

HWMA/RCRA STORAGE PERMIT
for the
SAFETY-KLEEN SYSTEMS, INC., BOISE SERVICE CENTER

ATTACHMENT 3 – SECURITY MEASURES

Section F-1 – Security

EFFECTIVE DATE: JULY 29, 2015

Section F-1 Procedures to Prevent Hazards-Security

F-1a 270.14(b)(4); 264.14 Security Procedures and Equipment

The facility is secured with a chain link fence topped by barbed wire surrounding the operational areas. All access gates are locked when the facility is unoccupied. In addition, outdoor lights illuminate the area when necessary.

The office/warehouse building is secured with locks on all doors and warning signs are posted at entrances to work and waste storage areas. The waste management/storage units are accessible only to Safety-Kleen employees. Material can only be added to the waste tank or removed from the product storage tank by activating the pumps, and the control is located remotely inside the warehouse. The pumps are activated only when facility personnel are operating on the Return & Fill dock.

The fence and gates are inspected at least weekly. Any needed repairs will be initiated immediately upon detection.

F-1a(1) 270.14(b)(4); 264.14 24-Hour Surveillance System

The facility does not have a 24-hour surveillance system. Security is achieved by the passive fence and gate system.

F-1a(2)(a) 270.14(b)(4); 264.14 Barrier

See F-1a above for the description of the artificial barrier.

F-1a(2)(b) 270.14(b)(4); 264.14 Means to Control Entry

See F-1a above for the description of the artificial barrier.

F-1a(3) 270.14(b)(4); 264.14 Warning Signs

Warning signs stating "Danger-Unauthorized Personnel Keep Out" (or similar language) in both English and Spanish, which are legible from twenty-five feet are posted at the entrances.

F-1b; 270.14(b)(4); 264.14 Waiver; Injury to Intruder; Violation Caused by Intruder F-b(1)-(2)

Safety-Kleen is not claiming a waiver. Therefore, this section does not apply.

Exhibit F-1

Example Daily Inspection Form

EXAMPLE

Exhibit F-1



CO CSA Inspection

Form Code: 28

Compliance Header	
Inspector Name	
Inspection Date	
Area of Inspection	
CO CSA Inspection Instructions	
Note condition of inspection items. If item does not apply to an area, mark N/A. All unsatisfactory findings must be explained below. Include any repairs, changes or other remedial actions required or performed.	
CO CSA Inspection Items	
Container Placement and Stacking - Check for evidence of failure (e.g., containers on pallets, pallets too high, other).	
Sealing of Containers - Check for evidence of failure (e.g., containers not closed or sealed, open).	
Labeling of Containers - Check for evidence of failure (e.g., no label, improper label, content, other).	
Container Integrity - Check for evidence of failure (e.g., condition, bulging, leaks, other).	
Pallets - Check for evidence of failure (e.g., broken, loose, condition).	
Doors - Check for evidence of failure (e.g., indoor area, broken or not working as intended).	
Base/ Foundation/ Roof - Check for evidence of failure (e.g., cracked, gaps, other).	
Berms/ Racks - Check for evidence of failure (e.g., cracks, gaps, broken, other).	
Debris and Refuse - Check for evidence of	

EXAMPLE

failure (e.g., proper storage, location, container type, other).	
Exit Signs - Check for evidence of failure (e.g. missing, lamps, battery backup, other).	
Aisle Space - Check for evidence of failure (e.g., minimum 2 ft required, other).	
Containment Area - Check for evidence of failure (e.g., secondary containment, curbing, floor, cracks, deterioration, other).	
Sumps - Check for evidence of failure (e.g., cracks, ponding or wet spots, pitting or deterioration, other).	
Loading/ Unloading Areas - Check condition of area (e.g., available equipment, spill response, containment, pad condition, other).	
Communication and Alarm System - Check for evidence of failure (e.g., test function, siren, strobe, other).	
Storage Capacity - Check for acceptable limit (e.g., area or permit restrictions, type restriction, volumn limit, other).	
Bonding and Grounding - Check for evidence of failure (e.g., loose, broken, corrosion or deterioration, other).	N/A
Pumps - Check for evidence of failure (e.g., deterioration or broken, leaks, other).	
Inventory Age - Check for acceptable limit (e.g., within area limits, permit restrictions, other).	
Compliance Footer	
Inspector Signature	
Attach Photo	
On Demand Work Ticket	

EXAMPLE



CO Return and Fill Area

Form Code: 36

Compliance Header	
Inspector Name	
Inspection Date	
Area of Inspection	
CO Return and Fill Area Instructions	
Note condition of inspection items. If item does not apply to an area, mark N/A. All unsatisfactory findings must be explained. Include any repairs changes or corrective actions.	
CO Return and Fill Area Inspection Items	
Pump Seals - Check for evidence of failure (e.g., leaks, other).	
Motors - Check for evidence of failure (e.g., overheating, other).	
Fittings - Check for evidence of failure (e.g., leaks, other).	
Valves - Check for evidence of failure (e.g., leaks, sticking, other).	
Hose Connections and Fittings - Check for evidence of failure (e.g., cracked, loose, leaks, other).	
Hose Body - Check for evidence of failure (e.g., crushed, cracked, thin spots, leaks, other).	
Clam Shell Unit Type - Lid Fusible Link - Check for evidence of failure (e.g., broken, spring missing, other).	N/A
Clam Shell Unit Type - Lid Hinge Assembly - Check for evidence of failure (e.g., broken pivot arm, damaged lid arm, missing pins, other).	N/A
Sliding Lid Unit Type - Gaskets - Check for	N/A

EXAMPLE

evidence of failure (e.g., broken, cracked distorted, other).	
Sliding Lid Unit Type - Lid/ Slide Assembly - Check for evidence of failure (e.g., damaged lid, rollers, slide rail, temperature gauge, limit switches, other).	N/A
Roll-up Door Unit Type - Seals - Check for evidence of failure (e.g., broken cracked, distorted, other).	
Roll-up Door Unit Type - Door/ Roll-up Assembly - Check for evidence of failure (e.g., damaged lid, rollers, slide rail, temperature gauge, limit switch, other).	
Wet Dumpster - Check for evidence of failure (e.g., leaks, rust, split seems, distortion, deterioration, excess debris, other).	
Secondary Containment - Check for evidence of failure (e.g., excess sediment, leaks, distortion, deterioration, excess debris, other).	
Loading/ Unloading Area - Check for evidence of failure (e.g., cracks, ponding or wet spots, deterioration, other).	
Compliance Footer	
Inspector Signature	
Attach Photo	
On Demand Work Ticket	

EXAMPLE



CO Tank Systems Inspection

Form Code: 27

Compliance Header

Inspector Name

Inspection Date

Area of Inspection

CO Tank Systems Inspection Instructions

Note condition of inspection items. If item does not apply to an area, mark N/A. All unsatisfactory findings must be explained below. Include any repairs, changes or other remedial actions required or performed.

CO Tank Systems Inspection Items

Tanks - Check for evidence of failure (e.g., rusty or loose anchoring, distortion, paint failure, other).

Pipes - Check for evidence of failure (e.g., distortion, corrosion, paint failure, other).

Valves - Check for evidence of failure (e.g., disconnected, corrosion, other).

Fittings - Check for evidence of failure (e.g., loose, disconnected, corrosion, other).

Liquid Level - Check for acceptable level. (e.g., high level max, permitted volume, other).

Secondary Containment - Check for evidence of failure (e.g., cracks, ponding or wet spots, pitting or deterioration, other).

Sumps - Check for evidence of failure (e.g., cracks, ponding or wet spots, pitting or deterioration, other).

Bonding and Grounding - Check for evidence of failure (e.g., loose, broken, corrosion or deterioration, other).

Transfer Equipment - Check for availability and

EXAMPLE

condition (e.g., pumps, filters, strainers, hoses, other).	
Communication and Alarm System - Check for evidence of failure (e.g., test function, siren, strobe, other).	
Satellite Accumulation Containers - Check for condition and appropriate for area (e.g., filter/basket, solids, label and marking, other).	N/A
Manways, Hatches, Other Openings - Check for evidence of failure (e.g., condition, corrosion, closure, other).	
Pressure Relief Valves (PRV)/ Flame Arrestors - Check for evidence of failure (e.g., condition, corrosion, other).	
Tanks marked with the words "Hazardous Waste" - Check for appropriate markings.	
Tanks not used marked as "Out of Service" - Check for appropriate markings.	
Tanks marked as to the contents - Check for appropriate markings (e.g., Non-Haz Only).	
Monitoring Equipment - Check for evidence of failure (e.g., pressure and temperature gauges, level indicators, other).	
Loading/ Unloading Areas - Check condition of area (e.g., available equipment, spill response, containment, pad condition, other).	
Compliance Footer	
Inspector Signature	
Attach Photo	
On Demand Work Ticket	

Exhibit F-2

Example Weekly Inspection of Safety Equipment Form

EXAMPLE

Exhibit F-2



CO Safety Security Inspection

Form Code: 29

Compliance Header

Inspector Name	
Inspection Date	
Area of Inspection	

CO Safety Security Inspection Instructions

Note condition of inspection items. If item does not apply to an area, mark N/A. All unsatisfactory findings must be explained below. Include any repairs, changes or other remedial actions required or performed.

CO Safety Security Inspection Items

Perimeter Fences - Check for evidence of failure (e.g., broken ties, corrosion, holes, distortion, other).	
Gates - Check for evidence of failure (e.g., locking mechanism, broken ties, corrosion, holes, distortion, other).	
Warning Signs - Check for evidence of failure (e.g., missing, faded, other).	
Exit Signs - Check for evidence of failure (e.g., missing sign, illumination, lamp bulbs, battery backup, other).	
Exits/ Firelanes/ Evacuation Routes - Check that all routes are clear or unobstructed.	
Lighting System - Check for evidence of failure (e.g. expired lamps, effectiveness, location, other).	
Emergency Lighting System - Check for evidence of failure (e.g., expired lamps, battery backup, effectiveness, other).	
Accessibility of Safety Equipment/ Protective Gear - Check for evidence of availability (e.g., hardhats, faceshields, goggles, safety glasses,	

EXAMPLE

boots, gloves, clothing, duct tape, absorbents, other).	
Adequate Supply of Safety Equipment/ Protective Gear - Check for evidence of availability (e.g., inventory available).	
Condition of Safety Equipment - Check for evidence of failure (e.g., review PPE for damage or excessive wear, other).	
Breathing Apparatus Accessibility - Check for evidence of availability (e.g. respirators, equipment, other).	
Breathing Apparatus Adequate Supply/ Full Charge - Check for evidence of availability (e.g., tanks, charged, other).	N/A
Breathing Apparatus Condition - Check for evidence of failure (e.g., damage, other).	
First Aid Kits - Check for evidence of availability (e.g., adequate inventory, other).	
Bloodborne Pathogen Kits - Check for evidence of availability (e.g., adequate inventory, other).	
Emergency Eyewashes - Check for evidence of failure (e.g., disconnected or malfunctioning valves, inadequate pressure, inaccessible, malfunctioning drain, leaking, other).	
Emergency Showers - Check for evidence of failure (e.g., disconnected or malfunctioning valves, inadequate pressure, inaccessible, leaking, other).	
Internal/ External Communication - Check for evidence of failure (e.g., inadequate supply of phones or radios, malfunctioning intercom, emergency alarm does not work, phone moved from proper location, other).	
Fire Extinguishers - Check for evidence of failure (e.g., overdue inspection, not charged, inaccessible, other).	
Absorbent Supply - Check for evidence of availability (e.g., adequate inventory, other).	

EXAMPLE

Recovery Drum Supply - Check for evidence of availability (e.g., adequate inventory, other).	
Respirators and Cartridges - Check for evidence of availability (e.g., adequate inventory, other).	
Fire Suppression System Accessibility - Check for evidence of failure (e.g., monitors, pull stations, alarms, other).	
Fire Suppression System Operable - Check for evidence of failure (e.g., test, other).	
Water Lines/ Hydrants - Check for evidence of failure (e.g., blocked, broken, other).	
Alarm Systems - Check for evidence of failure (e.g., test, other).	
Fire Blankets - Check for evidence of availability (e.g., adequate inventory, other).	
Strainer on Fire Suppression System - Check for evidence of failure (e.g., functioning as intended, other).	
Surveillance System/ Guard Service - Check for evidence of failure (e.g., equipment or service provided and functioning properly, other).	N/A
Supplied Air Delivery System and Reserve - Check for evidence of failure (e.g., system operational, equipment functioning, other).	N/A
Wind Sock - Check for evidence of failure (e.g., operational, other).	
Decontamination Equipment - Check for evidence of availability (e.g., adequate inventory, other).	
Portable Sump Pumps - Check for evidence of availability (e.g., adequate inventory, functioning properly, other).	
Gasoline Pumps - Check for evidence of failure (e.g., broken parts, leaks, other).	N/A
Loud Speakers - Check for evidence of failure (e.g., test, other).	

EXAMPLE

Chocked Wheels on Parked Vehicles - Check for evidence of failure (e.g., chocks not used, missing, deteriorated, other).	
Cylinders Secure - Check for evidence of failure (e.g., properly stored, secured, chained, other).	
Ventilation Operable - Check for evidence of failure (e.g., system working as intended, other).	
Fall Protection - Check for evidence of availability (e.g., adequate inventory, integrity of equipment, other).	N/A
Electrical Boxes - Check for evidence of failure (e.g., closed, not blocked, marked properly, other).	
Emergency Contact Info Posted - Check for evidence of availability (e.g., up-to-date postings, location requirement, other).	
Hearing Protection Available - Check for evidence of availability (e.g., type appropriate per location, other).	
Housekeeping - Check for evidence of failure (e.g., blocked egress, proper storage, procedure followed, other).	
Portable Compressor - Check for evidence of availability (e.g., adequate inventory, functioning properly, other).	
Lime Supply - Check for evidence of availability (e.g., adequate inventory, other).	N/A
QC Lab Hood - Check for evidence of failure (e.g., functioning properly, other).	N/A
Rolloff Parking Area - Check for evidence of failure (e.g., housekeeping, staging, other).	
Dumpster/ Outside Containers - Check for evidence of failure (e.g., housekeeping, condition, appropriate use and storage, other)	
Stormwater Collection System - Check for evidence of failure (e.g., functioning properly,	

EXAMPLE

damaged equipment, integrity, other).	
Rally Point - Check for evidence of failure (e.g., location identified, communication, other).	
Visitor Log - Check for evidence of failure (e.g., available, communication, proper use, other).	
Contingency Plan - Check for evidence of failure (e.g., available, up-to-date, communication, other).	
Wind Instrument - Check for evidence of failure (e.g., functioning properly, not broken, other).	
Compliance Footer	
Inspector Signature	
Attach Photo	
On Demand Work Ticket	

Exhibit F-2a

Example Subpart CC Wet Dumpster/Drum Washer
Leak Monitoring Form

EXAMPLE

Exhibit F-2a

Subpart CC Wet Dumpster/Drum Washer Leak Monitoring

Form Code:

Compliance Header

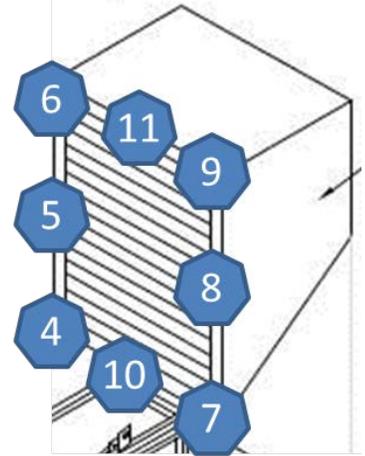
Inspector Name	
Inspection Date and Time	

Subpart CC Wet Dumpster/Drum Washer Leak Monitoring Instruction

Complete the wet dumpster/drum washer inspection to satisfy the inspection required in Permit Condition V.D.

Subpart BB Wet Dumpster/Drum Washer Leak Monitoring Items

Leak Detection Instrument	
Calibration	
Background Reading	



Sampling Location ID	Description – Location	Reading (ppm VOCs)	Leak Detected?
1	R&F Station – East		
2	R&F Station – Center		
3	R&F Station – West (by personnel door)		
4	Door – Bottom – Left		
5	Door – Center – Left		
6	Door – Top – Left		
7	Door – Bottom – Right		
8	Door – Center – Right		
9	Door – Top – Right		
10	Door – Bottom - Center		
11	Door – Top - Center		

If reading is > 10,000 ppm, then the wet dumpster/drum washer shall be taken out of service until fixed. If a leak is identified, complete Exhibit N-4, Leak Detection and Repair Record.

Compliance Footer

Inspector Signature	
Attach Photo	
On Demand Work Ticket	

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ATTACHMENT 4 – INSPECTION PLAN

Section F-2 Inspections
Inspection Log Sheets
(See Attachment 1 for information on Coatings and Repair)

EFFECTIVE DATE: JULY 29, 2015

Section F-2 Inspections

F-2 270.14(b)(5); 264.15 Inspection Schedule

The facility safety equipment is inspected weekly. This includes inspection of:

- Fire Extinguishers
- First Aid Kit
- Personal Protection Equipment
- Gates and Locks
- Eyewash and Shower
- Spill Cleanup Equipment
- Communication Devices
- Fence

An example of the form utilized to record the inspection is included in Exhibit F-2. Inspections may be recorded electronically.

F-2a 270.14(b)(5); 264.15(a), (b); 264.33 General Inspection Requirements

Safety-Kleen conducts regular inspections of the facility for equipment malfunctions, structural deterioration, operator errors, and discharges that could cause or lead to the release of hazardous waste constituents and adversely affect the environment or threaten human health. The Branch (i.e., Service Center) Manager or his designee is responsible for carrying out and documenting the facility inspection. The inspector must note any repairs that are needed and assure that they are completed. If facility personnel cannot carry out the repairs, the Engineering Department must be notified for assistance. Completion of repairs must also be noted on the Facility Inspection Report. These inspections also serve as a source for preventative maintenance. Exhibit F-1 is an example inspection form. Inspections may be recorded electronically.

F-2a(1) 270.14(b)(5); 264.15(b)(3) Types of Problems

The entire tank system and ancillary equipment is aboveground and visible for inspection. The facility inspections include the following:

- a. Tank Inspections – IDAPA 58.01.05.008 [40 CFR 264.195(a)] - At a minimum, the tanks holding product and used materials are each tank is inspected each operating day. The inspections include checks of the high level audible and visual alarms and of the volume held in the each tank. When the tank used to store used solvent is 85% full; a pickup is scheduled with Safety-Kleen's Corporate Dispatch Department. The material will not exceed 95% of the tank volume at any time.

IDAPA 58.01.05.008 [40 CFR 264.195(b)] – The facility conducts visual inspection of the tank system each operating day, looking for evidence of leaking equipment, signs of corrosion or deterioration that would threaten the integrity of the system. Sudden deviations in the solvent volumes will be investigated and their causes determined. If necessary, repairs must be initiated immediately. Leaking tanks will be removed from service until such time that repairs have been made and certified by a professional engineer. The tanks are not equipped with pressure or temperature gauges.

IDAPA 58.01.05.008 [40 CFR 264.195(c)(1)] – The tank system components (i.e. all piping including ancillary piping located under the grating of the return and fill station, bolts around the base of the tanks and tank platforms, tank coatings, side man ways, insulation, etc.) are inspected each operating day to detect for corrosion or releases of waste. All the tanks and the ancillary equipment are located above ground and are accessible.

IDAPA 58.01.05.008 [40 CFR 264.195(c)(2)] – The construction materials of the secondary containment and the area immediately surrounding the tank systems are inspected each operating day to detect erosion (cracks or broken cement) or signs of releases of hazardous waste (wet spots). Any damage to tanks (such as rust or loose fixtures) or secondary containment must be noted and repairs initiated. The standard repair process is listed in Appendix N-4.

IDAPA 58.01.05.012 [40 CFR 264.170.14(b)(5)] – Inspections are also conducted to comply with Subpart CC requirements. Included in this inspection is an annual inspection of the emergency pressure relief vent located on top of the used solvent tank.

A tank integrity assessment will be performed as required by 40 CFR 112 for tanks holding petroleum materials. Safety-Kleen will follow industry standards developed by the Steel Tank Institute (STI SP001) for shop-fabricated tanks. Formal inspections as indicated SP001 will be conducted by an STI certified inspector.

Periodically, it is necessary to remove sediment and other heavy material from the bottom of the tank. This is done when the sediment impacts the ability to pump from the bottom outlet of the tank, normally every year or two. First a tanker removes all of the free solvent liquid available to draw level down as much as possible. The side manhole cover is then removed. Typically, a vacuum truck driver will use a non-sparking stinger whose length is greater than or equal to the width of the tank to remove all of the tank bottoms to transfer the material into a vacuum truck. If it is necessary for the tank to be entered, OSHA Confined Space Entry procedures will be followed. Only personnel trained in OSHA Confined Space Entry will be allowed entry.

- b. Product Solvent Dispensing Equipment – The solvent dispensing hose, connections, and valves are inspected for damage (such as cracks or leaks) and proper functioning each operating day. The pumps, pipes, and fittings are checked for damage and proper functioning. Any damage to the solvent dispensing equipment will be noted and repaired.

