

TDOT RCRA, SOLID WASTE, AND WATER COMPLIANCE PLAN

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ACRONYMS

| | |
|-------|--|
| EPA | U.S. Environmental Protection Agency |
| MSDS | material safety data sheets |
| NPDES | National Pollution Discharge Elimination System |
| RCRA | Resource Conservation and Recovery Act |
| SOPs | Standard Operating Procedures |
| SPCC | Spill Prevention Control and Countermeasure |
| SQGs | small quantity generators |
| TDEC | Tennessee Department of Environment and Conservation |
| TDOT | Tennessee Department of Transportation |

1.0 INTRODUCTION

The purpose of this compliance plan is to identify those steps necessary for Tennessee Department of Transportation (TDOT) facilities to achieve compliance with the requirements applicable to hazardous waste management under the Resource Conservation and Recovery Act (RCRA), the National Pollutant Discharge Elimination System (NPDES), and the Tennessee Solid Waste Disposal Act, as administered by the Tennessee Department of Environment and Conservation (TDEC), which TDOT does not anticipate being concluded within 60 days of February 14, 2000 (the date of TDOT's voluntary self-reporting under TDEC's "Policy Encompassing Self-Policing and Voluntary Correction"). This compliance plan outlines planned activities and the associated schedule for completion, which are designed to achieve compliance with hazardous waste management standards at TDOT facilities.

RCRA compliance assessments were undertaken at all TDOT Regional and District facilities. A total of 32 facilities across the state were visited in an effort to determine compliance status with respect to RCRA requirements.

The facility assessments identified non-compliance and potential non-compliance with those RCRA requirements associated with the management and disposal of hazardous waste. Concerns regarding the compliance with NPDES and solid waste regulations were also observed at certain facilities. On February 14, 2000, TDOT voluntarily self-disclosed potential compliance issues by submitting three summary reports to TDEC that outlined the potential and known non-compliances found at the 32 facilities. These three summary reports included *Summary Report of Findings of RCRA Compliance at Tennessee Department of Transportation Facilities*; *Summary Report of Findings of Water Quality Compliance at Tennessee Department of Transportation Facilities*; and *Summary Report of Findings of Solid Waste Disposal at Tennessee Department of Transportation Facilities*.

A separate report detailing RCRA and other compliance activities that TDOT has completed, or anticipates will be completed within 60 days of February 14, 2000, has been prepared for submittal to TDEC.

2.0 ACTIONS NECESSARY TO ACHIEVE OPERATIONAL COMPLIANCE

2.1 COMPLETION OF WASTE CHARACTERIZATION PROFILES

TDOT is characterizing waste streams generated from current operations. These wastes include wastes commonly associated with garage and vehicle maintenance operations, building maintenance, and limited laboratory operations. TDOT has acquired material safety data sheets (MSDS) for hazardous materials stocked at its facilities and is using that information, where applicable, in identifying potential hazardous wastes. TDOT is also using full service vendors to characterize and dispose of wastes currently at its facilities and will maintain the requisite documentation in its files for each waste disposed.

It is anticipated that identification of solid and listed wastes generated can be made from the materials MSDS and materials usage. **TDOT will complete this activity within 90 days of April 13, 2000.** Where process knowledge is insufficient to characterize the wastes, testing for hazardous waste characteristics will be required. **Samples of uncharacterized wastes will be collected and the required analyses will be completed within 75 days of April 13, 2000.**

2.2 GENERATOR STATUS (QUANTITY) DETERMINATION

Upon proper disposition of all legacy wastes and the completion of characterization activities, TDOT will complete a detailed review of facility operations to quantify the volumes of hazardous wastes generated monthly at each facility. The purpose of this effort is to ensure that all Regional and District TDOT facilities have been classified appropriately with respect to their rate of hazardous waste generation. If hazardous waste generation rates are above or below the currently identified generator classification at any facility, a revised notification will be provided to TDEC. **Any revised notifications of generator status will be provided to TDEC within 120 days of April 13, 2000.**

2.3 ANNUAL HAZARDOUS WASTE GENERATOR REPORTS

The current generator status of each TDOT facility was based on field assessments conducted in late 1999 (with some follow-up in early 2000). To ensure that wastes are managed in a compliant manner, U.S. Environmental Protection Agency (EPA) Hazardous Waste Generation Identification Numbers were acquired for all TDOT Regional and District facilities in February 2000. Since TDOT facilities are believed to likely be subject to the generator or small quantity generator standards, an annual report is required by TN Rule 1200-1-11-.03 and 40 CFR Part 262 by March 1 of the next calendar year following hazardous waste generation. To fulfill this requirement, TDOT is first quantifying wastes generated during the 1999 calendar year. **TDOT will complete annual generator reports for all Regional, District, and Laboratory facilities for the 1999 calendar year and submit the required reports to TDEC by October 1, 2000.**

