

Approved by:		
	General Manager	Radiation Safety Officer

STANDARD OPERATING PROCEDURE

15.OPS.18

DECONTAMINATION OF SURFACES AND EQUIPMENT

1.0 OBJECTIVE

Provide instruction in techniques for removing radioactive contamination from surfaces or equipment following routine use and spills.

2.0 SCOPE

This standard operating procedure (SOP) applies to decontamination of surfaces and equipment following routine use and spills and is intended to be used in conjunction with other CHDT and Clean Harbors procedures.

3.0 POLICY

Decontamination of surfaces and equipment is required to prevent the spread of radioactive contamination, and to maintain worker and public exposures as low as reasonably achievable (ALARA).

4.0 RESPONSIBILITIES

Responsibilities of the CHDT Radiation Safety Officer (RSO), management, and staff are defined in the CHDT Radiation Protection Plan (SOP 15.RPP.01).

5.0 PROCEDURE

5.1 Decontamination Following Spills

Decontamination following spills should be supported and verified by radiological surveys conducted per SOP 15.OPS.14, *Spill Surveys*.

5.1.1 Liquid Spills

A liquid spill must be addressed immediately to stop the flow of liquid. Towels, absorbent material (such as Speedi-Dry), or dams should be used to contain the liquid. Using appropriate personal protective equipment (PPE), mop and dry the liquid, placing the spent material into an appropriate container. If necessary, the liquid may be vacuumed using equipment appropriate to do so.

If the spilled liquid has penetrated into soils or other surfaces, additional removals may be required to remediate the area. Specific requirements for more involved decontamination or remediation efforts will be developed on a case-by-case basis by the CHDT RSO.

5.1.2 Solid Spills

Depending on the size of the spill, material may be cleaned using manual means (e.g., shovels, brushes, brooms, etc.) or mechanically (e.g., vacuums or heavy equipment). If the solid material is fine and may become airborne, dust suppression techniques should be used. Small spills of solid material may be cleaned using masselin cloths, or duct tape or other sticky material. Collected decon materials should be placed into appropriate containers for subsequent transport and disposal.

5.2 Equipment Decontamination

Equipment includes backhoe, trucks, and front loader, machine tools, hand tools, and any reusable device. The following steps should be followed when decontaminating equipment:

- a. Remove visible dirt or other visible contamination from the equipment using washing, sweeping, wiping or other cleaning methods.
- b. Survey the equipment for radioactive contamination, per SOP 15.OPS.13, *Equipment and Vehicle Release Surveys*. If contamination limits are met, equipment may be released.
- c. If contamination limits are not met, continue cleaning operations. After cleaning, re-survey the equipment for radioactive contamination, per SOP 15.OPS.13, *Equipment and Vehicle Release Surveys*. If contamination limits are met, equipment may be released. If contamination limits are not met, continue cleaning followed by surveying until limits are met. If limits cannot be met, consult the RSO. Equipment may be properly disposed of if decontamination is not feasible.
- d. Appropriate PPE and dosimetry must be worn during decontamination operations.
- e. All waste produced from decontamination must be disposed of properly.
- f. All decontamination surveys will be recorded on a radiation survey report.
- g. Areas where decontamination operations have taken place must be surveyed after use as appropriate.

6.0 STANDARDS AND CRITERIA

Specific criteria for radiological surveys that support decontamination activities are listed in SOPs 15.OPS.13, *Equipment and Vehicle Release Surveys*, and 15.OPS.14, *Spill Surveys*.

7.0 REFERENCES

Additional discussion of decontamination techniques beyond the scope of this SOP may be found in the following reference:

U.S DOE 1994. *Decommissioning Handbook*. DOE/EM-0142P. U.S. Department of Energy, Office of Environmental Restoration. April.