be to stop the spread of the spill (e.g. deploy appropriate sorbent media, pads, or booms at points of surrounding and downgradient interdiction). Also, if applicable, deploy tarps and sand socks to cover nearby storm sewer inlets.
 - f) Once spill containment has been established, the third response task should include recovery of free liquids from secondary containment structures and absorb residual spillage into an appropriate sorbent media. Liquids recovery may employ syphoning hoses, portable pumps, or a contract vacuum truck service. Sorbents may include granular pellets, pads, socks, booms, or disposable rags.

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- g) In general, the last response task should include removal of impacted sorbents, gravel, or soil into containers (e.g. lined pails, drums, or roll-off boxes); or for large quantities of impacted soil, this material may be moved onto a plastic lined holding pile in a safe location. In some cases, it may be appropriate to clean the secondary containment structure with biodegradable detergent and rinse water.
- At the conclusion of any spill event, and not later than one week following the event, a
 Facilities Department manager, or designated representative, will investigate the cause of
 the spill, document the circumstances and response actions, and then if appropriate, make
 recommendations to prevent a recurrence.

Employee Training

All employees receive general safety and environmental compliance training at the beginning of employment and prior to performing normal duties and assignments. In addition, specific SPCC related training is provided to all operations and maintenance employees that may become involved in SPCC related activities. This training covers the provisions of this plan and includes:

- · Spill prevention, detection, and response procedures,
- · Location of potential spill sources, and
- Location and proper use of spill response equipment and supplies.

Site Security

Security provisions are provided as follows:

- 1. The UCD-AMC site includes a full-time, security staff with municipal police authority. Security staff members are present on the UCD-AMC campus at all times throughout the year and routinely conduct security surveillance rounds.
- The Central Utilities Plant is also in operation full-time throughout the year and this
 operations staff conducts routine surveillance rounds of the premises, including fuel
 usage areas. In addition, the CUP building is locked; with access limited to authorized
 personnel only.
- 3. Most of the emergency power generators are located within locked enclosures and access to fuel storage areas is limited to authorized personnel only.
- 4. Area and spot lighting is provided in all areas where spills may occur.

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Self-Inspection Procedure

Compliance with the provisions of 40 CFR Part 112.7(e)(8) and this SPCC plan shall be demonstrated annually via a self-inspection audit conducted as follows:

- 1. A Facilities Management Department manager, or designated representative, will conduct the self-inspection audit each year.
- 2. At a minimum, the self-inspection audit will include the following elements.
 - A walking tour and visual inspection of the equipment, piping, tanks, storage container areas, and any other areas where fuels and chemical products are handled and stored.
 - Verification of spill response equipment and supplies including type, quantity, proper location, accessibility, shelf life, and operability,
 - > Review of tank and flow-line inspection, maintenance, and repair records.
 - Verification of secondary containment size for storage tanks and proper drainage controls (as applicable), and
 - Inspection of secondary containment structures for integrity, competence, and adequacy to contain a worst-case spill event.
- 3. The auditor shall document findings in a written report. All inspection reports must be signed and dated by the auditor.
- 4. Recommendations, if any, must be promptly reported to the Facilities Management Department management for review and evaluation.
- 5. A copy of each report shall be kept on file in the Facilities Management Department main office for not less than five years.

Spill Notification and Reporting

The form shown on the following page shall be used by the Facilities Management Department staff to document all spill events and to facilitate notification of applicable public authorities.

At a minimum, all spills greater than 25 gallons occurring outside of containment shall be reported to CDLE/OIS and CDPHE within 24 hours of discovery. Any fuel spill that enters into the storm sewer system, sanitary sewer system, Sand Creek, or other sensitive public area, shall be immediately reported to appropriate public authorities.

Spill Prevention Control & Countermeasures Plan Rev. 0 (2/25/13) **Spill Notification Form** Owner/Operator: Notifier's Name: UCD-AMC Facilities Mgmt. Dept. Position: 1745 Wheeling Street Aurora, CO 80045 Notification Date: (303) 724-1103 Notification Time: Incident Description (Including Source and Cause): Incident Date: Incident Time: Incident Location: Material Released & Estimated Quantity: Response Actions Taken: Impact (Environmental, Property Damage): Additional Information: Agencies To Be Notified (circle all that apply): **NRC** EPA OSHA CDPHE CDLE/OPS TCH Sheriff / Police / Fire Dept.