2.4 ESTABLISHMENT OF WASTE ACCUMULATION AREAS

Based upon current information on materials usage and the types of operations associated with TDOT Regional and District facilities, it is anticipated that permitted storage will not be required. As discussed in further detail in Section 2.4.1 below, all hazardous waste generated will be placed in 90-day or 180-day accumulation areas based on the current generator status and shipped for off-site disposition prior to exceedance of the 90 or 180 day time limit. Wastes also will be accumulated in satellite areas at or near the point of generation. All satellite areas will be clearly marked with the type of waste being accumulated. Until waste characterization is complete, all wastes that have the potential to be regulated as hazardous wastes will be accumulated in compliant satellite areas.

2.4.1 90-day and 180-day Accumulation Areas

TDOT Regional facilities have been identified as fully-regulated RCRA hazardous waste generators at this time. To comply with RCRA waste accumulation requirements, 90-day waste accumulation areas will be established, and hazardous wastes will not be removed from a regional facility within 72 hours of reaching the limits specified for satellite accumulation areas (55 gallons of hazardous waste or 1 kilogram of acutely toxic hazardous waste). Accumulation areas will be constructed under roofs and adequate secondary containment will be maintained by the construction of dikes or the use of spill pallets, depending upon the quantity of wastes accumulated at a specific facility. Proper signage and maintenance of inventory records shall be followed. Accumulation areas will be clearly marked, and the date each container of hazardous waste is placed in the area will be entered on the container label. All newly established accumulation areas will be inspected weekly. Facilities with established 90-day accumulation areas, such as the Nashville Regional facility, will continue to use the existing 90-day areas.

TDOT District facilities have been identified as small quantity generators (SQGs), generating less than 1000 kilogram but more than 100 kilogram of hazardous waste monthly. Accumulation requirements for SQGs and fully-regulated generators will be the same at TDOT facilities regardless of the generator status. The only difference is that TDOT facilities regulated under SQG requirements will be allowed to accumulate wastes in accumulation areas for up to 180 days.

To ensure compliance with requirements for RCRA hazardous waste accumulation, TDOT Headquarters will develop Standard Operating Procedures (SOPs) for design, construction, and operation of all accumulation areas. All TDOT facilities engaged in the accumulation of hazardous wastes will be trained in and will comply with the requirements of the SOPs. In addition, a “boiler plate” contingency plan will be prepared for each Regional and District facility. The plan will specify the emergency equipment necessary for each facility and upon the addition of site-specific information, the plans will be disseminated to local emergency response personnel. The boiler plate contingency plan is included in Appendix C. Facility personnel involved in day-to-day waste management will be trained regarding the content and implementation of the SOPs and the contingency plan. **Development of SOPs and training of TDOT personnel with respect to them will be completed within 90 days of April 13, 2000. Establishment of all accumulation areas will be accomplished within 90 days of April 13, 2000.**

Measures shall be taken to ensure that wastes are dispositioned within timeframes specified within the regulations. All containers of wastes will be dated with the date waste is first placed in the container. Full containers of hazardous waste shall be dated when the waste is placed in a 90-day or 180-day accumulation area. Unless located within a satellite accumulation area, all containers of hazardous waste will be shipped for disposition within 90 (fully regulated generator) or 180 days (SQG) of filling. Containers of a universal waste will be dated with the date the waste was placed into storage. TDOT will maintain logs recording the waste movement into and out of hazardous waste accumulation areas. **Control of hazardous wastes will be achieved at TDOT facilities within 90 days of establishment of accumulation areas.**

2.4.2 Accumulation of Used Oil

Used oil will be accumulated in compliance with the applicable standards found in TNRule 1200-1-11-.11 and 40 CFR Part 279. TDOT facilities are generators of used oil and will not engage in marketing or burning/blending of used oil, except as allowed pursuant to the generator requirements. All containers and tanks used for storage of used oil will be clearly marked as used oil storage units as required by 40 CFR Part 273 and TNRule 1200-1-11-.12. TDOT Headquarters will develop an SOP for generation, accumulation, storage, and disposition of used oil at TDOT facilities. All personnel involved in the management of used oil will be trained on the content and specific requirements of the SOP.

Existing used oil accumulation areas will be inspected, and the compliance status of each area with respect to the SOP will be determined. Any areas failing the minimum requirements of the SOP will be closed or moved to a suitable location at the facility. **The SOP and training of TDOT personnel with respect to it will be completed within 90 days of April 13, 2000.**

2.4.3 Accumulation of Universal Wastes

Universal wastes that have been identified at TDOT facilities include spent lead acid batteries and various types of light bulbs and tubes. Because specific regulatory standards for the design and construction of universal waste accumulation units are not prescribed by 40 CFR Part 273 or TNRule 1200-1-11-.12, all lead-acid batteries generated at TDOT facilities will be managed in accordance with the requirements found at TNRule 1200-1-11-.09 and 40 CFR Part 266. Batteries from vehicle maintenance activities will be palletized and accumulated under roof pending pick up by a battery recycler. All batteries found to be cracked or leaking will be containerized to prevent release of hazardous constituents.

