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State of Rhode Island
Department of Environmental Management
Office of Technical and Customer Assistance

Policy Memo 08-01

**Best Management Practices for Fluids and Contaminated Soils
at Auto Salvage Yard Facilities****1.0 Purpose**

The purpose of this policy memo is to provide guidance regarding Best Management Practices (BMPs) for preventing pollutant releases and managing contaminated soils at auto salvage yard facilities. The procedures and methods presented in this BMP policy memo are provided as general guidance. Owners/operators should identify specific BMPs for fluid management at their facility and follow all applicable state and federal regulations when investigating and managing contaminated soils. Auto salvage yards are strongly encouraged to participate in the Rhode Island Department of Environmental Management's (RIDEMs) *Environmental Compliance Certification Program for Auto Salvage Yard Facilities* (information can be obtained by contacting RIDEM at 401/222-6822 or by visiting our web site at: <http://www.dem.ri.gov/programs/benviron/assist/asy/index.htm>).

2.0 BMPs for Automotive Fluids

The term best management practice generally refers to operational methods or practices that relate to the prevention and control of contamination (Best Management Practices for Soils Treatment Technologies, EPA 1997). To prevent soil, ground water and surface water (through runoff, for example) contamination, auto salvage yard operators should follow best management practices that collectively address all potential fluid releases at the site. BMPs for fluids have been incorporated into the auto salvage *Environmental Compliance Certification Program Workbook* and include the following generally applicable practices:

- ❖ On arrival of incoming vehicles at the facility, check for fluid leaks—stop leaks or use drip pans to avoid leaking on the ground
- ❖ Draining of fluids and dismantling vehicles should only be done over a concrete or other impervious surface, and under cover to protect it from precipitation and storm water runoff
- ❖ Before moving incoming vehicles to storage, remove fluids such as fuel, motor oil, antifreeze, transmission fluid, and brake and power steering fluid
- ❖ Promptly store fluids in the proper containers or tanks that are labeled with the contents, kept protected and closed other than when being filled, and in good condition with no leaks or defects
- ❖ Maintain proper spill control measures and secondary containment for all fluids as required
- ❖ Before moving incoming vehicles to storage, remove batteries and store on a pallet under cover, or outside in a leak proof container away from traffic areas
- ❖ Inspect storage containers and tanks to detect potential leaks regularly

- ❖ Spills should be cleaned up immediately—any resulting contaminated soil or absorbent should be removed and stored in a separate labeled container for proper disposal
- ❖ Store engines, transmissions, and other oily or greasy parts that are removed from vehicles on a concrete or impervious surface that is protected from precipitation and storm water runoff
- ❖ Do not pour liquid waste down floor drains, sinks or outdoor storm drains

In addition, the national Automotive Recyclers Association has published a set of 30 “Recommended Core BMPs for the Automotive Recycling Industry” that address good housekeeping, vehicle dismantling and crushing activities, fluid management, parts cleaning, preventative maintenance, spill prevention and response, and erosion and sediment control (available at: <http://www.a-r-a.org/content.asp?pl=430&sl=468&contentid=474>).

Fluid management BMPs for auto salvage yards must be incorporated into facility-specific Storm Water Pollution Prevention Plans (SWPPP) and submitted with a Storm Water Permit Application to the Rhode Island Department of Environmental Management. Most facilities can seek coverage under the “Multi-Sector General Permit: RIPDES Storm Water Discharge Associated with Industrial Activity (Excluding Construction)”. To meet the requirements of the Multi-Sector General Permit, every facility needs to develop and implement a SWPPP which specifies the steps a facility will take to identify potential sources of pollution, prevent spills and leaks, implement regular inspections, train employees, manage runoff, and minimize exposure of hazardous materials and activities to precipitation and runoff. Additional information can be found in Section 3J—Stormwater Management of RIDEMs *Environmental Compliance Certification Program Certification Workbook for Auto Salvage Yard Facilities* (available at: <http://www.dem.ri.gov/programs/benviron/assist/asy/index.htm>).