Container Storage Areas (CSAs) – Container storage areas are inspected each operating day.. The total volume of the waste held in the CSAs will not exceed the permitted volume for the area and will be verified on the inspection each operating day. The contents of any leaking or suspect containers must be placed in a container of adequate integrity. The containers will be properly labeled and marked in accordance with U.S. DOT and Idaho hazardous waste regulations. The secondary containment system is inspected for deterioration or failure. If cracks or leaks are

detected, repairs will be initiated immediately.

- c. Return & Fill Station – The wet dumpster/drum washer in the return & fill area is inspected each operating day for leaks and sediment buildup. Any leaks must be noted and repaired immediately. The leaking dumpster will be removed from service until such time that repairs have been made. Excess sediment removed from the dumpster is drummed for shipment offsite for disposal. Secondary containment pans are inspected each operating day for excess debris. Accumulated debris will be removed and containerized for offsite disposal.
- d. Safety and Security Equipment – See F-2 (above) for a list of safety equipment that is inspected weekly.
- e. Trucks – Each route truck is inspected each day they are operated by the representative assigned to the truck. The inspection is recorded electronically to comply with U.S. DOT requirements. Each route vehicle and delivery truck must be inspected each day they are operated to insure the proper operation of its brakes, lights, turn signals, emergency flashers and wipers. In addition, the necessary safety equipment must be on board, which may include sorbents, fire extinguisher, eyewash, first aid kit, reflector kits, chemical protective gloves, chemical protective aprons, and safety glasses.

F-2a(2) 270.14(b)(5); 264.15(b)(4) Frequency of Inspections

The inspection schedule presented is adequately protective of environmental and human health.

F-2a(3) 270.14(b)(5); 264.15(b)(c) Schedule of Remedial Action

If a problem is discovered during the inspection that can be corrected immediately by the inspector, it is done so and noted on the inspection record. If there is an item noted that requires maintenance, repair, or replacement, the site manager is noticed. If a problem is discovered that could lead to health or environmental damage, the affected unit (if a storage tank or container) will be immediately taken out of service. If required, Safety-Kleen's EHS and engineering department will ensure completion as soon as possible. These items will be entered into a database for tracking the required actions.

F-2a(4) 270.14(b)(5); 264.15(d) Inspection Log

An example inspection form is included as Exhibit F-1. Inspections may be recorded electronically.

F-2b(1) 270.14(b)(5) Container Inspection

Reference **F-2a(1) c.** Container Storage Areas (CSAs) above.

F-2b(2) 270.14(b)(5); 264.195 Tank System Inspection

The storage tank system is inspected each operating day. This includes inspection of:

- Tank Volumes
- Tank Gauges (must be readable)
- Product Dispensing System (See F-2a(1) b.
- High Level Alarm (test of siren/strobe)
- All Piping for Corrosion, Distortion, Leaks)
- Transfer Pumps for Leaks

An example of the form utilized to record the inspection is included in Exhibit F-1. Inspections may be recorded electronically.

**F-2b(2)(a) 270.14(b)(5); Tank System External Corrosion and Releases
264.195(b)(1)**

The storage tank system is inspected each operating day. This includes looking for any evidence of spills or releases, such as wet spots, discoloration on the exterior of the tank, and corrosion. The tank is painted a light color so any corrosion or seepage will be easy to see.

**F-2b(2)(b) 270.14(b)(5); Tank System Construction Materials and Surrounding Area
264.195(b)(3)**

The exterior surfaces of the tank, piping, secondary containment, as well as the area surrounding the tank system are inspected each operating day to detect erosion or signs of releases (such as wet spots).

**F-2b(2)(c) 270.14(b)(5); Tank System Overfilling Control Equipment
264.195(a)**

The tank system is equipped with a high level alarm which indicates when the tank is 95% full. If the level in the tank is 95% of capacity, the float activates a switch that activates both a visual strobe light located at the tank, and audible (siren) alarm. The Return and Fill dock is located adjacent to the tank and alarms so the employee emptying drums would be alerted to the detected 95% capacity. Simultaneously, the transfer pump is disabled so the tank will not overflow. The pump cannot be restarted until the level of solvent in the tank is below 95% capacity. The high level alarm is inspected each operating day for proper functioning of electrical and mechanical components.

**F-2b(2)(d) 270.14(b)(5); Tank System Monitoring and Leak Detection Equipment
264.195(b)(2)**

The facility does not have pressure or temperature gauges or monitoring wells from which to gather data. Any leaks are discovered by visual or olfactory detection.

**F-2b(2)(e) 270.14(b)(5); Tank System Cathodic Protection
264.195(c)**

The facility does not have a cathodic protection system. Therefore, this section does not apply.

F-2b(3)	270.14(b)(5); 270.18(d); 264.254(b)	Waste Pile Inspection
F-2b(3)(a)	270.14(b)(5); 264.254(b)(1)	Run-on and Runoff Control System
F-2b(3)(b)	270.14(b)(5); 264.254(b)(2)	Wind Dispersal System
F-2b(3)(a)	270.14(b)(5); 270.18(d); 264.254(b)(3)	Leachate Collection and Removal System

The facility does not have any Waste Piles. Therefore, these sections do not apply.

F-2b(4)	270.14(b)(5); 264.226(b)	Surface Impoundment Inspection
F-2b(4)(a)(1)	270.14(b)(5); 264.226(b)(1)	Overtopping Control System
F-2b(4)(a)(2)	270.14(b)(5); 264.226(b)(2)	Impoundment Contents
F-2b(4)(a)(3)	270.14(b)(5); 264.226(b)(3)	Dikes and Containment Devices
F-2b(4)(b)	270.14(b)(5); 264.226(c)	Structural Integrity
F-2b(4)(c)	260.14(b)(5); 270.17(c); 264.226(d)	Leak Detection System

The facility does not have any Surface Impoundments. Therefore, these sections do not apply.

F-2b(5)(a)	270.14(b)(5); 264.347(b)	Incinerator and Associated Equipment
F-2b(5)(b)	270.14(b)(5); 264.347(c)	Incinerator Waste Feed Cutoff System and Alarms

The facility does not operate an Incinerator. Therefore these sections do not apply.

F-2b(6)	270.14(b)(5); 264.303(b)	Landfill Inspection
F-2b(6)(a)	270.14(b)(5); 264.303(b)(1)	Run-on and Runoff Control Systems
F-2b(6)(b)	270.14(b)(5); 264.303(b)(2)	Wind Dispersal Control System
F-2b(4)(c)	270.14(b)(5); 264.303(b)(3)(c)	Leachate Collection and Removal System

The facility does not operate a Landfill. Therefore these sections do not apply.

- F-2b(7)** **270.14(b)(5);
264.273(g)** **Land Treatment Facility Inspection**
- F-2b(7)(a)** **270.14(b)(5);
264.273(g)(1)** **Run-on and Runoff Control System**
- F-2b(7)(b)** **270.14(b)(5);
264.273(g)(2)** **Wind Dispersal Control System**

The facility does not operate a Land Treatment Facility. Therefore these sections do not apply.

- F-2b(8)** **270.14(b)(5); 264.602** **Miscellaneous Unit Inspections**

The drum washer is inspected each operating day for signs of corrosion and leaks.

- F-2b(9)** **270.14(b)(5); 264.15;
266.102(a)(2)** **Boilers and Industrial Furnaces (BIF) Inspection**

The facility does not operate a Boiler or Industrial Furnace. Therefore, this section does not apply.

- F-2b(10)** **270.14(b)(5);** **Containment Building Inspection**

The facility does not operate a Containment Building. Therefore, this section does not apply

- F-2b(11)** **270.14(b)(5); 264.574** **Drip Pad Inspection**

The facility does not operate a Drip Pad. Therefore, this section does not apply

HWMA/RCRA STORAGE PERMIT
for the
SAFETY-KLEEN SYSTEMS, INC., BOISE SERVICE CENTER

ATTACHMENT 5 – PERSONNEL TRAINING

Section H Personnel Training

Training Plan Outline

Job Descriptions

Annual Training Topics

EFFECTIVE DATE: JULY 29, 2015

Section H Personnel Training

H-1 **270.14(b)(12);** **Outline of Introductory and Continuing Training Programs**
264.16(a)(1)

A description of the introductory and continuing training programs for facility personnel is in the Training Plan located in Exhibit H-1.

H-1a **270.14(b)(12);** **Job Title/Job Description**
264.16(d)(1),(d)(2)

All employee regulatory training will be documented. The training record will include job title, job description, as well as documentation for completed training.

H-1b **270.14(b)(12);** **Description of How Training will be Designed to Meet Actual Job**
264.16(c),(d)(3) **Tasks**

H-1d **270.14(b)(12);** **Relevance of Training to Job Position**
264.16(a)(2)

The purpose of training is to familiarize employees with environmental regulations, records, and emergency procedures so they can perform their jobs in the safest and most efficient manner possible. The program is designed to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment, and emergency systems. All employees receive basic training on Hazard Awareness and the facility Contingency Plan. The level of training an employee receives is dependent upon the employee's level of involvement in hazardous waste management.

H-1c **270.14(b)(12);** **Training Director**
264.16(a)(2)

The training program is directed by personnel trained in hazardous waste management procedures and includes instruction on hazardous waste management for facility personnel.

H-1e **270.14(b)(12);** **Training for Emergency Response**
264.16(a)(3)

Every facility employee is familiar with emergency response and the role appropriate for their level of training. Example, employees may be trained to make emergency contact (phone calls), assisting with evacuation and headcount, assisting with spill response (identifying, containing, cleaning up), or shutdown of operations (primarily ceasing to operate the drum washer/solvent dispensing equipment).

H-2 **270.14(b)(12);** **Maintenance of Training Records/Copy of Personnel Training**
264.16(b)(d)(4),(e) **Documents**

Records of current employees will be kept until facility closure. Some training documentation will be maintained electronically.

Exhibit H-1

Training Plan Narrative

PERSONNEL TRAINING

ABSTRACT

OBJECTIVE: The purpose of training is to familiarize employees with environmental regulations, records, and emergency procedures so they can perform their jobs in the safest and most efficient manner possible. The program is designed to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment, and emergency systems.

TIME OF TRAINING

Job Title	Prior to Starting Work	On The Job	Annually	When Regulations or Procedures Change
Branch General Manager	X	X	X	X
Branch Administrator		X	X	X
Sales/Service Representatives	X	X	X	X
Warehouse Employees	X	X	X	X

OUTLINE OF TRAINING PROGRAM

Each employee is trained to operate and maintain the facility safely, and to understand hazards unique to his job assignment. New facility managers must complete an introductory training program, with annual review and update thereafter.

ORGANIZATION STRUCTURE AND JOB DESCRIPTIONS

Environmental compliance and training of facility employees is the responsibility of the facility manager. The Safety-Kleen Corporate Office provides a training program to be executed annually. The training program includes instruction on hazardous waste management for facility personnel in accordance with IDAPA 58.01.05.008 [40 CFR 264.16 (a)(2)]. Example Job descriptions that highlight typical functions for branch personnel associated with hazardous waste management are included as Exhibit H-2.

Branch General or Service Center Manager

The Branch General/Service Center Manager serves as the overall facility manager and is ultimately responsible for the operations at the facility. The Middle Managers, sales representatives, secretaries, and Material Handler report to the Branch General/Service Center Manager. The Branch General/Service Center Manager must provide the training and materials necessary for the branch employees to execute their duties. With respect to environmental compliance, he/she must:

- a) Keep the facility clean and orderly;
- b) Execute or designate an employee to execute the daily inspection, keep a written log and remediate any problems;
- c) Know the potential hazards of the material and wastes handled on site;
- d) Identify potential spill and fire sources and be able to execute the contingency plan;
- e) Inform all employees of their environmental responsibilities;
- f) Act in accordance with the contingency plan and notify the proper authorities during an emergency, remediate the situation to the best of his/her abilities, and submit necessary reports to the corporate office; and
- g) Maintain all environmental records (such as manifests, training records, and analytical results and spill reports) on file.

Corporate Compliance Department

Safety-Kleen's Corporate Compliance Department has personnel on staff that provides guidance to divisional and regional personnel for training, permitting and other compliance issues for the Safety-Kleen facilities in a given geographic area of the country.

DESCRIPTION OF THE TRAINING PROGRAM

Employee training is accomplished using classroom, electronic (i.e. video, e-Learning), written, and on-the-job methods. Trainers conducting the annual HAZWOPER/RCRA refresher class have completed the initial and annual HAZWOPER class. In addition, these individuals are familiar with the site specific requirements to address the regulatory requirements specific to this facility. The Training Department prepares a training program for employees and the Service Center personnel provide documentation that the program has been executed. An employee is trained prior to starting, or as soon as he or she begins working (depending on his or her position) and annually thereafter. The EHS Department ensures that the Branch General Manager or his/her designate has received adequate training to train all branch personnel.

Training of New Branch or Service Center Managers

New Branch and Service Center Managers are provided regulatory training before they begin their new positions. Their training includes on site, on-the-job, and offsite classroom training. While being trained, normally at a designated "training facility", the new Branch or Service Center manager reviews all environmental records and learns the record keeping requirements. These records include: manifests, personnel records, training records, facility inspection records, and spill reports.

The training culminates with additional training at his/her new facility, at the direction of an environmental professional. This training includes at a minimum, a review of the Part B Permit, including the Waste Analysis Plan, Preparedness and Prevention Plan, Contingency Plan, Training Plan, and Closure Plan. Additional time is spent reviewing past environmental compliance at the branch manager's facility and regulations unique to the state are discussed.

Training of New Branch Administrator

Branch Administrators are trained in the proper record keeping procedures as soon as they begin working for Safety-Kleen. While they are not usually responsible for preparing the documentation, they must check it for accuracy and completeness and then process it as required. Additional training is overseen by the Branch Manager, or other qualified personnel, and is done within six months of starting. It includes some of the items listed in the Training outline Exhibit H-2 that are applicable to the Administrator's job. In addition, the contingency plan must be reviewed with the Branch / Service Center Manager, or other qualified personnel, within the first four weeks of the Administrator starting work.

Training of New Sales & Service Representatives

New sales and service representatives are introduced to the Part B permit which includes waste analysis plans, preparedness and prevention plans, contingency plans, etc. The standard

beginning class for a sales or service representative is a 2 week HAZWOPER and beginning RCRA class at a Safety-Kleen training center. A sales and service representative may also be trained as the designee for performing the facility inspection. Additional training may be provided in the form of CD, online or videotape presentations. The Contingency Plan must be reviewed with the Branch Manager before the sales representative formally begins their new position and annually thereafter. Items listed in the example training outline (Exhibit H-4) are completed within six months of starting.

Training of New Material Handlers

A material handler is trained to maintain the branch service center and assist the other branch employees in their tasks. This person may also be a designee for the facility inspection and must be trained by the Branch General or Service Center Manager as such. Within four weeks of the material handler starting, the Branch General or Service Center Manager must review the contingency plan with him/her, and within six months the items listed in the example training outline (Exhibit H-4) must be reviewed.

Annual Training

On an annual basis, employees are trained in the HAZWOPER update using a program prepared and updated annually by the Safety-Kleen regional and/or Corporate Compliance offices and Safety Department office. It generally includes updates on environmental regulations, an in-depth review of the contingency plan, other key aspects of the Part B permit and changes in regulations.

Facility employees must annually review training items such as those listed in the example training outline. This review may be in the form of online programs, safety meetings, or videotapes and a review and discussion of the storage facility permit application. In addition, periodic memoranda on changes in environmental & safety regulations are issued by the Regional and/or Corporate offices and must be read and discussed by facility personnel.

TRAINING RECORDS

Employee training is documented (see the example record form in Exhibit H-4). The training course syllabuses, training signature sheets and test results, if given, must be maintained on file at the facility. Employees may not work in unsupervised positions until the contingency plan has been reviewed and they understand emergency response procedures. Training records are kept until closure of the facility, and /or three (3) years from the date an employee is terminated from the facility, in accordance with IDAPA 58.01.05.008 [40 CFR 264.16(e)]. Records for employees transferring within the company will be sent to the employee's new facility.

Exhibit H-2

Example Job Descriptions

SAFETY-KLEEN SYSTEMS, INC.
JOB DESCRIPTION

BRANCH GENERAL MANAGER/SERVICE CENTER MANAGER

The Branch Manager has overall responsibility for the facility operations and maintenance, and directs sales activities within a defined geographic area. He or she is responsible for the proper operations and profitability of the Service Center. The Branch Manager typically also functions as the emergency coordinator.

Responsibilities:

- Collaborate with Sales Managers to enhance branch sales performance.
- Lead the facility employees to maximize revenues and client satisfaction.
- Manage administrative and warehouse team.
- Maximize branch profitability through sales volume, margin attainment, and cost controls.
- Branch adherence to operational guidelines.
- Conduct weekly branch meetings with Route Sales and Service professionals to drive branch performance and promote teamwork.
- Protect branch business through excellent customer service.
- Manage customer service and response time through Customer Retention Management system.
- Meet with customers to validate customer expectations are being met.
- Hire, train and develop all branch employees.
- Ensure branch Environmental, Health and Safety (EHS) Compliance.
- Ensure all training and compliance documentation is maintained.

Requirements:

- Required attendance to a continuous (2) two week long on-boarding and regulatory training course that will be held out of town. Expenses (Lodging, Food, Travel) to be paid by Safety-Kleen.
- High School diploma or GED required.
- Degree preferred.
- 7+ years of sales and operations management experience.
- Profit and Loss responsibility.
- Strong understanding of sales process.
- Lean/Six Sigma training and experience preferred.
- Working knowledge of DOT and fleet compliance.
- Experience in interviewing, hiring and effectively managing others.
- High level of computer proficiency.
- Issue resolution, negotiating and problem solving skills.
- Integrity, judgment and decision-making skills.
- Good written and oral communication skills.
- Time management, organization, and attention to detail.
- Valid Driver's License.
- Applicant must be able to successfully pass comprehensive security background screenings so as to service all SK customers who are federally regulated by TSA, DOD, DOJ, DHS, etc.

TYPICAL HAZARDOUS WASTE MANAGEMENT DUTIES

- Assures the proper completion and administration hazardous waste manifests and associated paperwork (i.e. land disposal restriction notices, operating log, waste analysis, and spill reporting)
- Assures the proper management, preparation and shipment of hazardous waste (including packaging, labeling, placarding of vehicles, and transfer and storage procedures)
- Maintains a current Emergency Response and Evacuation Plan
- Conducts safety training and maintains records of such training
- Implements and maintains branch environmental, health, and safety awareness
- Keeps environmental, health, and safety training records current
- Complies with Company and governmental regulations related to fleet operations
- Maintains facility cleanliness, organization, and appearance

BRANCH ADMINISTRATOR

A Branch Administrator is responsible for providing excellent customer service to internal and external customers, maintaining detailed and accurate company, branch, and customer files.

Responsibilities:

- Create proper shipping and billing documents daily, including manifests.
- Enter data into Safety-Kleen systems.
- Contact customers delinquent in payment and coordinate pick up of payments.
- Respond to customer inquiries and/or complaints.
- Enter sales leads into the Hand-Off Tool on a daily basis.
- Enter time of service Containerized Waste Service profiles into the Waste Approval Wizard software.
- Print and restock time of service in Sales and Service Representative's folders.
- Respond to customer call-ins and direct potential pulls and complaints to appropriate account owner.
- Other related support functions as directed by management.

Requirements:

- High school diploma or equivalent required
- 1+ years of work experience
- Strong computer skills
- Good organizational skills
- Customer service attitude
- Product knowledge
- Attention to detail
- Safety mindset
- Time management skills
- Sense of direction
- Integrity
- Reliable
- Problem solving abilities

TYPICAL HAZARDOUS WASTE MANAGEMENT DUTIES

- Manifest and associated paperwork preparation
- Waste Label preparation
- Maintenance of waste tracking (may be electronic or paper)
- May check container labels on hazardous waste containers stored in the facility's permitted storage areas or conduct or verify the facility inspection
- May be designated as an emergency response coordinator or alternate

BRANCH MATERIAL HANDLER/WAREHOUSE WORKER

A Material Handler is responsible for completing all assigned warehouse duties in a safe and responsible manner. You will work with all local, state, and federal rules and regulations; and follow all Safety-Kleen policies and procedures.

Responsibilities:

- Unload route truck containerized waste in evening and reconcile waste.
- Reload route trucks with supplies and equipment for next day's runs.
- Stock warehouse with materials after Distribution Center truck arrival.
- Prepare waste loads for shipment to Recycle Center/Distribution Center.
- Daily facility inspection.
- Empty and fill drums of solvent mineral spirits.
- Perform minor repairs on parts washers at warehouse.
- Assign job duties to Material Handlers and assure completion of the duties.
- Supervise third party bulk liquid transfers.
- Inventory count at warehouse.
- Manage inventory order and receiving process.