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| Spill Notification Telephone List |

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| Facilities Management Department, Telephone Notification Escala | HOTT LIST. |
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| | |

| Customer Service Center (normal business hours) | (303) 724-1777 |
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| Nancy Hostetler, Environmental Specialist (emergency after hours) | (720) 641-4491 |
| Scott Roen, Manager of Engineering (emergency after hours) | (720) 252-8574 |
| UCD-AMC EHS Department (normal business hours) | (303) 724-0345 |
| UCD-AMC University Police / Campus Security (from campus phone) | 911 |

UCD-AMC Department Reference Contacts:

| Central Utility Plant, Control Room | (303) 724-1500 |
|---|----------------|
| Facilities Management Electrical Shop | (303) 724-1823 |
| Electrical Shop Supervisor Pager (emergency after hours) | (303) 266-1604 |
| After Hours Shift Pager | (303) 266-7050 |
| Environmental Health and Safety Pager (emergency after hours) | (303) 266-3262 |
| University Police (emergency; any phone) | (303) 724-4444 |
| University Police (non-emergency) | (303) 724-2000 |
| UCD-AMC Fire and Life Safety Officer | (303) 724-0293 |
| UCD-AMC Risk Management | (303) 724-1127 |
| UCD-AMC Public Relations | (303) 724-1520 |

Emergency Response Contacts:

| Aurora Municipal Police Department / Emergency Services | 9911 |
|---|----------------|
| Aurora Fire Department Hazardous Materials Response Unit | (303) 627-3130 |
| Adams County Sheriff | (303) 795-4711 |
| Colorado State Patrol | (303) 289-4760 |
| Colorado Dept. of Labor & Employment Oil Inspection Section | (303) 318-8547 |
| Colorado Dept. of Public Health and Environment | (303) 692-2035 |
| Colorado Spill Emergency Hotline | (877) 518-5608 |
| EPA Spill Report Hotline | (800) 227-8914 |
| National Response Center | (800) 424-8802 |
| | |

Lessons Learned Memo Fuel Spill Incident #1

Overview

On Wednesday December 12, 2012, two minor spills of diesel fuel occurred at the UCD-AMC facilities during delivery operations. The first incident occurred at the School of Pharmacy Building and involved the emergency electrical power generator fuel tank located at the southwest corner of the building. The second incident occurred at the Henderson Parking Garage structure and involved the snowmelt system fuel supply tank located at the southeast corner of this structure.

Background

UCD-AMC facilities staff placed an order with Truman Arnold Companies (TAC) for a delivery of diesel fuel to replenish several fuel tanks located at the UCD campus. TAC then contracted with a local trucking company to conduct the fuel delivery.

The type of truck that arrived for this delivery was a large tractor-trailer rig equipped with large diameter hoses and camlock fittings suitable for use on large underground storage tanks where a high transfer rate is desirable. (Similar to gasoline service station deliveries)

The delivery began at the underground storage tanks located at RC-I and RC-II, and utilized the large hoses and camlock connections. Then the delivery moved to the aboveground tanks located at Building 500. These tanks have small fuel inlet connections and are not suitable for filling via large diameter hoses and camlock connections. These types of tanks are properly filled via a small hose and handheld dispensing nozzle.

The delivery service truck driver nevertheless attempted to fill the Building 500 tanks using the large hose. An attempt was made to hold this hose over the fuel inlet port and direct the flow stream into the opening. This technique was somewhat successful in filling the large outdoor tank, but a small amount of fuel spilled into the containment chamber surrounding the fill port. The driver cleaned up this spill using absorbent pads from his truck.

The fill port on the Building 500 generator base tank was judged to be too small for this filling technique to work, and a decision was made to bypass filling this tank.

School of Pharmacy Overfilling Incident

The fuel delivery then moved to the emergency power generator located at the southwest corner of the School of Pharmacy Building. The tractor-trailer rig was parked on the road adjoining the west side of the generator enclosure and a large hose was used to fill the generator base tank through a small fill port. This filling operation resulted in a minor spill of fuel onto the base frame of the generator. At this time, the driver was controlling the fuel flow rate from the truck and a UCD staff person was holding the hose over the inlet port.

As the generator tank began to fill up, a warning was shouted to the driver, and the driver announced that he was stopping. Confusion then occurred when the driver re-started flow in order to clear the hose of fuel. As a result, additional fuel (several gallons) was spilled onto the generator base frame and also sprayed onto the UCD staff person. The staff person received fuel spray to the face and eyes, and also soaked part of his shirt, pants, socks, and boots.

Lessons Learned Memo Fuel Spill Incident #1

At this point, it was recognized that a hazardous situation had arisen and UCD management was notified of the incident. Management staff arrived on-site and directed the oil-soaked staff person to seek first aid, clean off the fuel, and change clothes.

It was noted that a small amount of fuel (likely less than 5 gallons) had been spilled onto the generator and within the concrete secondary containment basin surrounding the generator.

Additional UCD staff persons were then called to the site.

Henderson Parking Garage Overfilling Incident

The fuel delivery then moved across the street to the fuel tank located at the southeast corner of the Henderson Parking Garage structure. This aboveground tank is located behind a high brick wall adjoining the west side of Scranton Street.

The driver then used a large hose to make a hard connection between the delivery truck and the fuel inlet port on the tank. The driver proceeded to transfer fuel into the tank while standing at the truck and not in visual contact with the tank. As the tank began to fill up, UCD staff shouted a warning to the driver, but the filling continued until fuel was observed coming out of the elevated vent pipe on the top of the tank. It is estimated that approximately 15 gallons of diesel fuel was released onto the ground surface alongside the tank.