3.0 Identification and Evaluation of Contaminated Media¹

At auto salvage yards, soils may have become contaminated by past or current vehicle handling practices. Implementation of a RIDEM approved SWPPP will help to prevent the future occurrence of pollutant releases to the environment. Improving daily work practices through the adoption of BMPs will help to alleviate costs associated with the remediation and disposal of contaminated soils. The best policy is to prevent spills before they happen and to cleanup spills as soon as they are discovered.

Where spills are known or suspected to have occurred, salvage yard owners should look for contaminated soil as evidenced by discoloration, odors, differences in soil properties, abandoned underground tanks or pipes, or buried debris. Once suspect areas have been identified, representative soil samples should be collected and analyzed for contaminants of potential concern (COPC) by a qualified environmental testing laboratory. Guidelines for soil sampling—*U.S. EPA Environmental Response Team, Standard Operating Procedures, Soil Sampling*—can be found at the RIDEM web site:<http://www.dem.ri.gov/pubs/sops/wmsr2012.pdf>.

¹ Some of the text presented in Sections 3 and 4 was obtained from published documents produced by the States of California (“California Stormwater BMP Handbook, Construction” January 2003), Florida (Florida Automotive Recycler’s Handbook, Green Book” June 2002), and Colorado (“Information Regarding the Management of Petroleum Contaminated Soil, Colorado Department of Public Health and Environment, October 2003).

3.1 Environmental Data—Florida Study

In 2000, a Florida University study² evaluated the environmental impacts of 34 auto salvage yards. Using sampling data obtained from state agency records, researchers reported that “the majority of automobile salvage yards [were] contaminating soil and groundwater” and that all 34 salvage yards had soils visually contaminated with used oil. The primary contaminants found in soils included benzene, toluene, xylene, ethylbenzene, 1,2,4 trimethylbenzene, TPH, lead, arsenic, cadmium and chromium; the primary contaminants found in groundwater included benzene, MTBE, naphthalene, TPH, lead, cadmium, chromium and arsenic; some soils exceeded the RCRA TCLP standard for lead, cadmium and chromium; and some samples exceeded state industrial and residential soil cleanup target levels. The study also concluded that “individuals drinking well water at some yards may be consuming metals and other carcinogenic compounds from petroleum products.”

3.2 Voluntary Investigations and COPCs

Approximately 70% of Rhode Island’s 71 licensed and operating auto salvage yard facilities are located within a GAA or GA groundwater classification area (suitable for public drinking water use without treatment); an additional 15 salvage yards are either inactive or in the process of closing down. Moreover, 18 of 59 facilities surveyed³ reported having an on-site drinking water well while 28 yards crush vehicles on-site with or without secondary containment. Based on these data, voluntary sampling efforts should be undertaken at facilities where soils are visibly stained, at yards that maintain potable wells or are located in a geographic area where public wells exist off-site, and at locations where vehicle crushing has been performed without the use of secondary containment.

As presented in 3.1 above, contaminants typically found in soil or groundwater at auto salvage yard facilities fall into four major categories:

- Total Petroleum Hydrocarbons
- Total/TCLP Metals
- Semi-volatile organic compounds, and
- Volatile organic compounds/MTBE

In addition, based on site history, work practices, and years of operation, other COPCs could also be found at some Rhode Island facilities.

Considering the potential for site contamination, voluntary investigations and the remediation of contaminated environmental media are encouraged under this policy and may be required to

² A.A. Dzurik. Environmental Impacts of Auto Salvage Facilities and Their Regulation. State University System of Florida, Florida Center for Solid and Hazardous Waste Management. November 2000.

³ Currently, 71 licensed and operating auto salvage yard facilities exist in Rhode Island. Data collected from 59 of the 71 yards (through on-site audits and mail-in surveys) showed that facilities range in size from <1 to 40 acres, receive from 20 to 2,600 vehicles per year, and have been in operation from 1 to 67 years.

facilitate land transfers or for other purposes. Soil sampling should be conducted in accordance with subsection 4.1 below.