Requirements:

- Required attendance at on-boarding and regulatory training courses
- High school diploma or GED required
- 3+ years work experience required
- Attention to detail needed
- Ability to follow specific instructions
- Ability to work with minimal supervision at times
- Computer skills
- Forklift driving skills
- Basic math skills
- Pride in position – owns the warehouse and recognizes the importance of this role

TYPICAL HAZARDOUS WASTE MANAGEMENT DUTIES

- Prepares hazardous waste for shipment offsite
- Performs housekeeping and routine facility maintenance
- Prepares paperwork including manifests and land disposal restrictions
- May conduct and document facility inspections
- Cleanup of minor spills and report major spills of hazardous waste
- May be designated as an emergency response coordinator or alternate

BRANCH SALES AND SERVICE REPRESENTATIVES

A Sales and Service Driver is responsible for safely completing all assigned customer services, meeting customer needs and selling additional services in a defined route while complying with all local, state, and federal rules and regulations, in addition to all Safety-Kleen policies and procedures.

Responsibilities:

- Complete daily scheduled services, deliveries, and pickups in a timely manner.
- Complete all required documentation and labeling.
- Generate / collect leads from customers for new products and services.
- Sell additional products and services into existing accounts.
- Actively prospect for new accounts in assigned route.
- Primary account ownership in assigned route.
- Ensure customer satisfaction at time of service.
- Follow all local, state (provincial) and federal compliance regulations and rules.
- Safely operate vehicles in accordance with U.S. DOT, local, state (provincial) and federal requirements.
- Safely observe all corporate operating guidelines and procedures.
- Observe all company environmental health and safety operating guidelines.

Requirements:

- Required attendance at on-boarding and regulatory training courses
- High school diploma or equivalent required
- Ability to obtain and retain a CDL with HAZMAT endorsement
- Demonstrate a commitment to environmental compliance and safe work practices
- Sales aptitude
- Ability to develop customer loyalty
- Record of good judgment/ decision-making
- Good written and oral communication skills
- Ability to perform physical functions per job requirements
- Ability to work independently while managing time and productivity
- Integrity and reliability
- Attention to detail
- Basic computer literacy and math skills
- Problem solving abilities
- Applicant must be able to successfully pass comprehensive security background screenings so as to service all SK customers who are federally regulated by TSA, DOD, DOJ, DHS, etc.
- Applicants for employment in the U.S. must possess work authorization which does not require sponsorship by the employer for a visa

TYPICAL HAZARDOUS WASTE MANAGEMENT DUTIES

- Services machines containing hazardous waste at customer locations
- Remove, prepare for transportation, and transport hazardous waste to the facility
- Prepares paperwork including manifests and land disposal restrictions
- May conduct and document facility inspections
- Cleanup of minor spills and report major spills of hazardous waste
- May assist in the unloading of hazardous waste and the transfer of spent solvent into the bulk storage tank

BRANCH SALES PERSONNEL (MARKET SALES SPECIALISTS, TERRITORY ACCOUNT MANAGER)

The Outside Sales Representative is expected to meet or exceed sales objectives within an assigned geographic territory through prescribed sales techniques; develop existing customer relationships and cultivate new account opportunities. This position is known internally as a Market Sales Specialist.

Responsibilities:

- Identify profitable new opportunities from leads provided by branches/facilities, current customers, trade publications, state associations, internet/newspaper/journal articles, or cold-calling.
- Develop customer solutions and sell all applicable Safety-Kleen products and services according to the defined sales strategy/pricing tools.
- Prepare sales plans and forecasts; monitor and track sales plan to ensure sales quota is met or exceeded.
- Prepare and deliver customer quotes and identify new solutions for customers; provide technical and sales assistance to customers.
- Serve as interface between customers and company to ensure that customer needs are met and issues are promptly resolved.
- Keep abreast of products, market conditions and competitive activities.
- Maintain current database through the use of CRM tool while providing accurate sales reporting, as required.
- Ensures that all sales actions comply with all regulations and Safety-Kleen corporate policies/processes.
- Daily local travel is required. Limited overnight travel may be required (<15%) for customer visits, vendor visits, training.

Requirements:

- 3+ years of business-to-business (B2B) sales experience, preferably in the industrial, commercial, automotive, or environmental services markets
- Proven ability to prospect, negotiate and close deals
- Bachelor's Degree in Business Management or related field preferred, or equivalent additional experience required
- Prior experience using CRM software tools and reporting
- Strong time management and organizational skills to ensure focus on value-added sales activities
- Strong customer-orientation; prompt issue resolution/follow-through
- Strong computer skills (MS Applications: Word, Excel, PowerPoint)
- Required attendance at on-boarding and regulatory training courses
- Strong communication (written and oral) skills
- Valid driver's license is required

TYPICAL/OPTIONAL HAZARDOUS WASTE MANAGEMENT DUTIES

- Prepares hazardous waste for shipment offsite
- Performs housekeeping and routine facility maintenance
- Prepares paperwork including manifests and land disposal restrictions
- May conduct and document facility inspections
- Cleanup of minor spills and report major spills of hazardous waste
- May be designated as an emergency response coordinator or alternate

TRAINING OUTLINE

RCRA TRAINING AT FACILITY

- I. INTRODUCTION: Major plans to be discussed
 - A. RCRA Contingency Plan and Preparedness and Prevention Plan
 - B. Spill Plan Control and Countermeasures Plan
 - C. Storm Water Pollution Prevention Plan

- II. What we do to keep from sounding the alarm
 - A. Storage and release prevention measures
 - i. Best Management Practices
 - 1. Housekeeping
 - 2. Drum storage drum areas clean and clear
 - 3. Debris picked up
 - 4. Aisle space
 - 5. Container security – lids and secured
 - 6. Waste not stacked over 2 tiers high
 - ii. Preventative maintenance
 - 1. Daily/weekly inspections
 - 2. Keeping containers closed-check container integrity at all times
 - 3. Spill Equipment
 - 4. Fire extinguishers
 - 5. PPE
 - 6. First aid kits
 - 7. Eye wash
 - iii. Security
 - 1. Keep unauthorized / untrained people out of the area
 - 2. Use the facility sign-in log
 - 3. Keep doors closed and locked
 - 4. Enforce the above

- III. What are the procedures if the above practices don't work and a spill occurs
 - A. Activation of the site Contingency Plan
 - i. Emergency response list
 - ii. Emergency coordinators role
 - iii. Response preparation
 - iv. Response actions
 - 1. Emergency shut-off switches
 - 2. Major/minor spills
 - 3. Fires
 - 4. Earthquakes
 - 5. Evacuation procedures
 - v. Notification requirements
 - B. Transportation Contingency Plan
 - i. Emergency response list
 - ii. Response preparation
 - iii. Response actions
 - iv. Notification requirements

- IV. Past Spills
- V. Potential Spills

Exhibit H-3

Site RCRA and SPARK Training

SPARK

Safety, Products, and Regulatory Knowledge

Course Agenda

Week 1	Week 2
<p>Monday</p> <ul style="list-style-type: none"> ▪ Welcome & Orientation ▪ Human resources ▪ Customer Service/Value Overview ▪ Health & Safety: <ul style="list-style-type: none"> <i>Compliance Intro, OSHA Overview, Hazard Recognition, Ergonomics, Container Handling</i> 	<p>▪ Monday</p> <ul style="list-style-type: none"> ▪ Oil & Vacuum Service Overview ▪ Day in the Life Scenario – Oil & Vac ▪ Spill Response
<p>Tuesday</p> <ul style="list-style-type: none"> ▪ Health & Safety Continued <ul style="list-style-type: none"> <i>Walking & Working Surfaces, Lockout/Tagout, Electrical Safety, Fire Prevention/Protection, Toxicology, Hazard Communications, PPE, Decontamination, Respiratory Protection, Hearing Protection, Medical Surveillance</i> 	<p>▪ Tuesday</p> <ul style="list-style-type: none"> ▪ Bringing It All Together: ▪ Hands-On Parts Washers & Allied Products ▪ Demonstrations, Q&A
<p>Wednesday</p> <ul style="list-style-type: none"> ▪ Transportation <ul style="list-style-type: none"> <i>Regulatory Requirements – DOT, Driver Qualification, Driver Wellness, Daily Log/Hours of Service, Load Securement, Pre & Post Trip Inspections, Vehicle Cone Program, Hazmat Definitions & Requirements, Hazard Classes, Hazmat Table, Shipping Papers, Markings and Labels, Packaging, Drum Inspection and Closure, Transportation Review</i> 	<p>▪ Wednesday</p> <ul style="list-style-type: none"> ▪ <u>Service Representatives</u> Selling Skills Training ▪ <u>Sales Representatives</u> Smith Systems® 5Keys Driver Training® Part 2: Road Training
<p>Thursday</p> <ul style="list-style-type: none"> ▪ Transportation Continued: <ul style="list-style-type: none"> Smith Systems® 5Keys Driver Training® Part 1: Classroom Training ▪ Parts Washers/Allied Products Overview 	<p>▪ Thursday</p> <ul style="list-style-type: none"> ▪ <u>Service Representatives</u> Smith Systems® 5Keys Driver Training® Part 2: Road Training ▪ <u>Sales Representatives</u> Branch Technical Training (BTT)
<p>Friday</p> <ul style="list-style-type: none"> ▪ Day in the Life Scenario: Parts Washers ▪ Containerized Waste Services (CWS) Overview 	<p>▪ Friday</p> <ul style="list-style-type: none"> ▪ Wrap-up, Review and Testing ▪ Awards ▪ Departure
<p>Saturday</p> <ul style="list-style-type: none"> ▪ Day in the Life Scenario: CWS & Salvage Pack 	

Exhibit H-4

Example Training Certification (Sign-In Form)



SAFETY-KLEEN SYSTEMS TRAINING ATTENDANCE /CERTIFICATION SHEET

Date: _____ Training Location: _____

Course Name: _____ SAP Event/Class Number: _____

Course Code: _____ Time: _____ to _____ Duration: _____

	PRINTED NAME	SIGNATURE	EMPLOYEE #	FACILITY (CITY, STATE)
1.				
2.				
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23.				
24.				
25.				

EXAMPLE

I certify that the above listed employees have satisfactorily passed associated tests and, demonstrated satisfactory performance and comprehension of this training..

Trainer: _____
(Please Print Name)

Trainer's Signature: _____

Trainer's Location: _____

Trainer: _____
(Please Print Name)

Trainer's Signature: _____

Trainer's Location: _____

HWMA/RCRA STORAGE PERMIT
for the
SAFETY-KLEEN SYSTEMS, INC., BOISE SERVICE CENTER

ATTACHMENT 6 – PREPAREDNESS AND PREVENTION PLAN

Section F-3, Waiver or Documentation of Preparedness and Prevention Requirements

Section F-3a, Equipment Requirements, of the Permit Application

Section F-3b, Aisle Space Requirements, of the Permit Application

Section F-4, Prevention Procedures, Structures, and Equipment Inspection

Section F-5, Prevention of Reaction of Ignitable, Reactive, and Incompatible Waste

EFFECTIVE DATE: JULY 29, 2015

Section F-3 Procedures to Prevent Hazards

F-3 **270.14(b)(6);** **Waiver or Documentation of Preparedness and Prevention**
 264.32(a)-(d) **Requirements**

The facility is not requesting a waiver of the Preparedness and Prevention requirements.

F-3a **270.14(b);264.32** **Equipment Requirements**

F-3a(1) **270.14(b); 264.32(a)** **Internal Communication**

Internal communication (within the facility) is accomplished by voice and a loudspeaker paging system via the telephone system. In the event of an emergency all employees will be informed of the situation and actions required.

F-3a(2) **270.14(b); 264.32(b)** **External Communication**

External communication (for summoning emergency assistance from local police, fire, or other emergency response) is accomplished via the telephone system or by cell phone. A list of emergency telephone numbers is posted by each telephone in the facility.

F-3a(3) **270.14(b); 264.32(c)** **Emergency Equipment**

There are a minimum of 12 10-pound Class ABC fire extinguishers located throughout the facility. They are available at each of the warehouse exits and at the metal shed (CSA-2). The Boise Fire Department will be summoned for any fire that cannot be extinguished with a single fire extinguisher. Water is provided by the City of Boise. There are 2 fire hydrants adjacent to the facility.

There are at least 2 spill kits at the facility, located in the warehouse and in the lot near the CSA-2. Each kit contains at a minimum: a shovel, absorbent material (example: sheets/mats, granular, booms), protective apron and gloves. A list of emergency equipment is included as Exhibit F-4; and a diagram indicating location of each item is included as Exhibits F-3 and F-3.1. In addition to materials contained in the spill kits, there is often a supply of various absorbent materials in inventory for sale to our customers. In the event of an emergency, these items are available for use.

An emergency eyewash with a handheld shower attachment is available in the warehouse. An emergency eyewash is available near the Return & Fill/tank farm. There is also a standard shower located in the facility restroom that can be used to decontaminate.

F-3a(4) **270.14(b); 264.32(d)** **Water and Fire Control**

Three operational areas of the facility have automatic fire extinguishing systems. CSA-1 has both a dry chemical automatic fire suppression system and a dry-pipe water sprinkler fire suppression system. The dry chemical system is rated for flammable liquids and electrical fires. It is based on 4 Model IND-50 dry chemical extinguishers made by Fenwal; each containing 50 pounds of sodium bicarbonate pressurized with nitrogen. Photo evidence of the Fenwal canisters is included in the Part A, as 2050.0004 Section 12.3.1. The dry-pipe water sprinkler suppression

system provides a delivery density of 0.25 gpm/sq. ft. at 241.72 gpm at a pressure of 59.19 psi at the base of the riser.

CSA-2 is protected by a dry chemical system rated for flammable liquids and electrical fires. It is based on 3 Model IND-50 dry chemical extinguishers made by Fenwal; each containing 50 pounds of sodium bicarbonate pressurized with nitrogen.

The Return and Fill dock is protected by a dry chemical system rated for flammable liquids and electrical fires. It is based on 2 Model IND-50 dry chemical extinguishers made by Fenwal; each containing 50 pounds of sodium bicarbonate pressurized with nitrogen.

Based on construction the ASTs meet NFPA 2012 Ch. 22.8.2 for fixed-roof tanks storing Class II or III Liquids and are required to have a portable fire extinguisher. Fire extinguishers are shown in Exhibit F-3.1.

There is a fire hydrant maintained by the City of Boise adjacent to the facility's north driveway. Reference Exhibit B-6. The City of Boise Fire Department will be summoned to respond to all fires that cannot be extinguished with a single fire extinguisher.

F-3a(5) 270.14(b); 264.33 *Testing and Maintenance of Equipment*

A documented inspection of safety equipment is conducted weekly. An example inspection form is included as Exhibit F-2.

F-3a(6) 270.14(b); 264.34 *Access to Communication or Alarm System*

Employees have access to the telephone system to communicate internally and externally as needed.

F-3b 270.14(b); 264.35 *Aisle Space Requirement*

The facility maintains aisle space (typically 2 feet) to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment.

F-3c 270.14(b); 264.37 *Documentation of Arrangements with:*

F-3c(1) 270.14(b); 264.37(a)(1) *Police and Fire Department*

F-3c(2) 270.14(b); 264.37(a)(2) *Emergency Response Team*

F-3c(3) 270.14(b); 264.37(a)(3) *Local Hospital*

Safety-Kleen provides a copy of the facility Contingency Plan to the Boise Fire and Police Departments, Ada City-County Emergency Management, Idaho Emergency Response Commission, and St. Alphonsus Regional Hospital. When the Contingency Plan is revised, copies are sent to these groups to keep them apprised of current information. Safety-Kleen requests the Departments sign and return an acknowledgement letter. Copies of the most recent acknowledgements are included in Exhibit F-5.

F-3c(4) 270.14(b); 264.37(b) Document Agreement Refusal

In the event any emergency response agency refuses to enter into a coordination agreement, documentation of this will be maintained at the facility.

F-4 270.14 Prevention Procedures, Structures, and Equipment

F-4a 270.14(b)(8)(i) Unloading Procedures

The Boise Service Center was designed to minimize the possibility of spills or fires and to minimize the effects of any accidents that may occur.

Proper handling of hazardous waste is ensured through proper training. Employees are trained on hazardous waste procedures during their initial training and then annually. It is Safety-Kleen's standard operating procedure to use containers made of or lined with materials that will not react with, and are otherwise compatible with, the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired. Safety-Kleen will store and transport any incompatible wastes in accordance with 49 CFR 177.848 (segregation of hazardous materials). Hazardous waste is received onsite in containers. Proper handling of hazardous waste is ensured through proper training and use of proper equipment. Employees are trained on hazardous waste procedures during their initial training and then annually.

Containers of waste are off-loaded from route trucks into various enclosed storage areas. Entrance to warehouse storage areas (CSA-1 and transfer storage) is at grade level. Waste containers that will be placed into storage into these areas are moved from the route truck via a hydraulic platform lift gate that is on each route truck. The employee moves containers from the cargo carrying portion of the vehicle onto the lift gate that is extended flush with bed of the truck. The lift gate is then lowered to grade level. The drums are moved from the lift gate into the appropriate storage area by forklift, pallet jack, or drum dolly. The area where the route trucks park while unloading is paved.

Drums of waste that will be placed into storage in CSA-2 will be delivered to an overhead door of the metal shed. The shed has an elevated dock (grating). Waste containers that will be placed into storage into this area are moved from the route truck via a hydraulic platform lift gate that is on each route truck. The employee moves containers from the cargo carrying portion of the vehicle onto the lift gate that is extended flush with bed of the truck. The lift gate is then lowered to the level of the dock. Due to the size of containers stored in this area (typically 5, 15, and 30 gallon) and the area of the dock, the drums are manually moved from the lift gate into the appropriate storage area. The area where the route trucks park while unloading is a concrete pad.

Drums of waste that will be emptied into the used solvent tank will be delivered to an overhead door of the metal shed. The shed has an elevated dock (grating). Waste containers that will be emptied are moved from the route truck via a hydraulic platform lift gate that is on each route truck. The employee moves containers from the cargo carrying portion of the vehicle onto the lift gate that is extended flush with bed of the truck. The lift gate is then lowered to the level of the dock. Alternatively, the drums may be moved to the dock using mechanical material handling equipment. Due to the size of containers stored in this area (typically 5, 15, and 30 gallon) and the area of the

dock, the drums are manually moved from the lift gate into the appropriate storage area. The area where the route trucks park while unloading is a concrete pad.

The storage tanks are located in a tank farm with a containment area designed and operated to remove accumulated liquids through a sump located in the containment dike. Accumulated precipitation in the secondary containment system will be removed in a timely basis after detection. A visual inspection of the storm water for a sheen and discoloration will be conducted. If no sheen or discoloration is noted, the accumulated precipitation will be discharged from the tank farm to the surface of the facility. If sheen is noted, the precipitation will be pumped into an onsite storage tank for offsite management. If a solvent spill occurs within the containment dike, the spilled material will be completely removed. Should a spill occur and there is water present, a waste determination shall be made the material will be managed appropriately.

Accumulated liquids will be removed by use of a portable electric pump that must be placed into the sump. An automatic pump is not present in the tank farm.

Product solvent is delivered by bulk tanker with a typically 7,000 gallon capacity. The same vehicle transports a load of used solvent. The driver of the transport vehicle conducts product and waste transfer. The vehicle parks on a concrete loading pad adjacent to the tank farm. Prior to transferring product into the tank, the driver verifies there is adequate tank capacity for the entire load scheduled for delivery. The driver places a bucket to capture any drips that may occur when connecting and disconnecting the delivery hoses on the tanker. Any drips that may occur when connecting and disconnecting the delivery hoses to the tank piping are captured in a containment box surrounding the inlets and outlets. After the driver delivers the load of clean product, he/she determines available capacity in the tanker. The transfer hose is connected to the exit line on the used solvent pipe and the used solvent is transferred into the tanker. The transfer operations are monitored at all times by the driver. To eliminate the risk of a static charge during transfer operations, the tanker is grounded and bonded.

F-4b 270.14(b)(8)(ii) *Runoff*

The containers are stored in an enclosed warehouse or contained storage shed, and not subject to run on or run off. Tank storage is in a diked tank farm. The diking prevents run on and runoff. The dikes are constructed to contain the anticipated collection from a 24-hour, 25-year storm. Drums of used mineral spirits solvent are emptied in the Return and Fill which is contained so that any material splashed, dripped, or spilled will not runoff.

F-4c 270.14(b)(8)(iii) *Water Supplies*

The Boise Service Center is operated in a manner that is protective of water supplies. Containers of waste are storage in enclosed areas and the transfer of used solvent to the bulk storage tank is conducted over secondary containment. Bulk storage tanks are located within a tank farm that has adequate containment capacity. The facility is maintained to prevent waste materials migrating to the environment.

F-4d 270.14(b)(8)(iv) *Equipment and Power Failure*

A power failure would not result in a spill. Should a power failure occur, all activities requiring electricity will necessarily cease. The transfer pump used to pump the used solvent into the

storage tank is electric and will fail during a power outage. No liquid can back flow from the tank because the fill line has a check valve at the tank. Since the tank is not pressurized, the lines will be in a stable state until the power is restored and the pump is restarted. The high level alarm on the tank requires electricity to operate. However, the only way used solvent can be transferred into the storage tank is via the transfer pump and the pump will not be operable during a power outage.

The transfer pumps used to pump clean solvent into the storage tanks, or remove used solvent from the tank are located on the transport vehicles so a power failure will not have any effect on removal of material from the tank.