Waste light bulbs and tubes subject to the universal waste requirements will be repackaged in suitable containers provided by the recycler. Once packaged this material will be accumulated under roof in an area marked for accumulation of universal waste light bulbs. The date each package enters the accumulation area will be maintained in a log and marked on the container to ensure that the material does not exceed the accumulation timeframes for universal wastes. A SOP will be developed by TDOT Headquarters for the proper location and operation of universal waste accumulation areas. **Development of this SOP and training of TDOT personnel with respect to it will be completed within 90 days of April 13, 2000. Compliant accumulation areas will be established concurrently.**

2.5 ESTABLISHMENT OF CONTINGENCY PLANS FOR REGIONAL FACILITIES

As discussed in section 2.4.1 of this plan, contingency plans are required for hazardous waste generator accumulation areas. TDOT will prepare generic contingency plans for garage maintenance and laboratory operations. Facility-specific information for each TDOT garage or laboratory will be incorporated into the general plan, which includes such information as specific wastes managed, evacuation routes, emergency response contacts, and arrangements with local authorities. **Contingency plans for generator accumulation areas will be completed within 90 days of April 13, 2000.**

2.6 IMPLEMENTATION OF STANDARD OPERATING PROCEDURES

In addition to the core plans that serve as part of the programmatic documentation for the TDOT compliance program, additional working-level procedures will be developed and implemented, as discussed below. These procedures or SOPs will provide fundamental instruction on the proper management of wastes at the working level. The SOPs will be updated as necessary to reflect regulatory changes made after issuance.

2.6.1 Characterization Procedures

Solid wastes generated at TDOT facilities will be characterized to determine whether the waste is also a hazardous waste subject to further regulation. An SOP will be written that specifies the information necessary to determine whether a solid waste is a hazardous waste, by application of process knowledge and/or through testing. This SOP will be used to characterize all solid wastes generated at TDOT facilities. The SOP also specifies the type and amount of information necessary to complete waste characterization profiles, which will be maintained by TDOT for all waste determinations made. **This SOP will be developed and implemented within 90 days of April 13, 2000.**

2.6.2 Accumulation Procedures

The accumulation procedures, discussed in Section 2.4 of this compliance plan, provide specific guidance on the design and operation of waste accumulation areas. **SOPs that have been prepared for accumulation of hazardous wastes, used oil, and universal waste will be implemented at all TDOT facilities within 90 days after April 13, 2000.** All TDOT personnel responsible for management of wastes at Regional and/or District facilities will be trained on the content of the SOPs for accumulation of hazardous waste, used oil and universal waste prior to implementation.

2.6.3 Disposal and Transportation Procedures

An SOP for selection of vendors, including vendors and facilities used for transport and proper disposition of wastes, will be implemented as part of TDOT operations. The SOP requires that vendors be

evaluated to ensure that they may accept wastes offered for transport or disposition before TDOT allows the wastes to be shipped off site. **This SOP will be implemented within 90 days of April 13, 2000.**

2.7 IMPLEMENTATION OF MATERIALS INVENTORY CONTROL

TDOT Headquarters is controlling its hazardous materials inventory by an update of the MSDSs list for products purchased by TDOT Regional Offices. This information will be used to make initial determinations of whether a product will be a hazardous waste when disposed of, either before or after use. Inventory control will be exercised to ensure that excess materials at a Region or District facility are not stored past the materials' useful life. **Initial inventory control measures are incorporated into the SOPs for waste accumulation, which will be completed (and TDOT personnel trained) and implemented within 90 days of April 13, 2000.**

2.8 IMPLEMENTATION OF RECORD MANAGEMENT SYSTEM

Records required under RCRA for the management of hazardous waste, used oil, and universal wastes will be maintained at TDOT facilities. Examples of such records include waste characterization profiles, shipping records and manifests, training records, accumulation inspection records, and analytical results. TDOT will develop and implement a records management system for the maintenance and retention of these records at Regional and District facilities. **TDOT will implement a records management system for regulated materials and wastes within 90 days of April 13, 2000.**

2.9 COMPLETION OF PERSONNEL TRAINING

Personnel responsible for or directly involved with waste management activities at TDOT facilities will receive an overview training module covering State and Federal RCRA requirements. This initial training is designed to raise employee awareness of the waste management requirements associated with TDOT-generated wastes and the actions necessary to meet the regulatory requirements. **This training will be completed within 180 days of April 13, 2000.** The awareness training will be supplemented with employee training briefings on TDOT SOPs that detail specific measures to be taken at TDOT facilities to ensure Compliance. **Annual refresher training will be conducted beginning in calendar year 2001. Training records will be maintained for at least three years for all employees who generate or handle hazardous waste.**

All TDOT personnel involved or responsible for the generation or management of hazardous waste, universal waste, or used oil will be required to attend the awareness course.