The delivery truck then exited the site and UCD management contacted Belfor Environmental to assist with spill response and cleanup efforts. Belfor personnel and resources arrived on-scene later on the same day and conducted first response actions.

Post Incident Follow-up Actions

UCD management provided notification of the spill incident to the Colorado Department of Labor and Employment Division of Oil and Public Safety.

Belfor Environmental conducted a cleanup response, properly disposed of the contaminated media, and then substantially restored the site to pre-spill conditions.

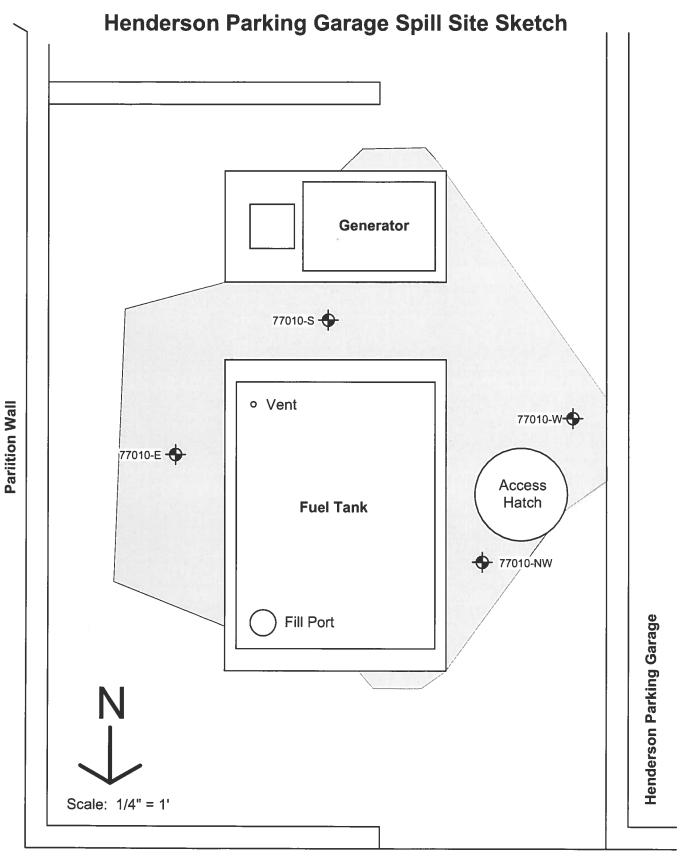
SPCC Lessons Learned

As part of the UCD Spill Prevention, Control, and Countermeasures (SPCC) Plan, all spill incidents are investigated and evaluated so as to minimize the likelihood of a recurrence. The following information and recommendations represent worthwhile lessons that may be learned from this incident.

- When placing future orders for fuel delivery to the UCD-AMC facilities, it is important to specify the type equipment that is to be refueled. Only tanks that are suitable for filling via large hoses and camlock connectors may be filled via this type of equipment. All smaller tanks must use equipment and nozzles appropriate for smaller inlet ports.
- 2. UCD staff persons that accompany fuel delivery should be trained and authorized to prohibit fuel deliveries that do not conform to appropriate filling techniques.

Lessons Learned Memo Fuel Spill Incident #1

- 3. If feasible, UCD staff persons should not directly assist in fuel dispensing actions of the delivery service. If direct involvement is otherwise required, then all persons should wear appropriate protective equipment such as gloves, apron, and face shield.
- 4. If safe and feasible, the fuel delivery service should independently verify the fuel level in the tank prior to beginning transfer operations. This can be often be accomplished by gauging the tank using a calibrated dipstick.
- 5. If feasible, delivery trucks should be equipped with on-board fuel flow metering to ensure that only a specified quantity of fuel is transferred to the tank. UCD policy should clearly communicate to the delivery driver that no tank may be filled above 90% capacity.
- 6. UCD staff persons that accompany fuel delivery operations may wish to include a spill cleanup kit on the cart when traveling to each tank. This kit may include such items as absorbent media, pads, containment booms, rags, gloves, aprons, and face shields.
- 7. In the event of a future spill incident, it is appropriate and necessary to establish an exclusion zone around the site in order to keep out the public-at-large and unauthorized persons until the area is rendered safe.
- 8. This incident has indicated that boots contaminated with fuel oil may be inappropriate for further use by the wearer. Persistent use of fuel oil contaminated boots may lead to an adverse skin condition or other malady.
- 9. Fuel delivery services should be advised that safety is the first and most significant priority in all actions undertaken on UCD-AMC grounds. Undue haste and deviation from standard industry practices shall not be permitted.
- 10. During this incident, a small amount of fuel was sprayed into the face of a UCD staff person, who then sustained minor eye irritation from this exposure. Should this type of hazard occur in the future, it is strongly advised that the exposed person shall be accompanied to the nearest eyewash station and undergo sustained eyewash rinsing for at least 5 minutes.



Sidewalk