F-4e 270.14(b)(8)(v) Personnel Protection Procedures

In January 2005, Safety-Kleen was provided with professional Industrial Hygiene (IH) monitoring services through AIG insurance. The objective of the surveys was to monitor (1) Service Representatives for solvent exposure during parts washer services, unvented gun cleaners, dry cleaning services and (2) monitor Material Handlers for solvent and noise exposure during return/fill operations.

All results were below 50% of the applicable OSHA and ACGIH values except for the Short Term (STEL) sample for Toluene (67% of OSHA Ceiling) during the unvented gun cleaner service conducted at customer locations, and the ACGIH 80-db average for Noise (88.0 dB). Results will not affect the current branch PPE hazard assessments (2013) for servicing unvented gun cleaners, parts washers and dump/fill operations (while using pneumatic gun). The hazard assessment completed for the return and fill operations (container emptying, cleaning, and refilling) indicates employees are not exposed to toxic constituents above acceptable workplace levels that would require the use of a respirator.

All Safety-Kleen employees receive extensive training on recognizing hazards in the workplace and how to avoid or best manage them. Safety-Kleen's Health & Safety Department completes hazard assessments for all branch activities and issues a Personal Protection Equipment (PPE) Matrix that all employees are required to follow. The current PPE Matrix is included as Exhibit F-6. The recap of the AIG IH study is included as Exhibit F-9.

F-4f 270.14(b)(8)(vi) Procedures to Minimize Releases to the Atmosphere

The tank system is equipped with a high level alarm that indicates when the tank is 95% full. If the level in the tank is at 95% capacity, the float activates a switch that activates the visual and audible alarms. The transfer pump in the drum washer is disabled so that the tank will not overflow. The high level alarm is inspected daily for proper functioning of electrical components. The volume of used solvent in the bulk storage tank is visually monitored daily to ensure adequate capacity for the day's activities.

The tank is equipped with a pressure/vacuum vent that operates at two ounces of pressure and one ounce of vacuum. The specific gravity of the hydrocarbon-based parts washer

solvent is approximately 0.8 and the vapor pressure is less than 2mm at 68°F. Tanks and piping are inspected each operating day for signs of deterioration.

Containers of used solvent are opened and immediately emptied into the drum washer. When drums of product solvent are being filled, they are not left unattended, and are closed with a lid and ring as soon as they are full. Other containers of waste are not opened while onsite. These containers are inspected each operating day for signs of deterioration.

F-5	270.14(b)(9)	Prevention of Reaction of Ignitable, Reactive, and Incompatible Waste
F-5a	270.14(b)(9); 264.17(a),(b)	Precautions to Prevent Ignition or Reaction of Ignitable or Reactive Wastes

Reactive wastes are not received at this facility. It is Safety-Kleen's standard operating procedure to use containers made of or lined with materials that will not react with, and are otherwise compatible with, the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired. Safety-Kleen will store and transport any incompatible wastes in accordance with 49 CFR 177.848, Segregation of Hazardous Materials. Any wastes that may be incompatible with others wastes would be managed as 10-day transfer wastes and these wastes remain in the container in which they were originally packaged until received at a Safety-Kleen Recycle Center or other properly permitted facility.

The facility receives combustible mineral spirits solvent. The following is a list of general fire prevention and minimization measures:

a. All waste and products are kept away from ignitable sources – Personnel must confine smoking and open flames to remote areas, separate from any ignitable materials. Smoking is not permitted within the facility and No Smoking warning signs are posted throughout the facility. The approved smoking area is located outside of the fenced operational area of the facility, outside of the office building. The solvent handling area and the aboveground storage tanks are separated from the warehouse area to minimize the potential for a fire to spread or injury to personnel. All electrical wiring, switches, and fixtures meet applicable fire safety and electrical construction codes.

b. Ignitable wastes are handled so that they do not:

1. Become subject to extreme heat or pressure, fire or explosion, or a violent reaction – the used parts washer solvent is stored in a tank or in containers, none of which are near sources of extreme heat, fire, potential explosion sources, or sources that are subject to violent reactions. The tanks are vented and the containers are kept at ambient temperature to minimize the potential for pressure buildup.

2. Produce uncontrolled toxic mists, fumes, dusts or gases in quantities sufficient to threaten human health – The vapor pressure of parts cleaner solvent is low, 2 mm Hg at 68°F, and it is reactive with reactive metals and strong oxidizers only. Toxic mists, fumes, dusts, or gases will not form in quantities to threaten human health since strong oxidizers are not handled at this facility, and the solvent vaporization will be minimal under normal working conditions.

3. Produce uncontrolled fires or gases in quantities sufficient to pose a risk of fire or explosion – See “a” above and “c” below.
 4. Damage the structural integrity of the Safety-Kleen facility – The parts washer solvent will not cause deterioration of the tank, drums or other structural components of the facility.
- c. Adequate aisle space is maintained to allow the unobstructed movement of personnel, fire protection equipment, and decontamination equipment to any area of the facility operation in an emergency.
- d. Fire extinguishers must be checked once per week by facility personnel to ensure proper charge and once per year by a fire extinguisher company.
- e. There is a potential for static electricity occurring during transfer activities to and from the bulk solvent storage tanks and the transport tanker. This is controlled through bonding and grounding. In bonding, two containers or fluid streams are electrically connected. This neutralizes the build-up of a difference in static charge or potential between the two containers. In grounding, the containers are electrically connected to the earth, which also drains off the buildup of static charge or potential.

The facility manager is responsible for implementation of the written site-specific hot work permit program. This responsibility includes identifying areas in the facility where a hot work permit is required. Open flames are not permitted in any areas where ignitable or flammable materials are stored. Safety-Kleen’s Hot Work Procedure and example permit is included as Exhibit F-7.

In accordance with NFPA 30, “Flammable and Combustible Liquids Code”, Tables 2.1 to 2.6, the minimum buffer zone requirements for the storage tanks are:

1. Tanks must be located a minimum of 15 feet from the property line which is or can be built upon, including the opposite side of a public way.
2. Tanks must be located a minimum of 5 feet from the nearest side of any public way or from nearest important building on the same property.

The Return and Fill piping which transfers the used mineral spirit solvent to the waste tank is occasionally subject to low temperature in the winter time. The Used Mineral Spirits can occasionally have low levels of water contamination, the solvent, being hydrophilic layers out above the water. When temperatures drop below 32 °F low levels of water create water crystals that are granular in nature, larger volumes of water create ice blocks. The ice blocks are readily captured in the Return and Fill filter basket, while the granules pass through the basket and can cause a plug in the uninsulated portion of the piping or become compacted at the pump. The standard procedure to handle frozen piping is:

1. Disconnect the piping and remove the frozen water with small tools, auger or plumbers snake.

2. Employ the use of a steam jenny to thaw-out the ice within the pipe.

The storage tank is in compliance with the above buffer zone requirements. This is demonstrated in Exhibit F-8 which has the 50' set-back indicated.

Paint shed temperatures do not attain levels high enough to cause concerns with auto ignition temperatures. Auto ignition temperatures of the products that are stored in the CSA - 2 ranges from 451 to 869 (see attached MSDSs in Exhibit G-3). In case of a fire, hydrants are available for fire department use as a source for cooling water just north and south of the site on Supply Way.

F-5b 270.14(b)(9); 264.17(a) *General Precautions for Handling Ignitable or Reactive Waste and Mixing of Incompatible Waste*

The facility does not mix incompatible wastes. The facility only commingles used parts washer solvent onsite and this will cause any reaction that would generate heat, produce flammable byproducts, cause risk of fire or explosion, threaten structural integrity, or pose threat to human life or the environment.

The facility occasionally handles small volumes of oxidizers on a transfer waste basis. These containers will be kept on separate pallets, segregated from ignitable wastes, in accordance with 49 CFR 177.848.

F-5b(1) 270.14(b)(9); 264.17(c) *Documentation of Adequacy of Procedures*

The facility does not mix incompatible wastes. Therefore, this section does not apply.

F-5c 270.15(c); 264.176 *Management of Ignitable or Reactive Wastes in Containers*

All containers storing ignitable wastes and materials are stored at least 15 meters (approximately 50 feet) from the property lines. This is demonstrated in Exhibit F-8, which has the 50' set-back indicated.

F-5d 270.15(d); 264.177 *Management of Incompatible Wastes in Containers*

It is Safety-Kleen's standard operating procedure to use containers made of or lined with materials that will not react with, and are otherwise compatible with, the hazardous waste to stored, so that the ability of the container to contain the waste is not impaired. Containers provided by the generators will be, by necessity, compatible with the contents. Any incompatibility between the container and contents would have resulted in a reaction at the generator location, prior to being offered for shipment. Safety-Kleen will store and transport all wastes in accordance with U.S. DOT segregation standards (49 CFR 177.848). There is no onsite mixing or commingling of incompatible wastes onsite.

F-5e 270.16(j); 264.198 *Management of Ignitable or Reactive Wastes in Tank Systems*

The used parts washer solvent is only stored in the tank system. Safety-Kleen does not treat ignitable waste so it is no longer ignitable.

F-5f **270.16(j); 264.199** **Management of Incompatible Wastes in Tank Systems**

The used parts washer solvent is the only waste stored in the tank system. No incompatible wastes will be managed in the tank system.

F-5g **270.18(g); 264.256** **Management of Ignitable or Reactive Wastes Placed in Waste Piles**

F-5h **270.16(h); 264.257** **Management of Incompatible Wastes in Waste Piles**

The facility does not have a Waste Pile. Therefore, these sections do not apply.

F-5i **270.17(h); 264.229** **Management of Ignitable or Reactive Wastes Placed in Surface Impoundments**

F-5j **270.17(h); 264.230** **Management of Incompatible Wastes Placed in Surface Impoundments**

The facility does not have a Surface Impoundment. Therefore, this section does not apply.

F-5k **270.21(f); 264.312** **Management of Ignitable or Reactive Wastes Placed in Landfills**
F-5l **270.21(g); 264.313** **Management of Incompatible Wastes Placed in Landfills**

The facility does not have a Landfill. Therefore, this section does not apply.

F-5m **270.20(g); 264.281** **Management of Ignitable or Reactive Wastes Placed in Land Treatment Units**

F-5n **270.20(h); 264.282** **Management of Incompatible Wastes Placed in Land Treatment Units**

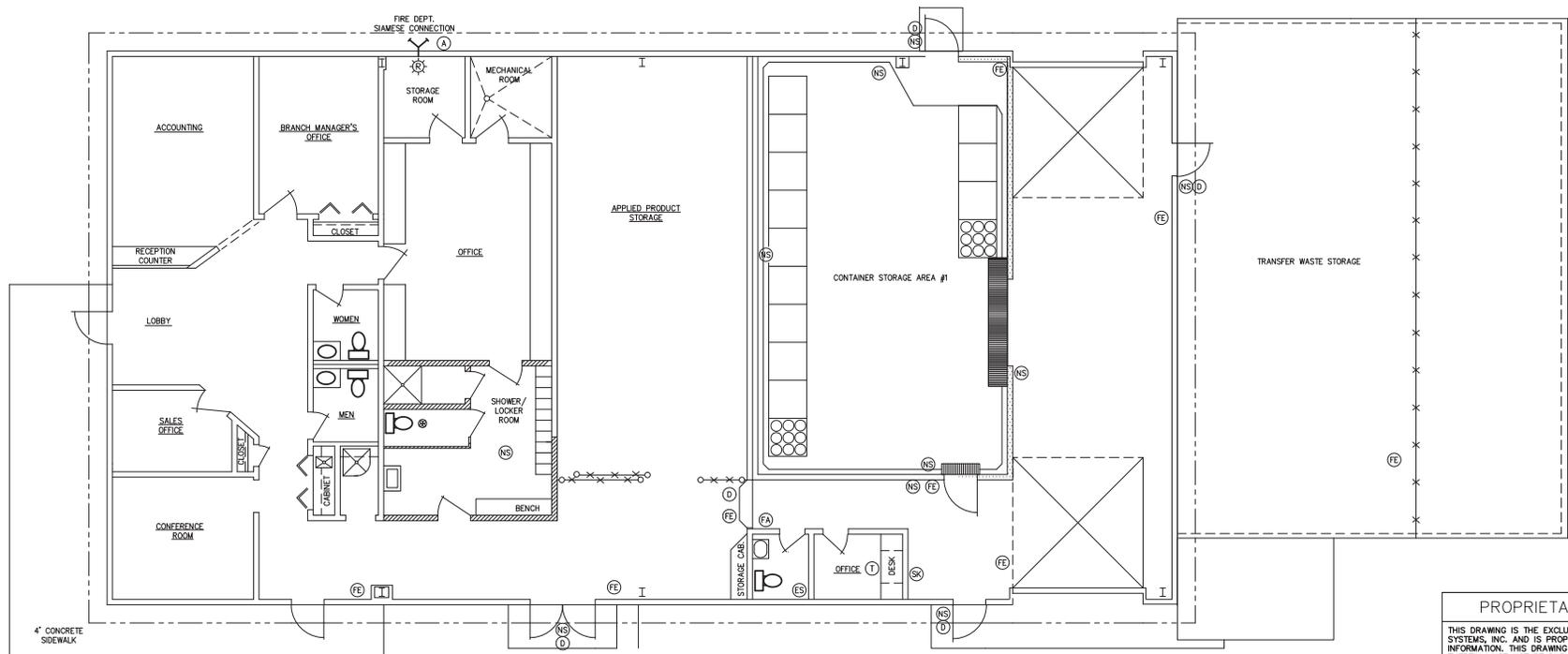
The facility does not have a Land Treatment Unit. Therefore, this section does not apply.

F-5o **270.14(a);** **Management of Incompatible Wastes Placed in Containment Buildings**
264.1101(a)(3)

The facility does not have a Containment Building. Therefore, this section does not apply.

Exhibit F-3

Facility Diagram of Emergency Equipment
Location
Office / Warehouse



- LEGEND**
- (T) TELEPHONE
 - (EW) EYE WASH & SHOWER
 - (ES) EYE WASH & SHOWER
 - (FE) FIRE EXTINGUISHER
 - (FA) FIRST AID STATION
 - (D) "DANGER" SIGN
 - (NS) "NO SMOKING" SIGN
 - (SK) SPILL KIT
 - (A) ALARM BELL
 - (SR) SPRINKLER RISER

F-3

PROPRIETARY STATEMENT

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2005 West Broadway • Suite 210 • Columbia • MO 65203
 • Phone: (573) 443-7100 • Fax: (573) 443-7181

TITLE **OFFICE /WAREHOUSE
 EMERGENCY EQUIPMENT
 LOCATIONS**

S SAFETY-KLEEN SYSTEMS, INC.
 8000 N. GENT. EXPRESSWAY STE. 400 RICHARDSON, TX. 75080
 PHONE 800-669-7540

NO.	DESCRIPTION	BY	CHK	APPR	DATE
B	REVISED FOR PERMIT	JEK	NC	NC	052814
A	REVISED FOR PERMIT	JEK	NC	NC	012813
0	NEW ISSUE FOR REVIEW	JEK	DOP	DOP	072808

SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE
3/16"=1'	JEK	NC	NC	NC	1/28/13
SERVICE CENTER LOCATION	SC-DWG. NO.	REV. NO.			
BOISE, ID.	7114-OB00-002	B			

Exhibit F-3.1

Facility Diagram of Emergency Equipment
Location
Outer Lot



GENERAL NOTES

EQUIPMENT LEGEND

- (T) TELEPHONE
- (EW) EYE WASH STATION
- (ES) EYE WASH & SHOWER
- (FE) FIRE EXTINGUISHER
- (FA) FIRST AID STATION
- (SK) SPILL KIT
- (D) "DANGER" SIGN
- (NS) "NO SMOKING" SIGN

REVISIONS

NO.	DESCRIPTION	BY	CHK	APPR	DATE
A	RELEASED TO WFL FOR REVIEW	MBH	KAM	WEY	05/31/09
B	ADDED LANDSCAPING	MBH	KAM	WEY	05/31/09
C	REVISED FOR PERMIT	JEK	MC	MC	01/28/13
D	REVISED FOR PERMIT	JEK	MC	MC	08/22/14

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2005 West Broadway - Suite 210 - Columbia - MO 65203
 Phone: (573) 443-7100 • Fax: (573) 443-7181

SITE EMERGENCY EQUIPMENT LOCATIONS

S SAFETY-KLEEN SYSTEMS, INC.
 2800 N. CENT. EXPRESSWAY STE. 400 RICHMOND, TX. 75080
 PHONE 800-688-6740

SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE
1"=50'-0"	JEK	MC	MC	MC	08-21-09
SERVICE CENTER LOCATION	BOISE, ID		SO-DWG NUMBER	7114-SPOO-002	

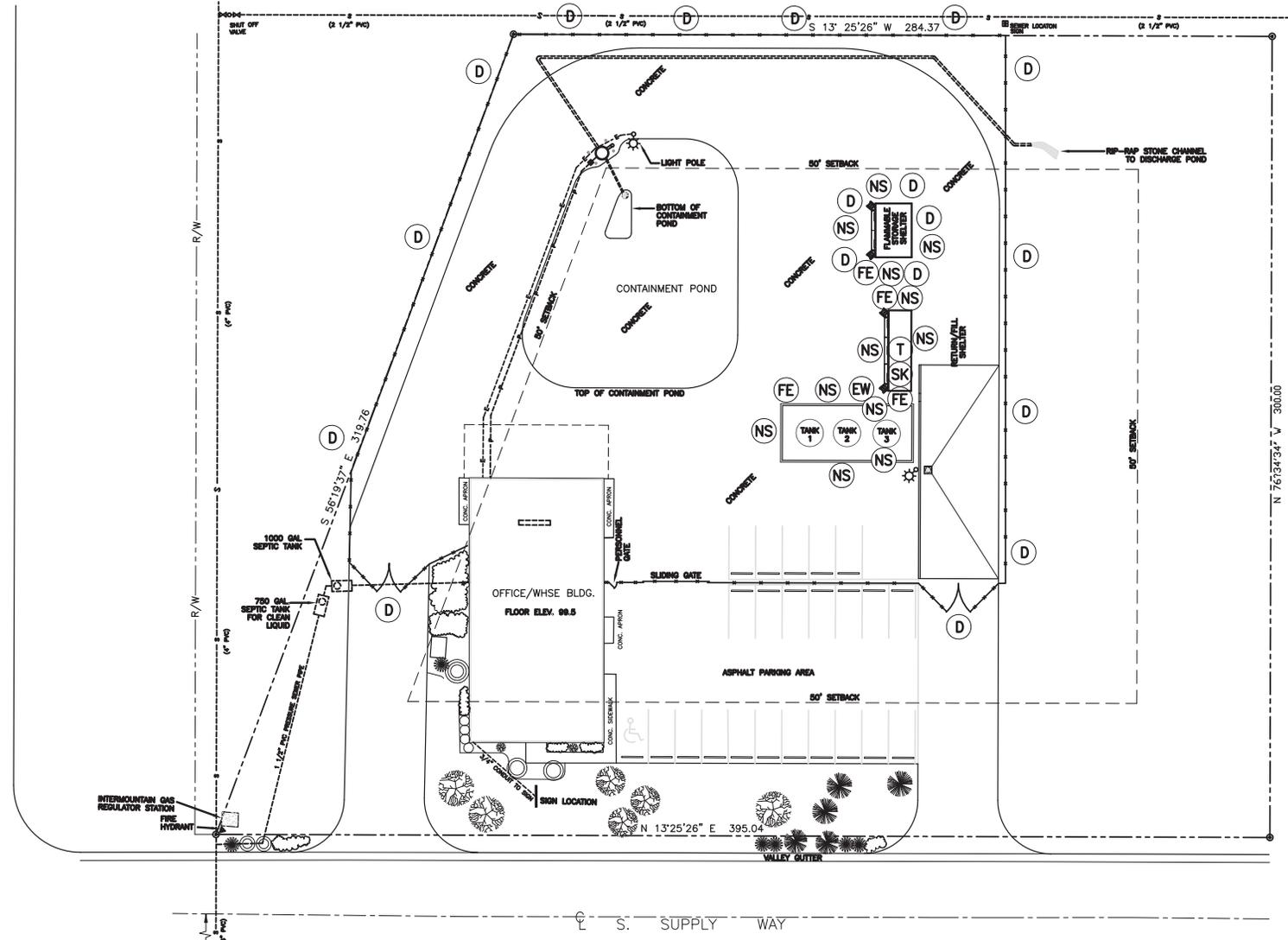


Exhibit F-3.1

Exhibit F-4

List of Emergency Equipment

Exhibit F-4 Facility Emergency Equipment

(See Exhibit F-3/F-3.1 for Specific Location for equipment)

Description	Location	Quantity	Capabilities
Dry Chemical Fire Extinguishers-Hand held (type ABC)	Office area, warehouse, storage shed, return and fill shed	12	Able to extinguish type A, B, and C fires
First Aid Kits	Office/warehouse area	1	Provides items used to give basic medical attention
Eye wash station	Warehouse area, at tank farm	2	Provide a means of rinsing possibly harmful substances from the eyes and skin
Shower	Office area, warehouse area	1	Decontaminate plant personnel in the event of a spill or release of harmful material
Telephones/paging system	Office/warehouse area, return and fill (Throughout office area but not depicted)	1	Alert personnel of an on-site emergency or spill incident, evacuation orders and general in-plant communications
Alert horn/strobe light	Tank farm	1	Sounds and flashes when tanks are at 95% capacity
Spill Kits / Absorbents	Warehouse, Return and Fill dock	2	Able to contain and absorb spilled liquids

Exhibit F-5

Emergency Responder and Agency Agreements



April 30, 2014

Brent Ho
Division Chief, Special Ops
150 North Capitol, Floor 3
Boise, ID 83702

Re: Safety-Kleen Boise Branch
Permit IDD981770498
Memorandum of Agreement – Contingency Plan

Dear Chief Ho:

Under 40 CFR 264.53, all revisions to a hazardous waste management facility's contingency plan must be provided to state and local emergency response teams that may be called upon to provide emergency services. Safety-Kleen is in the process of renewing its Hazardous Waste Permit at the Boise site. The Idaho Department of Environmental Quality has asked that we renew our Memorandum of Agreements with our listed Emergency Agencies. In 2001 you or someone with your agency signed this agreement. We are requesting that you or the appropriate person in your agency sign the attached agreement again.