4.0 BMPs for Contaminated Soil Handling

The intent of this section is to provide a streamlined soil removal process that addresses soil sampling (initial and verification), limits of removal, disposal location identification and the conduct of removal operations. Where applicable, all soil and contaminated material handling operations must be conducted in accordance with RIDEM's Rules and Regulations for the Investigation and Remediation of Hazardous Materials Releases, Rules and Regulations for Hazardous Waste Management, and Guidelines for the Management of Investigation Derived Wastes.

4.1 Soil Samples, Limits of Removal and Verification Sampling

The overall purpose of a voluntary sampling effort is to define the vertical and lateral extent of contamination in soil and, where necessary, groundwater. Soil samples should be collected from areas where the highest levels of contamination are most likely to exist. From there, the vertical and lateral extent of contamination at the site should be delineated to levels that include the subsurface environment. All site investigation work should be coordinated with RIDEM's Office of Waste Management. In most cases, data used to characterize contaminated soils can also be used for off-site shipment and disposal purposes.

The location of sample collection points should ultimately result in the delineation of the limits of contamination and in representative data for the release area. Sampling points must include, but not be limited to, areas impacted by past spill events or otherwise known or suspected to contain contamination. At a minimum, soil and debris material should be analyzed by a qualified environmental testing laboratory for the parameters specified in 3.2 above.

In general, a contaminated-site is considered by the Director to be compliant with the Remediation Regulations when it is demonstrated that the appropriate remedial objectives have been met at all source areas within the contaminated site. Verification sampling for soils compliance and determination of the limits of removal must be conducted in consultation with RIDEM's Office of Waste Management (OWM). Compliance samples taken outside of the former source area will not be accepted for use in the statistical evaluation of results.

The Office of Technical and Customer Assistance, in conjunction with OWM, can provide assistance with the development of sampling and analysis plans for those facilities that participate in the Department's Auto Salvage Environmental Results Program.

4.2 Identification of Disposal Location

Once testing is complete, and where the results of laboratory analyses indicate exceedances of RIDEM Method 1 Industrial/Commercial standards (or residential standards if property is to be sold for future residential development), soils that are not classified as hazardous waste may be managed or disposed of as solid waste. Where excavated soils meet the definition of a state or federal hazardous waste, all waste material must be disposed of in accordance with RIDEM's Rules and Regulations for Hazardous Waste Management. The salvage yard owner/operator

must identify a treatment, storage or disposal facility that is licensed to receive the excavated material as characterized through appropriate chemical testing.

The owner/operator of the facility, as well as the person responsible for transporting any residues or contaminated soil generated by the cleanup, must keep records indicating the final destination for all such materials, the date(s) of such shipment(s), and the person or company responsible for the transportation. In the case of material managed as a hazardous waste, the manifest required by the Department's Rules and Regulations for Hazardous Waste Management will satisfy this requirement.

4.3 The Conduct of Removal Operations

In all cases, contaminated soils must be managed to avoid the cross-media transfer of pollutants. During soil excavation, a number of best management practices can be taken to contain soils/dust prior to off-site transport and include:

- Do not store contaminated soils for an indefinite amount of time. Dispose of contaminated soil promptly to avoid additional contamination
- Excavate contaminated soil as spills and leaks occur to prevent migration of the contamination
- Collect the soil in appropriate, labeled containers and store the containers in a covered, impervious containment area until it can be cleaned or transported to a waste treatment facility
- Do not dispose of contaminated soil in vehicles to be crushed or shredded
- If temporary stockpiling is necessary, take the following precautions:
 - Cover the stockpile with plastic sheeting or tarps
 - Install a berm around the stockpile to prevent runoff from leaving the area
 - Do not stockpile in or near storm drains or watercourses
- Excavation and transportation should result in no visible dust
- Educate employees in the identification of contaminated soils and on contaminated soil handling and disposal procedures
- Contact RIDEM's Office of Waste Management for information on disposing of contaminated soil and requirements for obtaining confirmatory samples from the limits of the excavation, including excavation sidewalls and bottom
- Maintain records of analytical waste determinations and disposal receipts for at least 3 years

All excavated contaminated soil or debris must be stored, handled and disposed of in accordance with appropriate state and federal statutes, rules or regulations.