3.0 ACTIONS TO ENSURE CONTINUED OPERATIONAL COMPLIANCE

3.1 ENHANCE AND EXPAND INITIAL ENVIRONMENTAL MANAGEMENT AND COMPLIANCE SYSTEM AND INFRASTRUCTURE

TDOT will expand its environmental management and compliance staffing to include personnel experienced in RCRA requirements. **Additional personnel will be employed by January 1, 2001.** Alternatively, TDOT may satisfy this requirement through arrangements with one or more qualified

outside environmental consultants. To ensure that TDOT achieves and maintains compliance with State and Federal environmental regulations at all facilities, an annual review of the program will be conducted. Modification to Core documents will be made as necessary to comply with newly promulgated requirements. This may be accomplished through contracting qualified environmental consultants.

3.2 CHARACTERIZATION OF NEWLY GENERATED WASTE STREAMS

Newly-generated waste streams will be identified during operations planning wherever possible. Wastes will be evaluated prior to generation to the extent practicable so that proper management methods are identified and waste generation is minimized. A waste characterization profile will be prepared and maintained for each newly-generated waste stream as part of the facility records. Each newly generated hazardous waste stream will be evaluated to determine whether the waste impacts facility generator status.

In most cases, waste streams will be characterized initially from information provided in product MSDSs and through process knowledge prior to generation. **Sampling and analysis of wastes requiring additional characterization measures will be conducted no later than 60 days after the generation of a new waste stream.**

3.3 MODIFICATIONS OF OPERATIONAL PRACTICES

Because there is a potential for discharge of pollutants from garage operations facilities that have not yet undergone the facility upgrades, these facilities are precluded from using liquid cleaners for garage cleanout. Garage drains at these facilities will be plugged and spill kits provided to collect any large volumes of liquids that may accumulate on the garage floor. Small spills to the garage floor will be collected using reusable floor sweep. Facility cleaning operations will employ the use of dry-agent cleaners until the sewer upgrades are implemented.

Currently, the use of liquid cleaning solutions has been suspended at facilities that have not been upgraded. **The provision of spill kits and the plugging of floor drains will be completed within 90 days of April 13, 2000.**

4.0 ASSESSMENT OF ENVIRONMENTAL IMPACT OF HISTORICAL WASTE MANAGEMENT PRACTICES

4.1 ON-SITE DISPOSAL

At this time, waste streams disposed of on site at the Cookeville facility are undergoing analysis. The purpose of this effort is to identify potential contaminants and contaminant levels in the waste (primarily floor sweep) disposed of at the facility. Upon receipt of this information, TDOT will consult with TDEC to determine the scope of any additional site investigations required. Sample results are expected to be received from the State Laboratory in late March or early April.

Disposal of wastes such as paint waste also has occurred in pits and on the ground at various TDOT facilities. TDOT proposes to conduct a limited initial sampling effort to assess the potential environmental contamination resulting from these practices. **Sampling plans for TDOT facilities where on-site disposal occurred will be prepared within 180 days of April 13, 2000.**

Implementation of sampling plans will be conducted as agreed upon by TDOT and TDEC. The implementation will occur on a schedule as agreed upon by TDOC and TDEC.

4.2 OFF-SITE DISPOSAL

As stated in the RCRA summary report submitted to TDEC on February 14, 2000, many waste streams generated historically at TDOT facilities were discarded as solid waste without characterization. The bulk of these wastes included floor sweep and shop rags as well as light bulbs/tubes from building maintenance activities. As stated in Section 4.1 of this plan, analysis of the floor sweep is currently being undertaken. Samples of organic (sawdust) and inorganic (clay) floorsweep material have been collected for analysis from several TDOT facilities. Samples of shop rags have also been taken at several facilities to characterize this waste stream. The purpose of this effort is to characterize the waste materials and to estimate the identity and concentrations of contaminants present in wastes previously discarded at municipal landfills. **TDOT shall provide characterization and quantity estimates for the 1999 calendar year to TDEC by December 1, 2000.**

5.0 SCHEDULE FOR COMPLETION OF ACTIONS

The Gantt chart depicted in Figure 1 summarizes planned steps to bring TDOT into full compliance with the State and Federal RCRA program. Many of the tasks will be completed on a schedule measured by a period following April 13, 2000 (said date being the 60th day from February 14, 2000).