To update your files I have included the following emergency documents:

- The most recent copy of our Contingency Plan.
- A current List of Emergency Coordinators.
- A current list of emergency equipment.
- Maps showing the layout of the facility and the location of emergency equipment.
- A list of our currently permitted waste streams for storage.

In addition to the above information, Safety-Kleen does participate in the annual Tier II program that provides information on hazardous materials at our site. This may provide additional detail on chemicals we have on the property.

For your convenience we have enclosed a self-addressed envelope for you to return the Memorandum of Agreement in. We also would like to invite you and any other people from your agency to take a tour of the site. If you'd like to us to contact you to make arrangements simply check the box on the agreement and provide a contact phone number.

6334 Supply Way, Boise, ID 83716

208.342.8882 | **Safety-Kleen Systems, Inc.** | A Clean Harbors Company | Safety-Kleen.com

April 30, 2014
Page 2

If you have any questions, please feel free to contact me at (208) 342-8882 or our EHS Manager, Nick Culian, at (530) 363-2632, or by email at nick.culian@safety-kleen.com.

Sincerely,

A handwritten signature in black ink, appearing to read 'DW', with a horizontal line extending to the right.

Doug Winter
Branch General Manager
Safety-Kleen Systems, Inc. – Boise

cc: Nick Culian, EHS Manager



April 30, 2014

David Hoewing
Saint Alphonsus Regional Medical Center - Boise
1055 North Curtis Rd.
Boise, ID 83706

Re: Safety-Kleen Boise Branch
Permit IDD981770498
Memorandum of Agreement – Contingency Plan

Dear Mr. Hoewing:

Under 40 CFR 264.53, all revisions to a hazardous waste management facility's contingency plan must be provided to state and local emergency response teams that may be called upon to provide emergency services. Safety-Kleen is in the process of renewing its Hazardous Waste Permit at the Boise site. The Idaho Department of Environmental Quality has asked that we renew our Memorandum of Agreements with our listed Emergency Agencies. In 2001 you or someone with your agency signed this agreement. We are requesting that you or the appropriate person in your agency sign the attached agreement again.

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April 30, 2014
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Sincerely,

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Doug Winter
Branch General Manager
Safety-Kleen Systems, Inc. – Boise

cc: Nick Culian, EHS Manager



April 30, 2014

Fire Chief Dennis Doan
Boise Fire Department
City Hall West
333 N. Sailfish Place
Boise, ID 83704

Re: Safety-Kleen Boise Branch
Permit IDD981770498
Memorandum of Agreement – Contingency Plan

Dear Chief Doan:

Under 40 CFR 264.53, all revisions to a hazardous waste management facility's contingency plan must be provided to state and local emergency response teams that may be called upon to provide emergency services. Safety-Kleen is in the process of renewing its Hazardous Waste Permit at the Boise site. The Idaho Department of Environmental Quality has asked that we renew our Memorandum of Agreements with our listed Emergency Agencies. In 2001 you or someone with your agency signed this agreement. We are requesting that you or the appropriate person in your agency sign the attached agreement again.

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April 30, 2014
Page 2

If you have any questions, please feel free to contact me at (208) 342-8882 or our EHS Manager, Nick Culian, at (530) 363-2632, or by email at nick.culian@safety-kleen.com.

Sincerely,

A handwritten signature in black ink, appearing to read "Doug Winter". The signature is stylized with a large loop at the beginning and a long horizontal stroke at the end.

Doug Winter
Branch General Manager
Safety-Kleen Systems, Inc. – Boise

cc: Nick Culian, EHS Manager



April 30, 2014

Ada City-County Emergency Management
7200 Barrister Drive
Boise, ID 83704-9293

Re: Safety-Kleen Boise Branch
Permit IDD981770498
Memorandum of Agreement – Contingency Plan

To Whom It May Concern:

Under 40 CFR 264.53, all revisions to a hazardous waste management facility's contingency plan must be provided to state and local emergency response teams that may be called upon to provide emergency services. Safety-Kleen is in the process of renewing its Hazardous Waste Permit at the Boise site. The Idaho Department of Environmental Quality has asked that we renew our Memorandum of Agreements with our listed Emergency Agencies. In 2001 you or someone with your agency signed this agreement. We are requesting that you or the appropriate person in your agency sign the attached agreement again.

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- A list of our currently permitted waste streams for storage.

In addition to the above information, Safety-Kleen does participate in the annual Tier II program that provides information on hazardous materials at our site. This may provide additional detail on chemicals we have on the property.

For your convenience we have enclosed a self-addressed envelope for you to return the Memorandum of Agreement in. We also would like to invite you and any other people from you agency to take a tour of the site. If you'd like to us to contact you to make arrangements simply check the box on the agreement and provide a contact phone number.

6334 Supply Way, Boise, ID 83716

208.342.8882 | **Safety-Kleen Systems, Inc.** | A Clean Harbors Company | Safety-Kleen.com

April 30, 2014
Page 2

If you have any questions, please feel free to contact me at (208) 342-8882 or our EHS Manager, Nick Culian, at (530) 363-2632, or by email at nick.culian@safety-kleen.com.

Sincerely,

A handwritten signature in black ink, appearing to read 'Doug Winter', with a stylized flourish at the end.

Doug Winter
Branch General Manager
Safety-Kleen Systems, Inc. – Boise

cc: Nick Culian, EHS Manager



April 30, 2014

Idaho State EMS Communication Center
700 S. Stratford Dr.
Meridian, ID 83642

Re: Safety-Kleen Boise Branch
Permit IDD981770498
Memorandum of Agreement – Contingency Plan

To Whom It May Concern:

Under 40 CFR 264.53, all revisions to a hazardous waste management facility's contingency plan must be provided to state and local emergency response teams that may be called upon to provide emergency services. Safety-Kleen is in the process of renewing its Hazardous Waste Permit at the Boise site. The Idaho Department of Environmental Quality has asked that we renew our Memorandum of Agreements with our listed Emergency Agencies. In 2001 you or someone with your agency signed this agreement. We are requesting that you or the appropriate person in your agency sign the attached agreement again.

To update your files I have included the following emergency documents:

- The most recent copy of our Contingency Plan.
- A current List of Emergency Coordinators.
- A current list of emergency equipment.
- Maps showing the layout of the facility and the location of emergency equipment.
- A list of our currently permitted waste streams for storage.

In addition to the above information, Safety-Kleen does participate in the annual Tier II program that provides information on hazardous materials at our site. This may provide additional detail on chemicals we have on the property.

For your convenience we have enclosed a self-addressed envelope for you to return the Memorandum of Agreement in. We also would like to invite you and any other people from you agency to take a tour of the site. If you'd like to us to contact you to make arrangements simply check the box on the agreement and provide a contact phone number.

6334 Supply Way, Boise, ID 83716

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April 30, 2014
Page 2

If you have any questions, please feel free to contact me at (208) 342-8882 or our EHS Manager, Nick Culian, at (530) 363-2632, or by email at nick.culian@safety-kleen.com.

Sincerely,

A handwritten signature in black ink, appearing to read "DW", with a horizontal line extending to the right.

Doug Winter
Branch General Manager
Safety-Kleen Systems, Inc. – Boise

cc: Nick Culian, EHS Manager

Idaho State EMS Communication Center
700 S. Stratford Dr.
Meridian, ID 83642

Safety-Kleen Systems, Inc.
6334 Supply Way
Boise, ID 83716

Re: Safety-Kleen Systems, Inc. – Boise
EPA ID #: IDD 981770498
Memorandum of Agreement on Contingency Plan

Dear Mr. Winter:

This letter is to acknowledge receipt of your current Contingency Plan and related documents for the Safety-Kleen Boise site. The documents have been reviewed and we will act in accordance with it, should an emergency situation occur.

Sincerely,

Signature

Print Name: _____

Date: _____

_____ I'd like to arrange for a site tour.
The number to call to make arrangements is: _____.

Brent Ho
Division Chief, Special Ops
150 North Capitol, Floor 3
Boise, ID 83702

Safety-Kleen Systems, Inc.
6334 Supply Way
Boise, ID 83716

Re: Safety-Kleen Systems, Inc. – Boise
EPA ID #: IDD 981770498
Memorandum of Agreement on Contingency Plan

Dear Mr. Winter:

This letter is to acknowledge receipt of your current Contingency Plan and related documents for the Safety-Kleen Boise site. The documents have been reviewed and we will act in accordance with it, should an emergency situation occur.

Sincerely,

Signature 
Print Name: Michele Carreras
Date: 5/8/14

_____ I'd like to arrange for a site tour.
The number to call to make arrangements is: _____.

ADA CITY COUNTY EMERGENCY MGMT.
7200 BARRISTER DR.
BOISE ID 83704

~~David Hoewing
Saint Alphonsus Regional Medical Center - Boise
1055 North Curtis Rd.
Boise, ID 83706~~

Safety-Kleen Systems, Inc.
6334 Supply Way
Boise, ID 83716

Re: Safety-Kleen Systems, Inc. – Boise
EPA ID #: IDD 981770498
Memorandum of Agreement on Contingency Plan

Dear Mr. Winter:

This letter is to acknowledge receipt of your current Contingency Plan and related documents for the Safety-Kleen Boise site. The documents have been reviewed and we will act in accordance with it, should an emergency situation occur.

Sincerely,



Signature

Print Name: RAY CARINO

Date: 5/8/14

____ I'd like to arrange for a site tour.
The number to call to make arrangements is: _____.

H2O Environmental
6679 Supply Way
Boise, ID 83716

Safety-Kleen Systems, Inc.
6334 Supply Way
Boise, ID 83716

Re: Safety-Kleen Systems, Inc. – Boise
EPA ID #: IDD 981770498
Memorandum of Agreement on Contingency Plan

Dear Mr. Winter:

This letter is to acknowledge receipt of your current Contingency Plan and related documents for the Safety-Kleen Boise site. The documents have been reviewed and we will act in accordance with it, should an emergency situation occur.

Sincerely,

Signature



Print Name:

Joe Wickender

Date:

5-27-14

____ I'd like to arrange for a site tour.

The number to call to make arrangements is: _____.

Exhibit F-6

PPE Matrix

BRANCH PERSONAL PROTECTIVE EQUIPMENT REQUIREMENTS

WORKPLACE HAZARD ASSESSMENT SUMMARY 2013

TASK							
AQUEOUS BLENDING (MANUAL)	Yes (Np)	Yes		S.T w/M	Goggles	Yes, w/pneumatic	
AQUEOUS SERVICE - COLD	Yes (Np)	Yes		S.T w/M	Yes		
AQUEOUS SERVICE - HEATED	Yes (Np)	Yes		S.T w/M	Yes		
AQUEOUS TEST ANALYSIS	Yes (Nr or Cp)	Yes		S.T w/SR	Yes		
BRAKE CLEANING (ABC)	Yes (Np)	Yes		S.T w/M	Yes		
COOLANT SERVICE	Yes (Np)	Yes		S.T w/M	Yes		
CONTAINERIZED WASTE (CWS)	Yes (Np)	Yes		S.T w/M	Yes		
DRY CLEANER SERVICE	Yes (Np)*	Yes		S.T w/M	Yes		
GUN CLEANERS - UNVENTED	Yes (Np/ Cp)*	Yes		S.T w/M	Yes		APR=HF or FF/Organic vapor
GUN CLEANERS - VENTED	Yes (Np/ Cp)*	Yes		S.T w/M	Yes		
IMAGING SERVICE	Yes (Np)	Yes		S.T w/M	Yes		
IMMERSION CLEANER SERVICE	Yes (Np)	Yes		S.T w/M	Yes		
LIGHT BULB SERVICE	Yes (Np)	Yes		S.T w/M	Yes		
MATERIAL HANDLING	Yes (Cr)	Yes		S.T w/M	Yes		
OIL SERVICE	Yes (PVC or Np)	Yes		S.T w/SR	Yes		
PARTS WASHER SERVICE	Yes (Np)	Yes		S.T w/M	Yes		
RETURN/FILL OPERATIONS	Yes (Np)	Yes	Yes*, w/short sleeves uniform	S.T w/SR	Yes	Yes, w/pneumatic	

BRANCH PERSONAL PROTECTIVE EQUIPMENT REQUIREMENTS

WORKPLACE HAZARD ASSESSMENT SUMMARY 2013

TASK							
RETURN PRODUCT SERVICE	Yes (Np)	Yes		S.T w/M	Yes		Dusk Mask (Voluntary)
SAMPLING - FIELD	Yes (Nr)	Yes	Yes*	S.T w/SR	Yes		APR=FF/ ORG. vapor/acid gas
SPILL RESPONSE (INCIDENTAL)	Yes (Np)	Yes	Yes*	S.T w/SR	Yes		APR=HF or FF/ ORG. vapor/acid gas
TANK TRUCK LOAD/UNLOAD	Yes (PVC or Np)	Yes		S.T w/SR	Yes		
TANK TRUCK TOP SAMPLING	Yes (PVC or Np)	Yes		S.T w/SR	Yes		
VAC SERVICE	Yes (PVC or Np)	Yes		S.T w/SR	Yes	Yes, w/pump on	
VISITOR IN OPS AREAS				Closed toe	Yes		
WWF SERVICE	Yes (Nc)*	Yes		S.T w/SR	Yes		

Service Reps – must have hard Hat and Safety Vest available

GLOVES

Cr = Cut Resistant glove (work glove)
 Np = Supported Neoprene Glove (Outer Glove)
 Cp = Chloroprene (5ml) (Inner Glove)
 PVC = Poly Vinyl Chloride (Insulated option)
 Nc = Nitrile Coated (work glove)

Cr* = Cut Resistant glove (if chemical present – Supported Neoprene)
 Nr = Nitrile (8ml) glove
 (Np)* = discard if show signs of breakthrough (breakthrough = discoloration, swelling, stiffness, etc.)
 PVC = Poly Vinyl Chloride (Insulated option)
 (Nc/Cp)* = discard if show signs of breakthrough (breakthrough = discoloration, swelling, stiffness, etc.)

APRON

Tychem QC apron w/ sleeves* = discard if show signs of breakthrough (breakthrough = discoloration, swelling, stiffness, etc.)

FOOTWEAR

S.T. w/M = Steel Toes with Metatarsal Guard
 S.T. w/SR = Steel Toes with Slip Resistant Soles

RESPIRATOR / CARTRIDGE TYPE

APR = half face (HF) or full face (FF) air purifying respirator (facial hair shall not come in contact with the face piece seal)

Parts Number - Arbill

Gloves - Cr – Leather A179800, Kevlar Shell Nitrile Palm A14240, Kevlar Shell and Leather Palm A17992, Np-SK 612, CP-151433, PVC - A141360, Nc-14056, Nr - 151943. **Respirator/Cartridge Type** – HF-A500603, FF - A505820, Organic Vapor/Acid Gas/HEPA - A500790, Organic Vapor/HEPA - A500780, HEPA - A504195, Dusk Mask - A502098.

Apron – Tychem QC apron w/sleeves – Medium – QC275BYLMD002500, Large – QC275BYLLG002500, Ex. Large – QC275BYLXL002500. **Hard Hat** – 475360-BL27128 - BL6400. **Safety Vest** – A209283. **Goggles** – A303630. **Hearing Protection** – Muffs – A401800, Plugs – A403770.

Parts Number – Century Vallen

Gloves - Cr – Leather GAN30-1-W10EL-C, Kevlar Shell Nitrile Palm EDM 11-500, Kevlar Shell and Leather Palm SUP SKGLPLC-L, Np-SK 612, Cp – GLONPG888-M, PVC-EDM 4-412, Nc-EDM 37-145, Nr-BST 8005PF-L
Respirator/Cartridge Type – HF-3MS 6200, FF-3MS 6800, Organic Vapor/Acid Gas/HEPA-3MS 60923, Organic Vapor/HEPA-3MS 60921, HEPA - 3MS 2096, Dusk Mask - 3MS8511.

Apron – Tychem QC apron w/sleeves - LAK 527. **Hard Hat** – DSI HP542R -02 – SK Logo. **Safety Vest** – NORTV52B4/(SIZE). **Goggles** – UVXS700C. **Hearing Protection** – Muffs – PLT H10A. Plugs – EAR 312 – 1201.

Exhibit F-7

Hotwork Procedure

	Issued By: Health & Safety	Document Control No: HS.00035.T2S-10HS	
	Revised By: Health & Safety	Revision Date: 29-Aug-2013	Revision Number: 02
	Owner: Health & Safety	Review Date: 29-Aug-2013	

Hot Work Permit Standard

<input type="checkbox"/> Controlled Copy	Copy Assigned to: _____ Copy Control #: _____
NOTICE: This document is electronically controlled. Printed copies are deemed uncontrolled, unless otherwise indicated above, and must be verified against the current electronic version prior to use.	

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	Revision Date: 29-Aug-2013	Revision Number: 02
Document Name: Hot Work Permit Standard		

Revision Summary

Section	Revision Detail (Please provide rationale)	Approved By (Name & Title)	Date Revised
Appendix 4	Removed Incineration – Incinerator Only and replaced it with Alternative	Jerry Huber, Director H&S	29-Aug-2013

	Issued By: Health & Safety	Document Control No: HS.00035.T2S-10HS
	Revision Date: 29-Aug-2013	Revision Number: 02
Document Name: Hot Work Permit Standard		

TABLE OF CONTENTS

1.0	PURPOSE	1
2.0	SCOPE	1
3.0	RESPONSIBILITIES	1
3.1	Executive Management	1
3.2	Facility and Field Management	1
3.3	Authorized Persons	2
3.4	Health & Safety	2
4.0	DEFINITIONS	2
5.0	TRAINING PROGRAM	6
5.1	Basic Hot Work Training Program	6
5.2	Authorized Person	7
5.3	Cutting Operations	7
5.4	Welding	7
6.0	HAZARDS	7
7.0	REQUIREMENTS	8
7.1	General Procedures	8
7.1.1	Training	8
7.1.2	Inspection	8
7.1.3	Monitoring	8
7.1.4	Toxic Materials	8
7.1.5	Hot Work On or In Containers	8
7.1.6	Hot Work Permit	8
7.1.7	Safety Meeting	8
7.1.8	Fire Extinguishing Equipment	9
7.1.9	Fire Watches	9
7.1.10	Confined Spaces	9
7.1.11	Lock-Out	9
7.1.12	Post Work Inspection	9
7.2	Alternative Method	9
7.3	Painted Surfaces	10
7.4	Area Preparation	10
7.4.1	Arrangement of Hot Work Areas	10
7.5	Fire Watch	11
7.6	Pre-Work Instructions	12
7.7	Atmospheric Monitoring	13
7.8	Toxic Vapor Monitoring	13
7.9	Hot Work Prohibition	13
7.10	Work Commencement	14
7.10.1	Facilities	14
7.10.2	Field Operations	14

	Issued By: Health & Safety	Document Control No: HS.00035.T2S-10HS
	Revision Date: 29-Aug-2013	Revision Number: 02
Document Name: Hot Work Permit Standard		

7.11	Designated Hot Work Areas	14
7.11.1	Conditions	14
7.11.2	Area Inspection.....	15
7.12	Hot Work In and On Containers/Tanks/Piping/Etc.	15
7.13	Permit Validity	16
7.14	Permit Duration.....	17
7.15	Permit Retention	17
7.16	Permit17	
8.0	RELATED SUPPORT DOCUMENTS	17
8.1	Policies	17
8.2	Standards.....	17
8.3	Standard Operating Procedures & Safe Work Practices	17
8.4	Additional Support Documents	17
	APPENDIX 1: HOT WORK PERMIT GUIDELINES.....	18
	APPENDIX 2: FLAMMABLE & COMBUSTIBLE TANK CUTTING GUIDELINES	20
	APPENDIX 3: HOT WORK PERMIT	22
	APPENDIX 4: ALTERNATIVE HOT WORK PERMIT (FORM CHI 227)	29

	Issued By: Health & Safety	Document Control No: HS.00035.T2S-10HS
	Revision Date: 29-Aug-2013	Revision Number: 02
Document Name: Hot Work Permit Standard		

1.0 PURPOSE

The purpose of this Standard is to prevent fires, explosions, or other incidents, which could be caused through uncontrolled use of heat-producing tools or equipment such as, but not limited to, welding apparatus, cutting torches, brazing torches, chipping hammers, electrical arc producers, grinding tools, etc.

Local municipalities may have in place specific requirements for the issuance of hot work permits from the local fire or building department. Clean Harbors, Inc., and its subsidiaries (hereinafter referred to as "Clean Harbors") Hot Work Permit Standard IN NO WAY supersedes local or state/provincial hot work requirements. All local or state/provincial requirements must be addressed in addition to complying with this Standard. Each location should contact the local fire department to verify any local and/or state/provincial regulations regarding hot work operations.

2.0 SCOPE

Hot work permit procedures shall apply to operations requiring the use of heat-producing tools or equipment at any Clean Harbors' facility or job site. This Standard shall also apply to contractors and subcontractors working at a Clean Harbors' facility or job site.

3.0 RESPONSIBILITIES

3.1 Executive Management

Executive Management shall ensure all Policies and Procedures associated with the Company's Hot Work Permit Standard are in place, monitored, updated as necessary and followed by all employees in the organization.

3.2 Facility and Field Management

- (1) Granting authority to authorized persons to issue Hot Work Permits, in cooperation with Health & Safety;
- (2) Enforcing compliance with the requirements of this Standard;
- (3) Notifying contractors of the requirements of this Standard, and providing them an opportunity to review them;
- (4) Providing equipment and personnel to effectively implement this Standard.
- (5) Informing Health & Safety and/or Compliance Department of pending or scheduled hot work;
- (6) Preparing job site in accordance with instructions contained in this Standard;
- (7) Obtaining hot work permit as indicated in this Standard;
- (8) Assuring compliance with all conditions specified on hot work permit;
- (9) Discussing permit conditions with crew and assuring their understanding of the work and their job assignments prior to start of work. This discussion shall be documented on a Job Safety Briefing Form (JSB).

	Issued By: Health & Safety	Document Control No: HS.00035.T2S-10HS
	Revision Date: 29-Aug-2013	Revision Number: 02
Document Name: Hot Work Permit Standard		

3.3 Authorized Persons

Due to the need for multiple reviews and expeditious handling of Hot Work Permit requests, Health & Safety and Compliance may designate individuals to issue Hot Work Permits. These individuals will be designated as "authorized persons" capable of issuing hot work permits provided that they meet the following criteria:

- (1) Individual must have approval of both Facility/Field G.M. and Health & Safety to perform duties of authorized person. This approval will be given in writing and inserted into the employee's training file.
- (2) Must have attended Hot Work training program (see section 5.0) and successfully passed Hot Work Exam. The training must also address welding safety issues such as completing the permit, setting up fire watches, selecting and wearing correct PPE, proper use of monitoring equipment, etc.
- (3) Must be current (within one year) on training in use of fire extinguishers.
- (4) No safety violations involving hot work operations within the last year.
- (5) Initial certification to issue permits shall be granted provided Items 3.3(1) to 3.3(4) are met. Final approval shall be granted once Health & Safety or an individual authorized by Health & Safety has audited hot work site(s) to ensure that authorized person is competent in the duties assigned. The results of this audit shall be documented and maintained in the employee's training file.

3.4 Health & Safety

- (1) Developing safe hot work procedures;
- (2) Providing guidance to Facilities and Field Services Health & Safety Representatives and Compliance Managers in the interpretation of this Standard and its application.
- (3) Issuing hot work permits in accordance with this Standard;
- (4) Granting authority to authorized person(s) of Facility or Operations to issue Hot Work Permits;
- (5) Advising Operations personnel in proper preparation of work area for hot work;
- (6) Auditing Compliance with permit requirements.
- (7) Health & Safety will review, approve and distribute this Standard and all related Policies to all locations, sites and offices as applicable. Health & Safety will also coordinate all revisions of all Standards and related Policies as required. Lastly, Health & Safety will directly support Policy and Standard implementation and report any exceptions and will provide support to all locations, sites and offices as necessary.

4.0 DEFINITIONS

Adequate Ventilation: Mechanical dissipation and removal of welding/cutting fume or smoke. For significant amounts of continuous welding/cutting, supplemental exhaust (local exhaust ventilation at source of hot work) ventilation may be necessary. **NOTE:** Local exhaust ventilation is required for any cutting (oxygen, chemical flux or iron powder, or gas-shielded arc cutting) on stainless steel.

	Issued By: Health & Safety	Document Control No: HS.00035.T2S-10HS
	Revision Date: 29-Aug-2013	Revision Number: 02
Document Name: Hot Work Permit Standard		

- Combustible Liquid:** Liquids, which as a group exhibit flash points greater than 100 degrees F/ 37.8 degrees C (FLPT > 100°F). Common examples of combustible liquids are 2, 4, and 6 oil, kerosene, and diesel fuel.
- Flammable Liquid:** Liquids, which, exhibit flash points less than 100 degrees F/ 37.8 degrees C (FLPT < 100°F). Common examples of flammable liquids are gasoline, alcohols, mineral spirits (paint thinners) and lacquers.
- Fire-Proof Blanket:** Blanket made of fire-proof (non-ignitable/non-combustible) material such as NOMEX, KEVLAR, or treated wool. In addition to the materials listed above, canvas-welding tarps may also be utilized. These can be used to cover combustible materials to prevent their ignition from sparks/flames/heat from hot work operations. They may also be used to protect equipment or material from damage from sparks/heat if the object being covered is not combustible.
- Hot Work:** Work requiring the use of tools/equipment that may produce temperatures, which could reasonably be expected to ignite a flammable/combustible material or atmosphere in the vicinity of the work. Such tools/equipment may be capable of producing sparks, open flames, heat, or electrical arcs. Common hot work operations include: Welding, cutting, grinding, sawing (metal to metal), or chipping, etc. **HOT WORK IS NOT LIMITED TO CUTTING AND WELDING!**
- Hot Work Permit:** A form which provides conditions that must be satisfied for the safe performance of hot work. It indicates requirements for safety in areas where hot work is not normally performed. The hot work permit identifies: The employee performing the hot work; the location; conditions that must be met before work is started; the results of pre-work inspection; the time that work is completed; and provisions for a post-work inspection. Permits are issued individually for each job and are not valid until all required signatures have been affixed to the permit form. Incineration groups developed an INCIN-ONLY Hot Work Permit specifically for their unique operations. Both forms are found in the appendices. Either form can be used, as appropriate.
- Fire Watch:** Process of observing hot work operations to assure ignition of surrounding material does not occur. Observer will be equipped with a fully charged fire extinguisher of a type and size, which is suitable for the type of fire hazard(s) in the vicinity of the work. The fire watch may not be assigned any other duties if other than a minor fire hazard exists in the area in which the work is to be performed.

	Issued By: Health & Safety	Document Control No: HS.00035.T2S-10HS
	Revision Date: 29-Aug-2013	Revision Number: 02
Document Name: Hot Work Permit Standard		

The number of fire watches will be determined by the location and configuration of the area. It may be necessary to have more than one fire watch on a single job due to the unique nature of the work or the area in which it is performed. An example of such a situation would be when cutting or welding must be performed through or against a wall or floor and the opposite side cannot be viewed from the side where the hot work is being performed.

Auto-Ignition Temperature: (AIT)

The minimum temperature required to initiate or cause self-sustained combustion of any substance in the absence of an ignition source (spark or flame). The most likely low auto-ignition compounds to be encountered are kerosene (AIT 410oF) and mineral spirits (AIT 446oF).

Hazardous Atmosphere:

A location or an adjacent location in which hazardous concentrations of flammable gases or vapors exist continuously, intermittently or periodically, or a location in which volatile flammable liquids or flammable gases are handled, processed, or used. Hazardous locations include locations where flammable vapors or gases exist under normal operations and locations where vapors or gases will normally be confined within closed containers or closed systems from which they can escape only in case of accidental rupture or breakdown of such containers or systems; or in case of abnormal operation of equipment; or abnormal operation of ventilating equipment. Hazardous locations also include locations that are hazardous because of the presence of combustible dusts; or locations that are hazardous because of the presence of easily ignitable fibers or filings.

Classification, Electrical:

The designation given in the National Electrical Code, Article 500 (NEC) which dictates the minimum class of electrical equipment that must be used in a plant area as determined by the atmosphere contaminants (gases, vapors or dusts) which may be present in the area.

Industrial Powered Trucks: (Forklifts)

Fork trucks, tractors, platform lift trucks, motorized hand trucks, and other specialized industrial trucks powered by electric motors or internal combustion engines. Safety requirements relating to fire protection, design, maintenance and use of these powered industrial trucks are specified and regulated by the local or national authority with jurisdiction.

Clean Harbors Supervisor:

The Clean Harbors Supervisor exercises overall ownership of the area, which includes responsibility for controlling all activities in the area. The Clean Harbors Supervisor is responsible for the safe operation of the equipment in their area. This includes shutting the equipment down when repair is necessary, removing process materials, cleaning

	Issued By: Health & Safety	Document Control No: HS.00035.T2S-10HS
	Revision Date: 29-Aug-2013	Revision Number: 02
Document Name: Hot Work Permit Standard		

and isolating the equipment to make it safe for maintenance or other work to proceed.

The primary hot work functions of the Clean Harbors Supervisor are to: evaluate the potential hazards of the hot work; establish the boundaries of the hot work; assure that the equipment and the area has been properly prepared and that the permit conditions have been met; review the potential hazards of the job with the work group using the Job Safety Briefing; and to release the permit to the work group when it is safe to begin hot work. Designated members of Clean Harbors Supervision may approve hot work permits if all of the permit conditions have been met. Each facility will designate the members of Clean Harbors Supervision that may approve hot work permits. Specific functions of Clean Harbors Supervision include:

- Taking combustible gas readings;
- Installing personnel barricades or barrier tape at the perimeter of the hot work job;
- Clearing and isolating equipment;
- Completing and issuing Hot Work Permits and Job Safety Briefings.

Clean Harbors Management: The primary function of Clean Harbors Management is to make sure that permits have been properly completed, to authorize hot work permits, and to ensure the permit conditions are being met during hot work. If special procedures are needed, designated members of Clean Harbors Management must authorize them.

Work Group: A work group is any group which repairs, modifies, or services the facility's equipment. A work group could be the plant's Maintenance Department, or it could be a contractor. In some circumstances, the Clean Harbors Supervisor and the work group may be the same. For example, the Maintenance Department is typically the supervisor over boilers. If a boiler needs to be repaired, the Maintenance Department will typically be the work group. The work group is responsible for safely performing the work as specified in the permit, and for conforming to the requirements of the permit. The work group must request an additional permit before starting any work beyond the work specified in the permit.

Outside Contractors may be considered a work group. However, they usually don't understand the fire hazards within our facilities. A facility employee should always be assigned to directly supervise outside contractor. Contractors should not be allowed to authorize their own hot work permits and should never be allowed to impair

	Issued By: Health & Safety	Document Control No: HS.00035.T2S-10HS
	Revision Date: 29-Aug-2013	Revision Number: 02
Document Name: Hot Work Permit Standard		

**Equipment Inspection,
Clearing and Isolation:**

fixed fire protection equipment without direct authorization from designated plant personnel. Contract welders are responsible to ensure they have the appropriate training and certifications for the work they are to perform.

It is the responsibility of the Clean Harbors Supervisor to prepare equipment for hot work. The equipment must be cleared and isolated prior to beginning hot work. Some key points are as follows:

- The equipment must be shut down following standard operating procedures.
- After shutdown, the equipment must be completely cleared of all flammable and combustible materials. This may involve steaming, washing, or other methods.
- Equipment must be physically isolated from other equipment by using the lock out tag out procedure. The Master Tag Out List (MTOL) number must be listed on the Hot Work Permit. After isolating, locking and tagging the equipment, the testing procedure must be used.
- After the equipment has been cleared, it must be inspected and/or tested for the presence of flammable material. A test for flammable vapor must show 0% LEL. If flammable vapors are present, additional cleaning is required. Using an inert gas blanket to exclude it, or an airflow to dilute possible flammable vapor, may sometimes be desirable for added protection. But, neither technique should be used to compensate for inadequate removal of flammable material.
- If essentially complete removal of a high-hazard material cannot be achieved, a special work plan must be developed and approved by proprietary management.
- Any equipment found to be in an unsafe condition shall not be used until it has been repaired.

5.0 TRAINING PROGRAM

These are the training requirements (components) for personnel involved in Hot Work operations.

5.1 Basic Hot Work Training Program

- (1) Completed hands on fire extinguisher training.
- (2) Completed the following courses: HS2100-OSHA 24 Hr Hazwoper, or HS2000-OSHA 40 Hr Hazwoper.

	Issued By: Health & Safety	Document Control No: HS.00035.T2S-10HS
	Revision Date: 29-Aug-2013	Revision Number: 02
Document Name: Hot Work Permit Standard		

- (3) Completed course: HS1049-Fire Safety / Cold Stress refresher module on fire safety annually.
- (4) Trained and competent with atmospheric testing equipment.
- (5) Complete and pass Hot Work Exam.

5.2 Authorized Person

- (1) Completed training as outlined in the Hot Work Standard Program.
- (2) Completed Hot Work Permit procedure training.
- (3) Obtained written approval from both the Facility General Manager and the Health & Safety Manager to perform the applicable work.

5.3 Cutting Operations

- (1) Completed training as outlined in the Hot Work Standard Program.
- (2) Completed training on cylinder handling.
- (3) Trained on the proper use of the appropriate Personal Protective Equipment (PPE) for the work to be performed.
- (4) Trained on the procedures for equipment inspections, including, but not limited to hoses, gauges and regulators.
- (5) Familiar with the standards as defined by ANSI Z49.1: Safety in Welding and Cutting, or CAN/CSA-W117.2-06: Safety in Welding, Cutting and Applied Processes.

5.4 Welding

- (1) Completed training as outlined in the Hot Work Standard Program.
- (2) Trained on the proper use of the appropriate Personal Protective Equipment (PPE) for the work to be performed.
- (3) Trained on the procedures for equipment inspections, including, but not limited to hoses, gauges, regulators, and cables.
- (4) Familiar with the standards as defined by ANSI Z49.1 - Safety in Welding and Cutting, or CAN/CSA-W117.2-06: Safety in Welding, Cutting and Applied Processes.
- (5) If the welder is required to weld on a structure, e.g. a containment vessel, the welder will be certified to do so.

6.0 HAZARDS

- (1) Fire / Explosions;
- (2) Burns;
- (3) Oxygen deficiencies;
- (4) Hearing loss;
- (5) Hazardous fumes.

	Issued By: Health & Safety	Document Control No: HS.00035.T2S-10HS
	Revision Date: 29-Aug-2013	Revision Number: 02
Document Name: Hot Work Permit Standard		

7.0 REQUIREMENTS

7.1 General Procedures

7.1.1 Training

Personnel (especially those with fire watch responsibility) involved in hot work operations have received training on Hot Work Procedures and use of portable fire extinguishers.

7.1.2 Inspection

An authorized person knowledgeable with Hot Work Permit Procedures and the identification, evaluation and control of fire and explosion hazards shall inspect the work area to identify fire/explosion hazards and specify control measures. Contractors are not authorized to complete or sign hot work permits.

7.1.3 Monitoring

Air monitoring for oxygen, explosive vapors, and/or toxic vapors may be necessary and are mandatory under certain conditions: i.e. work on or around flammable or combustible materials. Specific requirements are listed in this Standard. Health & Safety must be contacted to review certain operations.

7.1.4 Toxic Materials

Area/surface where hot work will be performed shall be tested for the presence of toxic coatings/vapors (i.e. lead paint) prior to the start of that work if their presence is known or suspected.

7.1.5 Hot Work On or In Containers

Hot Work conducted on or in containers or vessels (tanks, piping, etc.) poses additional hazards and safety risks. All such work must first be reviewed and approved by Health & Safety. Specific guidelines, including those for Tank Cutting, are detailed in this Standard.

7.1.6 Hot Work Permit

When all required inspections and tests have been completed, an authorized person shall complete a Hot Work Permit for the operation. The permit shall bear all conditions which must be met for safe work and the signature of the authorized person issuing the permit indicating the work may commence.

7.1.7 Safety Meeting

The condition for safe work contained on the Hot Work Permit shall be discussed in a meeting or meetings with the involved employees, contractors, and subcontractors prior to the start of the operation. The meeting shall be documented along with the names and signatures of those in attendance.

	Issued By: Health & Safety	Document Control No: HS.00035.T2S-10HS
	Revision Date: 29-Aug-2013	Revision Number: 02
Document Name: Hot Work Permit Standard		

7.1.8 Fire Extinguishing Equipment

Portable or fixed fire extinguisher equipment of a type and size consistent with the fire hazard present shall be available; in proper working order, and ready for immediate use during hot work operation.

7.1.9 Fire Watches

Fire watch personnel shall be selected and stationed in accordance with this Standard.

7.1.10 Confined Spaces

Hot work performed within confined spaces shall be subject to the requirements of the Company's Confined Space Entry Standard as they apply to the job being performed.

7.1.11 Lock-Out

Hot work shall be subject to the provisions of the Company Lock-out/Tag-out Program Standard as they apply to the job being performed.

7.1.12 Post Work Inspection

A final inspection of the area in which the hot work was performed shall be conducted 30 minutes after the work has been completed to assure there are no smoldering fires caused by the work.

7.2 Alternative Method

The Supervisor will evaluate and confirm that hot work must be used to accomplish the task.

Before deciding to do a hot work task in an area covered by this Standard, management should consider the following alternatives:

- (1) Avoid the need for hot work in the hazardous area by removing the work to a non-hazardous area.
- (2) Remove flammable sources when practical along with flammable material from all equipment, piping, and tanks in the area.
- (3) Isolate flammable hazards. Safeguard against entry of flammable vapor or liquids into the hot work zone.
- (4) Substitute less hazardous work methods such as bolting (versus welding), or sawing (versus oxy-acetylene cutting.)
- (5) Hot work shall be prohibited in the presence of flammable or explosive atmospheres or in areas where flammable or explosive atmospheres may develop during the hot work. Hot work on equipment that has contained flammable or combustible material can result in fires and/or explosions. Hot work tasks near flammable liquids or gases can also be very hazardous. It is the responsibility of immediate management to inform the work group of the potential hazards associated with the hot work, to make sure that plant equipment and areas have been properly prepared, and to formally approve a hot work permit before

	Issued By: Health & Safety	Document Control No: HS.00035.T2S-10HS
	Revision Date: 29-Aug-2013	Revision Number: 02
Document Name: Hot Work Permit Standard		

allowing hot work to begin. It is also the responsibility of management to ensure that the equipment and area is maintained in a safe condition for the duration of the hot work.

7.3 Painted Surfaces

When hot work is to be performed on painted metals, the paint should be analyzed for the presence of toxic materials. Obtaining paint scrapings from the surface to be worked on and providing them to a laboratory for analysis can accomplish this. Materials of concern are metals such as lead, chromium, and cadmium. Contact the Health & Safety Department for information and guidance regarding this requirement.

7.4 Area Preparation

7.4.1 Arrangement of Hot Work Areas

Hot work areas are to be arranged prior to the request for a permit, as detailed below. Contact local fire department or client for permit or other notification requirements (if required).

- (1) Relocate flammable and combustible materials such as gasoline, paints and thinners, oil paper, rags and other flammable/combustible materials a minimum distance of 35 feet/10 meters from the work.
- (2) Cover combustible material and/or equipment which cannot be relocated with a fire-proof blanket if it could be damaged or ignited from hot work.
NOTE: Blankets cannot be used in lieu of moving objects that can be relocated.
- (3) Remove residual contamination. This may include surface removal of paints or coatings, draining and flushing lines that contain or contained materials, etc. (See Section 7.8 for information on toxic monitoring.)
HOT WORK SHALL NOT BE PERFORMED ON OR IN TANKS, PIPING, VESSELS OR ANY OTHER SURFACE WHERE THERE IS RESIDUAL CONTAMINATION OF ANY KIND, UNTIL HEALTH & SAFETY HAS BEEN CONTACTED AND ADVISED OF THE WORK TO BE PERFORMED.
- (4) Perform visual inspection of the area where the hot work will be done. Floors should be inspected and cleaned, if needed. Trenches, sewers and drains should be checked for the presence of flammable or combustible materials, and flushed, plugged, or covered if needed. Trenches that may allow flammable or combustible material into or through the hot work area may need to be dammed. When running water is used, the Clean Harbors Supervisor shall ensure that contained areas are drained to minimize the potential for electric shock.
- (5) Obtain appropriate fully-charged portable fire extinguisher(s). A minimum of two 4A:60 BC (10 lb.) extinguishers (or one 20 lb. extinguisher) are required. Fire extinguishers shall be selected according to the potential fire hazards in the vicinity of the hot work:
 - (a) Class A - Ordinary combustibles such as wood, paper, rubber, and some plastics;
 - (b) Class B - Flammable/combustible liquids;

	Issued By: Health & Safety	Document Control No: HS.00035.T2S-10HS
	Revision Date: 29-Aug-2013	Revision Number: 02
Document Name: Hot Work Permit Standard		

- (c) Class C - Energized electrical equipment or where a non-conducting extinguishing agent is desired;
- (d) Class D - Special extinguishing agent for combustible metals. (**NOTE:** Contact Health & Safety for guidance selecting fire extinguishers for combustible metal.);
- (e) Extinguishers are rated according to their extinguishing effectiveness:
 - (i) Class A - 4A
 - (ii) Class B - 10B
 - (iii) Class C - C
 - (iv) Class D - Contact Health & Safety Department
 - (v) General 4A:60BC - Minimum
- (6) Stage all compressed gas cylinders at least 35-ft/10 meters away from areas where hot slag or sparks could contact them. Properly secure cylinders to stable fixtures or a cart.
- (7) For elevated hot work, combustible materials should be either relocated a minimum of 50 ft from the hot work area; or properly protected with fire retardant welding blankets; or the hot work operation isolated with welding screens. Suspend fire-resistive welding blankets under hot work conducted near the ceiling. Place noncombustible screens around hot work at the floor to trap sparks. Every elevated hot work operation needs to be evaluated on a case-by-case basis to determine a reasonable safe distance from hot work combustible occupancies or construction. The physical conditions involved may dictate relocation of combustibles beyond 50 ft.
- (8) Any time a combustible dust is processed or handled, a potential for explosion exists. The degree of explosion hazard will vary depending on the type of combustible dust and processing methods used.
- (9) A relatively small initial dust deflagration can disturb and suspend in air dust that has been allowed to accumulate on the horizontal and vertical surfaces of a building or equipment. This dust cloud provides fuels for secondary deflagration, which can cause damage. Combustible dust accumulations should be vacuumed clean prior to hot work being performed. Vacuum cleaners shall be listed for use in Class II Hazardous Locations or shall be listed for use in Class I and Class II Hazardous Locations when flammable vapors or gases are also present.

7.5 Fire Watch

This is the person assigned to provide a look-out/overview of the immediate area where hot work activity is to be carried out. The responsibility of the fire watch is to observe the work area for a fire in its initial stage, to extinguish the fire if one were to start, and to follow the facility fire alarm and notification procedures as indicated in this Standard.

- (1) A minimum of one fire watch will be assigned to each hot work operation. This employee should have received fire extinguisher training within the last year, be

	Issued By: Health & Safety	Document Control No: HS.00035.T2S-10HS
	Revision Date: 29-Aug-2013	Revision Number: 02
Document Name: Hot Work Permit Standard		

familiar with sounding alarms in the event of an emergency, and attended the JSB.

NOTE: An exception to the requirement of having a dedicated fire watch can be made when electrical "hot work" permits are issued. These are instances when non-intrinsically safe approved electrical apparatus, tools, equipment, devices etc. are utilized in areas where intrinsically-safe approved equipment is required. Utilizing non-approved equipment has the potential of possible ignition of a flammable atmosphere. Continuous LEL monitoring of the area is required during instances where electrical "hot work" permits are in effect. The fire watch/monitoring may be discontinued once the possible ignition source is removed from the area.

- (2) The individual responsible for authorizing hot work is required to assign fire watchers.
- (3) Fire watchers may be assigned other duties as long as they are (a) in the area and the duties do not impair the fire watch responsibilities and (b) only a minor fire hazard exists, and (c) they maintain visual contact with the Hot Work activity. If the fire watch leaves the area, the hot work must stop.
- (4) Fire watchers watch for fires in all exposed areas and try to extinguish them only when within the capacity of the equipment available and their training, or otherwise sound the alarm in the event of a fire. They shall stop the hot work if a hazardous condition develops.
- (5) A fire watch shall be maintained for at least a half-hour after completion of hot work (cutting or welding) to detect and extinguish smoldering fires, and sign and complete the time of the last inspection on the permit. There may be other times when additional fire watch is required i.e. elevator shafts, membrane roofs and areas behind a cavity walls. The additional time required will be discussed and agreed upon by the Authorized Person and Health & Safety.
- (6) Additional trained employees are to be assigned to act as a fire watch when conducting "blind side" work. Such work includes burning a hole through a wall or roof. Here it may be necessary to have two fire watches with two fire extinguishers available. Locate one fire watch on each side of obstruction.

7.6 Pre-Work Instructions

Health & Safety, Compliance Manager or Authorized Person will provide additional instruction to the Supervisor and/or crew prior to initiation of hot work.

- (1) Supervisor/foreman or authorized person shall discuss permit conditions with crew.
- (2) Crew shall read and sign permit.
- (3) Copy of permit shall be posted (or immediately available) at the job site.
- (4) The Fire Watch shall remain on job site and continue to monitor atmosphere if required by conditions of permit.
- (5) Fire watch(s) shall remain at job site with a fire extinguisher(s) for 30 minutes following completion of hot work (or a time agreed to by the Authorized Person and Health & Safety). Fire watch shall sign permit indicating that area was free of fire and any evidence of fire following a final inspection of the area.

	Issued By: Health & Safety	Document Control No: HS.00035.T2S-10HS
	Revision Date: 29-Aug-2013	Revision Number: 02
Document Name: Hot Work Permit Standard		

- (6) Permit shall be filed at the facility and be audited by Health & Safety or the Compliance Department when hot work operations have been completed.

7.7 Atmospheric Monitoring

Health & Safety, Compliance, or the authorized person may require atmospheric monitoring if conditions and/or job site warrant the monitoring. Monitoring shall be performed with a properly calibrated instrument capable of monitoring: Oxygen, combustible gas levels; and organic vapors and/or toxic metals, etc. as appropriate. All monitoring results must be recorded on the Hot Work Permit or on a Clean Harbors' Air Monitoring Log. Atmospheric monitoring **MUST BE PERFORMED** prior to and during all hot work when any of the following conditions apply:

NOTE: Monitor prior and during conditions 7.7(1), 7.7(2), & 7.7(3). Monitor only during condition 7.7(4).

- (1) Flammable liquids have been or are stored or used within 35'/10 meters of the location where hot work operations are going to be performed;
- (2) Hot work operation is performed in below grade areas adjacent to or on a downhill slope from, flammable or combustible liquid storage or dispensing areas;
- (3) Hot work will be performed on or in a confined space, vessel, tank, piping or other container;

NOTE: Hot work shall not be performed on, in, or adjacent to vessels, tanks, piping or any other containers which have held flammable/combustible liquids and/or gases until Health & Safety has been contacted and advised of the work to be performed, and given authorization for the work.

- (4) Painted Surfaces.

7.8 Toxic Vapor Monitoring

Monitoring for the presence of metals or decomposition products shall also be performed when their presence is known or anticipated. Conditions requiring such monitoring would include the following:

- (1) Work involving the use, storage, or presence of organic chlorinated and/or other halogenated solvents in or adjacent (within 200 ft.) to the job site;
- (2) Hot work will be performed on painted or coated surfaces found to contain lead or other toxic metals.

7.9 Hot Work Prohibition

Hot work permit **CANNOT** be issued if any of the following conditions exist:

- (1) Oxygen level exceeds 22%.
- (2) Lower explosive limit exceeds 0%.
- (3) Concentrations of organic vapors above 10 PPM are measured within a 35 ft/10 meter radius of the location where the hot work operations will take place. (Ventilation may be used as a control; contact Health & Safety for guidance.)
- (4) Health & Safety Department shall be contacted for guidance if any of the conditions in Section 7.8 are discovered during pre-hot work inspection.

	Issued By: Health & Safety	Document Control No: HS.00035.T2S-10HS
	Revision Date: 29-Aug-2013	Revision Number: 02
Document Name: Hot Work Permit Standard		

(5) See Appendix 2 for Tank Cutting Standards: Oxygen and LEL levels.

7.10 Work Commencement

7.10.1 Facilities

- (1) Supervisor will contact Health & Safety Representative, Compliance Manager, or authorized person upon completion of site preparation as outlined in Section 7.4 of this Standard. Health & Safety, Compliance or authorized person will then inspect the site.
- (2) Health & Safety Representative, Compliance Manager or authorized person will complete the permit and authorize hot work to be performed if all conditions are satisfactory at the time of inspection.

7.10.2 Field Operations

- (1) Supervisor will contact Health & Safety Representative, Compliance Manager or authorized person to discuss hot work to be performed.
- (2) Health & Safety Representative, Compliance Manager or authorized person will complete Hot Work Permit and specify conditions for safe performance of work.
- (3) Supervisor/foreman will assure the area has been prepared in accordance with instructions and will then authorize commencement of work.

7.11 Designated Hot Work Areas

7.11.1 Conditions

Designated areas where hot work may be conducted on a routine basis shall be allowed provided all of the following conditions are met:

- (1) The location chosen is an area where there are no flammable or combustible materials stored within 35'/10 meters.
- (2) Welding shields are used to protect employees not involved in the hot work operation from sparks and from viewing harmful light rays from any angle.
- (3) The area must have adequate ventilation.

NOTE: Local exhaust ventilation is required for any cutting (oxygen, chemical flux or iron powder, or gas-shielded arc cutting) on stainless steel.
- (4) There must be a minimum of two (2) fire extinguishers rated 4A:60BC (10 lb. multi-purpose) permanently located within the area. One extinguisher shall be located in the immediate vicinity of the designated area; the other extinguisher must be within a 50'/15 meters travel distance of the designated area.
- (5) Approval has been granted by the Health & Safety and local fire department or state fire marshal if required.

	Issued By: Health & Safety	Document Control No: HS.00035.T2S-10HS
	Revision Date: 29-Aug-2013	Revision Number: 02
Document Name: Hot Work Permit Standard		

7.11.2 Area Inspection

- (1) Once all of the conditions in Section 7.11.1 have been met, the Compliance Manager, Health & Safety Representative or authorized person must be contacted to inspect the area.
- (2) Once the inspection is completed and all required conditions have been met, then a blanket permit may be issued. This permit shall be good for a period of one year. It shall be the responsibility of the area supervisor to ensure that the permit is current. If an area has been issued a blanket permit, there is no need to obtain a hot work permit before each hot work operation in this area.

***** One copy of this permit shall remain in the approved area in a protective covering (i.e., laminating or a plastic sleeve); a second copy of the permit shall be placed in a hot work file at the facility. Any changes in status or conditions shall render the blanket permit invalid. Compliance, Health & Safety or the authorized person must be contacted for further guidance.**

7.12 Hot Work In and On Containers/Tanks/Piping/Etc.

Hot work operations that must be performed in or on containers such as tanks, tankers, pipes, drums, etc MUST BE REVIEWED WITH HEALTH & SAFETY PRIOR TO THE COMMENCEMENT OF THE HOT WORK OPERATION. The following information must be obtained in order to properly evaluate the hazards:

- (1) Scope of work to be performed (i.e., welding, oxyacetylene cutting, grinding, etc.).
- (2) Size of vessel.
- (3) Previous contents of tank, pipes or container (sampling and analytical testing may be required to properly evaluate contents).
- (4) Methods used or to be used to clean vessel (See Cleaning Procedures Appendix 2).
- (5) Contents of any vessels or processes within 50 ft/15 meters of hot work or in some way connected to vessel through piping or other means.
- (6) Type of metal on which the hot work is to be conducted.
- (7) Any coatings (See sections 7.3 and 7.4).
- (8) Are other safer methods available to achieve same or similar results (threaded or bolted vs. welded, nibbler, pneumatic sawzall vs. torch cutting etc.).
- (9) The following precautions shall be taken before and during the operation:
 - (a) Hot work in or on tanks must be accomplished following the standards listed in Appendix 2 of this document.

NOTE: No entry will be made into any tank or vessel that contains an inert atmosphere.

- (b) Vessel shall not be cleaned with cleaners/solvents that will increase hazards to the operation (i.e., chlorinated or flammable solvents).
- (c) Methods to remove residues include, but are not limited to: steam cleaning, pressure washing, scraping, etc.

	Issued By: Health & Safety	Document Control No: HS.00035.T2S-10HS
	Revision Date: 29-Aug-2013	Revision Number: 02
Document Name: Hot Work Permit Standard		

- (d) All pipelines and ducts where hot work is to be conducted, which are connected to a vessel, shall be disconnected and blocked (See Lock-out/Tag-out Standard).
- (e) Clean Harbors Confined Space Entry Standard shall be followed.
- (f) Local ventilation shall be used for each hot work operation in a space and shall be sufficient to prevent toxic or flammable vapor accumulation.
- (g) Toxic and flammable air monitoring shall be conducted continuously. Monitoring for potential by-products of combustion shall be included in monitoring strategy.
- (h) Entrants conducting hot work shall be protected from sparks and flame. Welding coveralls or other suitable flame/spark resistant clothing shall be worn to prevent burns.
- (i) Electrodes shall be removed from holders and disconnected from power source when work has stopped for breaks or at the end of workday. Electrodes or leads shall be inspected daily for damage to leader. Any leads found to have damage to insulation or connectors shall be tagged out of service and replaced.
- (j) Torches shall be equipped with shut-off valves inside and outside the space. Both valves shall be turned off when not in use. Hoses shall be inspected daily for potential leaks of oxygen or acetylene. A soap solution shall be utilized to test any area that, upon visual inspection, is suspected of leaking. Torches and hoses shall be removed from the space when not in use. ****DO NOT UTILIZE ANY OPEN FLAME OR HEAT PRODUCING DEVICE TO TEST FOR THE PRESENCE OF OXYGEN LEAKS.**
- (k) Compressed gas cylinders shall be properly secured outside the space. Wheeled cylinder holders shall be secured to prevent movement. Never bring compressed gas cylinders inside a confined space. Cylinders shall be positively closed and torches removed from space any time work stops in the space for breaks or at the end of the day.
- (l) After hot work activities are complete, the hot metal area shall be marked or other means shall be provided to warn workers of the potential burn hazard that is present.
- (m) Attendant for confined space entries shall be equipped with appropriate filtered eye shields during welding operations.
- (n) Brazing (welding) filler materials shall be evaluated for fluorine's, lead, cadmium, beryllium and other hazardous substances. Appropriate monitoring, engineering controls and training shall be conducted as directed by Health & Safety.

7.13 Permit Validity

Hot work permits are not valid until all necessary inspections and tests have been performed and the required signatures have been affixed.

	Issued By: Health & Safety	Document Control No: HS.00035.T2S-10HS
	Revision Date: 29-Aug-2013	Revision Number: 02
Document Name: Hot Work Permit Standard		

7.14 Permit Duration

Hot work permits shall be valid for the shortest of the following durations: shift; duration of hot work; changes in LEL/O₂, toxic, etc. levels from those initially obtained during monitoring.

7.15 Permit Retention

Completed permits shall be kept on file at the service center or facility for a period of one year.

7.16 Permit

A copy of the permit is attached as Appendix 3.

8.0 RELATED SUPPORT DOCUMENTS

8.1 Policies

None

8.2 Standards

Lock-out/Tag-out Standard
 Fire Protection Standard
 Flammable & Combustible Tank Vehicle Cutting Standard

8.3 Standard Operating Procedures & Safe Work Practices

Portable Arc Welders (OPR.00006.SWP-98WU)
 Welding Cutting and Burning (OPR.00005.SWP-98WU)

8.4 Additional Support Documents

Hot Work Permit
 Incineration - Incinerator Only Hot Work Permit (Form CHI 227)

Review of Policy completed by:

Doug Smith
 Lead Editor (Name & Signature)

07-12-11
 Date

David Blackburn
 Associate Editor (Name & Signature)

07.25.11
 Date

	Issued By: Health & Safety	Document Control No: HS.00035.T2S-10HS
	Revision Date: 29-Aug-2013	Revision Number: 02
Document Name: Hot Work Permit Standard		

APPENDIX 1: Hot Work Permit Guidelines

PROGRAM INTRODUCTION

The following guidelines are to be used for the control of hot work at Clean Harbors, Inc. facilities or Field Service job sites. The procedure and program are intended to be general in nature and may not address a specific situation encountered. Please contact the Health & Safety Department for advice when unusual situations develop.

Many local municipalities have in place specific requirements for the issuance of hot work permits from the local fire or building department. The Clean Harbors Hot Work Permit Standard IN NO WAY supersedes local, state, or provincial requirements for performing hot work. All local, state or provincial requirements that may be in place regarding hot work must be addressed, in addition to complying with this Standard. Each location should contact the local fire department to verify any local and/or state regulations regarding hot work operations. Additionally, certain clients or facilities may also have specific hot work permit requirements, which must be followed for work at their sites. Contact the Health & Safety Department for guidance should there be conflicts between requirements.

1.0 GUIDELINE SUMMARY

- (1) Designate those persons at each Facility or Branch who shall be authorized to issue Hot Work Permits (See Section 3.2 & 3.4 of the Hot Work Permit Standard).
- (2) Instruct all employees that Hot Work cannot be performed without a valid Hot Work Permit (See Definition of Hot Work Permit contained in Section 4.0 of the Hot Work Permit Standard).
- (3) When it has been determined that hot work is necessary, these general steps apply: (Refer to full program for complete guidance.)

2.0 FACILITIES

- (1) Supervisor or individual performing hot work prepares the work area in accordance with Standard requirements (See Sections 7.3 and 7.4 of the Standard), and notifies Authorized person.
- (2) Authorized person inspects designated work area, completes permit, and authorizes work, provided all acceptable conditions are met.
- (3) Supervisor or individual conducting hot work, reviews permit with all crew members, posts permit in area, ensures conditions have not changed, and work is conducted.
- (4) Stop job in sufficient time to allow 30 minute cool down period and final inspection of work area before departure from area (See Section 7.6(5) of the Standard).
- (5) Final inspection of area made 30 minutes after completion of the hot work (See Section 7.6(5) of the Standard).
- (6) Permit is signed by person performing final inspection indicating that area was free of fire and evidence of fire following completion of work (See Section 7.6(5) of the Standard).
- (7) Permit is placed in file and maintained for period of one year.

3.0 FIELD SERVICE OPERATIONS

- (1) Supervisor/foreman reviews work to be performed with Health & Safety or Authorized Person (See Section 7.10.1(1) of the Standard).
- (2) Health & Safety or Authorized Person completes Hot Work Permit.

	Issued By: Health & Safety	Document Control No: HS.00035.T2S-10HS
	Revision Date: 29-Aug-2013	Revision Number: 02
Document Name: Hot Work Permit Standard		

- (3) Supervisor/foreman inspects work area, ensures all necessary conditions are met, reviews permit with work crew, and authorizes and signs permit, along with each crewmember.
- (4) Permit is posted and work conducted.
- (5) Stop job in sufficient time to allow for 30 minute cool down period and final inspection of work area before departure from area (See Section 7.6(5) of the Standard).
- (6) Final inspection of area made 30 minutes after completion of hot work (See 7.6(5) of the Standard).
- (7) Permit is returned to Health & Safety and placed in file and maintained for period of one year.
- (8) Permit is signed by person performing final inspection indicating that the area was free of fire and evidence of fire following completion of work (See 7.6(5) of the Standard).

4.0 SPECIAL CONDITIONS

- (1) **Coatings:** Coatings should be tested before hot work to determine whether they contain hazardous materials. However, this may not always be possible. When a painted surface cannot be determined to be free of hazardous materials, they must be assumed to contain them and employees must be protected accordingly. Coatings must be stripped back to provide an uncoated surface prior to performing hot work. The coating should be removed a distance of 4" on both sides of the area where the hot work is to take place. It may be necessary to utilize engineering controls, PPE and perform exposure monitoring. **HOT WORK SHALL NOT BE PERFORMED ON OR IN TANKS, PIPING, VESSELS OR ANY OTHER SURFACE WHERE THERE IS RESIDUAL CONTAMINATION OF ANY KIND, UNTIL HEALTH & SAFETY HAS BEEN CONTACTED AND ADVISED OF THE WORK TO BE PERFORMED.**
- (2) **Organic Vapors:** When organic vapors are present, or are suspected to be present, air monitoring must be performed before hot work commences to evaluate the potential for generation of hazardous decomposition products. If organic monitoring indicates levels of 10 PPM or greater within a 35 ft/10 meters radius of the area where the hot work is going to be conducted, Health & Safety must be contacted to approve the hot work activity.
- (3) Keep all chlorinated solvents at least 200 ft/65 meters away from hot work. Additionally any surfaces that have been cleaned with a chlorinated solvent must be thoroughly dry prior to performing any hot work on that surface.

	Issued By: Health & Safety	Document Control No: HS.00035.T2S-10HS
	Revision Date: 29-Aug-2013	Revision Number: 02
Document Name: Hot Work Permit Standard		

APPENDIX 2: Flammable & Combustible Tank Cutting Guidelines

1.0 Flammable Tank Cutting Standards (Flash Point less than 100°F/37.8°C)

- (1) Clean - (Water Wash).
- (2) Vent (to 0% LEL).
- (3) Inert (Dry ice [or other inert gas with Health & Safety approval] to less than 8% Oxygen).
- (4) Cut into the tank starter holes and full cuts with pneumatic equipment only cooled with water.

2.0 Combustible Tank Cutting Standards (Flash Point greater than 100°F/37.8°C)

- (1) Entry possible. For tanks last containing fuel oil (K-1,#2,4,6) that can be entered, may be cut using a torch, carbide blade (cut-off saw), reciprocating saw (sawzall), etc. provided all of the following criteria are met:
 - (a) Entered through an existing opening and cleaned of residual product and sludges;
 - (b) The tank is vented with an appropriate air-driven coppus blower or equivalent;
 - (c) Periodic monitoring is conducted (every five [5] minutes) of the tank atmosphere and the surrounding area. Record all data, readings, etc.)
 - (d) LEL readings remain at 0%.
- (2) Entry not possible. For tanks last containing fuel oil (K-1#2,4,6) and which CANNOT BE ENTERED FOR CLEANING may be cut using an electric reciprocating saw (sawzall) (protected with a GFCI) (or pneumatic reciprocating saw) (sawzall) provided all of the following criteria are met:
 - (a) All free (pumpable) product is removed.
 - (b) Initial air monitoring of the interior of the atmosphere of the tank indicates LEL% level or 0%.

******NOTE**** If initial LEL% readings are higher than 0% the tank must first be vented to 0% LEL before any cutting may take place.**
 - (c) The tank is vented with an appropriate air-driven coppus blower or equivalent.
 - (d) Periodic monitoring is conducted (every five [5] minutes) of the tank atmosphere and the surrounding area (Record all data, readings, etc.).
 - (e) LEL readings remain at 0%.
 - (f) Upon cutting access to the tank, following note below (*cutting*), standard confined space entry procedures should be implemented for cleaning operations. If additional cutting of the tank is required (i.e., for scrap dealer) **AND** the conditions in_(Combustible **(A)** Entry Possible) above are met, then a torch may be utilized at that time. End plates may then be cut.

NOTES: *Flammables

Waste Oil: Due to the potential of containing "flammable" material, tanks containing waste oil should be treated as last containing flammables.

Previous Contents: If the previous content of the tank was a flammable material, the tank should be considered a FLAMMABLE tank under this Standard. Exceptions to the requirements under FLAMMABLE MATERIALS will be evaluated by Health & Safety on a case-by-case basis.

	Issued By: Health & Safety	Document Control No: HS.00035.T2S-10HS
	Revision Date: 29-Aug-2013	Revision Number: 02
Document Name: Hot Work Permit Standard		

Cutting: Due to tank weak points, cutting should be performed on the body of the tank (cylindrical portion) and NOT THE END (PLATES). If local regulations require the tank to be rendered "unusable" by having holes cut in the end plates, these cuts should only be made after entry and cleaning.

	Issued By: Health & Safety	Document Control No: HS.00035.T2S-10HS
	Revision Date: 29-Aug-2013	Revision Number: 02
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APPENDIX 3: Hot Work Permit

HAZARDOUS WORK PERMIT			
<input type="checkbox"/> HAZARDOUS WORK <input type="checkbox"/> HOT WORK <input type="checkbox"/> LINE/EQUIP OPENING <input type="checkbox"/> LOCKOUT/TAGOUT (Check all the Apply)			
Permit authorization and permit termination for each type of permit must be completed on the last page of this permit			
DATE:	EXPIRES:	START TIME:	COMPLETION TIME:
CLIENT:	CLIENT CONTACT:	CLIENT PHONE #:	DIG SAFE #:
CLEAN HARBORS JOB #:		CLEAN HARBORS LOCATION:	
CLEAN HARBORS PHONE #:		HEALTH & SAFETY REPRESENTATIVE:	
JOB LOCATION:			
SCOPE OF WORK			
Task 1:		Task 4:	
Task 2:		Task 5:	
Task 3:		Task 6:	
SPECIAL CONDITIONS:			
EMERGENCY TELEPHONE NUMBERS:			
Fire:	Police:	Ambulance/Rescue:	
EMERGENCY ASSEMBLY AREA:			
PRIMARY:		SECONDARY:	
HOSPITAL NAME & LOCATION:			
HAZARD IDENTIFICATION			
(Circle Task Number)		(List Specific Substances in Air Monitoring Section)	
CHEMICAL BIOLOGICAL:			
^{1 2 3} / _{4 5 6} Toxic	^{1 2 3} / _{4 5 6} Corrosive	^{1 2 3} / _{4 5 6} Flammable	^{1 2 3} / _{4 5 6} Combustible ^{1 2 3} / _{4 5 6} Reactive
^{1 2 3} / _{4 5 6} Shock Sensitive	^{1 2 3} / _{4 5 6} Path Waste	^{1 2 3} / _{4 5 6} Oxygen Deficiency	
PHYSICAL			
^{1 2 3} / _{4 5 6} Abrasive Blasting	^{1 2 3} / _{4 5 6} Extreme Cold/Heat	^{1 2 3} / _{4 5 6} Lighting	^{1 2 3} / _{4 5 6} Sharp Objects
^{1 2 3} / _{4 5 6} Underground Utilities			
^{1 2 3} / _{4 5 6} Drum Sumps	^{1 2 3} / _{4 5 6} Floor Holes	^{1 2 3} / _{4 5 6} Live Electrical Circuits	^{1 2 3} / _{4 5 6} Slips/Trips/Falls
^{1 2 3} / _{4 5 6} Vactor/Cusco			
^{1 2 3} / _{4 5 6} Drilling In Soil	^{1 2 3} / _{4 5 6} Hot Work	^{1 2 3} / _{4 5 6} Manlifts/Highlifts	^{1 2 3} / _{4 5 6} Soil Excavation
^{1 2 3} / _{4 5 6} Vehicle Traffic			
^{1 2 3} / _{4 5 6} Drum Handling	^{1 2 3} / _{4 5 6} Hotsy	^{1 2 3} / _{4 5 6} Noise	^{1 2 3} / _{4 5 6} Tank Excavation ^{1 2 3} / _{4 5 6} Waterblaster



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Hot Work Permit Standard

- General/Local ventilation must be adequate to provide control of smoke, fumes or toxic vapors.
- Flammable liquids/combustible materials within 35 feet must be moved or protected with covers, guards, or metal shields if not removable.
- No open-container work (sampling, pumping, or consolidating of flammable/combustible liquids) within 50 feet.
- Use fire blankets to secure all openings, cracks, and holes where sparks may migrate to potential fire hazards.
- Atmospheric monitoring conducted. (Document in Air Monitoring section)
- Evaluate any product pipelines in the area for potential fire hazards.
- Remove all paint coatings and residual contamination from the surface and clean down to the bare metal or similar.
- Combustible floor wetted down, covered with damp sand, or shielded.
- Signs and barriers posted (if publicly accessible).
- Welding curtains used where applicable
- Type ABC fire extinguisher required Number: Size:

FIRE WATCH:

- Required (Present for duration of work and for 30 minutes after the operation)
- Supplied with fire extinguisher/hose
- Trained in use of equipment and alarms

CONTACT HEALTH & SAFETY FOR APPROVAL PRIOR TO PERFORMING HOT WORK ON ENCLOSED EQUIPMENT/SYSTEMS

- Containers must be cleaned of all combustibles/flammables.
- Containers/product lines must be drained and purged of vapors with water and/or inert gas.

LOCKOUT/TAGOUT

DIAGRAM OF SYSTEM (OPTIONAL)

DESCRIPTION OF WORK TO BE PERFORMED:

METHOD TO VERIFY ISOLATION:

LOCKBOX EQUIPMENT TO BE USED:

- YES NO

(All isolating devices, blinds, locks, etc., must be identified and have a tag attached and listed on this form.)

HAZARDOUS ENERGY SOURCES PRESENT:

- | | |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| <input type="checkbox"/> Mechanical Energy (i.e. moving parts) | <input type="checkbox"/> Pneumatic Energy (i.e. air or nitrogen driven) |
| <input type="checkbox"/> Electrical Energy (i.e. plugged in or battery) | <input type="checkbox"/> Thermal Energy (i.e. steam or frost) |
| <input type="checkbox"/> Chemical Reaction Energy (i.e. exothermic or endothermic) | <input type="checkbox"/> Hydraulic Energy (i.e. water, oil, or other fluids) |
| <input type="checkbox"/> Residual or stored energy may be present | <input type="checkbox"/> Potential energy may be present |
| <input type="checkbox"/> Material is conductive and may retain a charge | <input type="checkbox"/> System may retain pressure |
| <input type="checkbox"/> Explosion hazard | <input type="checkbox"/> Gravity flow hazard may exist |



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HS.00035.T2S-10HS

Revision Date:
29-Aug-2013

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02

Document Name:
Hot Work Permit Standard

ADDITIONAL COMMENTS:

PERMIT AUTHORIZATION

AFFECTED PERSONNEL/CLEAN HARBORS CREW

PRINT NAME	SIGN	PRINT NAME	SIGN

HAZARDOUS WORK AUTHORIZATION TO PROCEED:

SUPERVISOR'S SIGNATURE:

LINE OPENING AUTHORIZATION TO PROCEED:

SUPERVISOR'S SIGNATURE:

HOT WORK AUTHORIZATION TO PROCEED:

SUPERVISOR'S SIGNATURE:

LO/TO AUTHORIZATION TO PROCEED:

SUPERVISOR'S SIGNATURE:

SUPERVISOR'S COMMENTS/MINUTES OF SAFETY MEETING:

HEALTH & SAFETY COMMENTS:

SUPERVISOR (PRINT & SIGN):

DATE:

HEALTH & SAFETY (PRINT & SIGN):

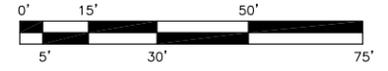
DATE:

	Issued By: Health & Safety	Document Control No: HS.00035.T2S-10HS
	Revision Date: 29-Aug-2013	Revision Number: 02
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PERMIT TERMINATION			
Haz. Work Termination	Line Opening Termination	Hot Work Termination	LO/TO Termination
<input type="checkbox"/> Decontamination of personnel and equipment is complete. <input type="checkbox"/> All waste is labeled and staged for proper disposal. <input type="checkbox"/> All postings/notifications removed. <input type="checkbox"/> Work completed and accepted.	<input type="checkbox"/> Work completed and accepted.	<input type="checkbox"/> The work area and all adjacent areas to which sparks and heat may have spread (including floors above and below and on opposite sides of walls) were inspected 30 minutes after the work was completed and were found fire safe. <input type="checkbox"/> All fire systems are re-activated. <input type="checkbox"/> Work completed and accepted.	<input type="checkbox"/> All Lock-out and Tag-out Devices have been removed. <input type="checkbox"/> Verified that equipment is back to normal operating conditions. <input type="checkbox"/> All affected personnel notified that system is back in service. <input type="checkbox"/> Work completed and accepted. <input type="checkbox"/> Client signature obtained for release to restore energy.
DATE:	DATE:	DATE:	DATE:
TIME:	TIME:	TIME:	TIME:
SIGNATURE:	SIGNATURE:	SIGNATURE:	SIGNATURE:
CLIENT CONTACT (PRINT/SIGN) (IF AVAILABLE):		DATE:	TIME:
IN THE EVENT OF AN EMERGENCY EVACUATION, ALL PERMITS ARE CANCELLED.			

Exhibit F-8

Facility Plan with 50-Foot Setback



GENERAL NOTES

- PROPERTY LINE
- FENCE LINE
- ELECTRICAL LINE
- PNEUMATIC LINE
- SS --- SANITARY SEWER LINE
- 50' SETBACK
- PRESSURE SEWER LINE
- CONTAINMENT POND DISCHARGE LINE
- R/W --- RIGHT OF WAY
- ▲ FIRE HYDRANT
- HAZARDOUS WASTE TANK
- PROPERTY CORNER

TANK LEGEND

TANK NO.	TANK VOLUME	TANK CONTENTS	REMARKS
1	12,000 USG	USED MINERAL SPIRITS	10'-6" F&D BOTTOM TANK
2	12,000 USG	OUT OF SERVICE	10'-6" F&D BOTTOM TANK FORMER 105 CMS TANK
3	12,000 USG	CLEAN 150' MINERAL SPIRITS	10'-6" F&D BOTTOM TANK

REVISIONS

NO.	DESCRIPTION	BY	CHK	APPR	DATE
A	RELEASED TO WEY FOR REVIEW	MBH	KJM	WEY	053196
B	ADDED LANDSCAPING	MBH	KJM	WEY	053196
C	REVISED FOR PERMIT	JEK	NC	NC	012813

PROPRIETARY STATEMENT

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TITLE
EXISTING SITE /FACILITY LAYOUT PLAN

SAFETY-KLEEN SYSTEMS, INC.
2600 N. CENT. EXPRESSWAY STE. 400 RICHARDSON, TX. 75080
PHONE 800-669-5740

SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE
1"=20'-0"	JKM				05-31-96
SERVICE CENTER LOCATION			SC-DWG NUMBER	REV. NO.	
BOISE, ID			7114-SP00-001	C	

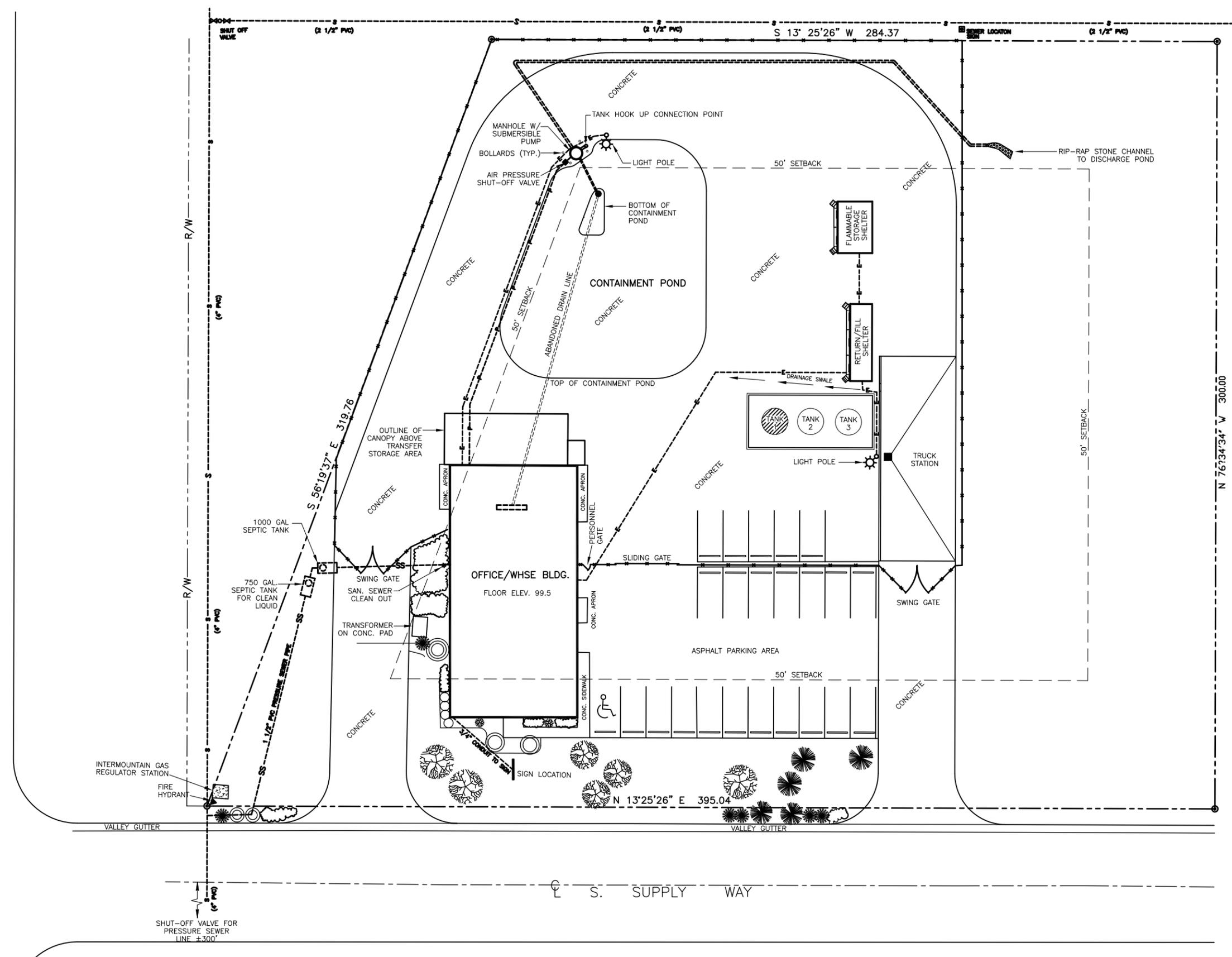


Exhibit F-8

Exhibit F-9

Routine Industrial Hygiene Sampling



To: Corporate IH File

From: Chris Bachman

Date: 4/22/05

Re: Routine Branch IH sampling event

On January 11th, 13th and January 18th, 2005 Safety-Kleen was provided with professional IH monitoring services through AIG Insurance. The objective of the surveys was to monitor (1) CSRs for solvent exposure during parts washer services, unvented gun cleaners, dry cleaning services and (2) monitor Material Handlers for solvent and noise exposure during dump/fill operations.

All results were below 50% of the applicable OSHA and ACGIH values except for the Short Term (STEL) sample for Toluene (67% of OSHA Ceiling) during the unvented gun cleaner service and the ACGIH 80-db average for Noise (88.0 db). Results will not effect the current branch PPE hazard assessments (9/2004) for servicing unvented gun cleaners, parts washers and dump/fill operations (while using pneumatic gun).

Sound Level Measurements for Dumping and Filling Operation January 18, 2005

Location	Sound Level (dBA)*
Moving drums with forklift onto rack	87.5
Drums banging on floor	91.4 – 98.3
Two drums banging together	92.4
Metal lids thrown into drums	103.5
Unscrewing nut on drum with pneumatic drill	103 – 105.8
Using pneumatic drills	95.3 – 102.2
Drum rolling in washer without spray	82
Drum rolling in washer with solvent spray	95
Scraping labels off of drums	78 to 81

Bolded results indicate sound level readings above the OSHA action level and/or PEL

**Noise Monitoring Results for Dumping and Filling Operation
January 18, 2005**

Employee/ Location	Time (hh:mm) On/Off	Dose ^a , % 80-db Threshold	Lavg ^b , dBA 80-db Threshold	Dose ^a , % 90-db Threshold	Lavg ^b , dBA 90-db Threshold	ACGIH Dose ^a , % 80-db Threshold	ACGIH Lavg ^b , dBA 80-db Threshold
Material Handler	3:31 (9:46 – 1:18)	22.08	85.1	11.61	80.4	86.75	88.0
			OSHA AL= 85 dBA		OSHA PEL= 90 dBA		ACGIH TLV [®] = 85 dBA

Bolded results indicate above the OSHA action level / ACGIH TLV

Field Service Short-Term (STEL) Sampling Solvent Results (1/13/05)

Employee	Time (min)* (Start/Stop)	Sample No.	Analyte	Result (ppm)	OSHA PEL Ceiling/STEL (ppm)	ACGIH TLV [®] Ceiling/STEL (ppm)
CSR - <i>Servicing unvented gun cleaner.</i>	10 (9:24 –9:35)	13-3T	Acetone	46	NE	750
		13-4M	Toluene	200	300 C	NE
			Methanol	21	NE	250

Bolded results indicate above the OSHA action level / Ceiling Limit

Time-Weighted Average Sampling (1/11/05)

Employee	Sample No.	Time (min)* (Start/Stop)	Analyte	Result (ppm)	OSHA PEL (ppm)	ACGIH TLV [®] (ppm)
CSR <i>Servicing Parts Cleaner that uses 150 Gold</i>	A-1	286 (8:57 – 3:41)	Total Hydrocarbons (as Stoddard solvent) ^a	≤ 2.4	500	100
			Tetrachloroethylene	0.13	100	25
			1,1,1- Trichloroethane	< 0.09	350	350

Short-Term (STEL) Sampling Solvent Results (1/11/05)

Employee	Sample No.	Time (min)* (Start/Stop)	Analyte	Result (ppm)	OSHA PEL Ceiling/STEL (ppm)	ACGIH TLV® Ceiling/STEL (ppm)
CSR- <i>Servicing Model 81 Agitating Parts Cleaner that uses 150 Gold.</i>	S-1	32 (10:05 – 10:37)	Total Hydrocarbons (as Stoddard solvent) ^a Tetrachloroethylene	2.4 < 0.1	NE 200 C	NE 100
CSR <i>Servicing Parts Cleaner that uses 150 Gold.</i>	S-2	23 (11:09 – 11:32)	Total Hydrocarbons (as Stoddard solvent) ^a Tetrachloroethylene	≤ 2.4 < 0.2	NE 200 C	NE 100
CSR- <i>Removing 2 sealed perc containers from dry cleaning store</i>	S-3	10 (1:43 – 1:53)	Tetrachloroethylene 1,1,1-Trichloroethane	< 0.4 < 0.5	200 C NE	100 450
CSR- <i>Removing 2 perc containers from dry cleaning store. One container not sealed properly.</i>	S-4	13 (2:40 – 2:53)	Tetrachloroethylene 1,1,1-Trichloroethane	3.7 < 0.4	200 C NE	100 450

Table IV: Dumping and Filling Time-Weighted Average Sampling (1/18/05)

Employee	Time (min)* (Start/Stop)	Sample No.	Analyte	Result (ppm)	OSHA PEL (ppm)	ACGIH TLV® (ppm)
George Huggins <i>Dumped about fifteen 30-gallon drums of 150 solvent and nine 16-gallon drums of 105 solvent; cleaned a filter and worked with a mechanic.</i>	175 (9:38 – 12:34)	18-1	Total Hydrocarbons (as Stoddard solvent) ^a	1.7	500	100
			Tetrachloroethylene	0.20	100	25