TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION

DIVISION OF SOLID WASTE MANAGEMENT
SOLID WASTE PROGRAM

Policy and Guidance Manual

January 2014

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TABLE OF CONTENTS

BENEFICIAL USE

POLICY AREA	POLICY NAME	NO.	PAGE
BENEFICIAL USE	**Foundry** Sands	PN091	006
	Solid Waste (Determination Procedure	PN028	011
	Civil Engineering Applications for Reimbursement as a Beneficial End Use of Waste (Scrap) Tires	PN123	013

CERTIFICATION OF LANDFILL OPERATORS

POLICY AREA	POLICY NAME	NO.	PAGE
CERTIFICATION	**Landfill Operators Certification** Fees (pn120)	PN120	017
	Training Opportunities for Recertification Credit Hours (pn103)	PN103	020

COMPLIANCE AND ENFORCEMENT

POLICY AREA	POLICY NAME	NO.	PAGE
INSPECTION FREQUENCY	Inspection Frequency	PN074	023
RECORDS INSPECTION	**Records** Inspection At Landfills	PN072	024
	Example of Random Inspection Frequency	PN073	026
GROUND WATER	**Monitoring** Frequency Change	PN132	027
	Monitoring Guidance For Solid Waste Landfill Units	PN124	028
	Reviewing Monitoring Reports For Solid Waste Landfills	PN116	048

INTER DIVISIONAL AGREEMENTS

POLICY AREA	POLICY NAME	NO.	PAGE
AIR POLLUTION CONTROL	Asbestos	PN087	052
RADIOLOGICAL HEALTH	**Administration** of Financial Assurance	PN082	060
	Solid Waste Permit Status at Radiological Facilities	PN126	062
SUPERFUND	**Use of DSF** Contractors	PN086	064
	Remediation Initiatives and Site Management	PN104	065
UNDERGROUND STORAGE TANK	Management of Petroleum Fuel Contaminated Soil From Leaking UST Sites	PN021	070
WATER POLLUTION CONTROL	**Review** of Proposed Landfill Sites MOA	PN083	074
	Water Quality Permits at Landfills MOA	PN084	076
	Memorandum of Understanding	PN114	079
WATER SUPPLY	Waterworks Treatment Sludge	PN089	081

PERMITTING

POLICY AREA	POLICY NAME	NO.	PAGE

JACKSON LAW	Local Government Approval Coal Ash Fill	PN129	083
MINOR MODIFICATIONS	Review of Minor Modifications	PN131	084
SITE ASSESSMENT	Environmental Site Assessment	PN128	086

PERMIT BY RULE

POLICY AREA	POLICY NAME	NO.	PAGE
RECYCLING FACILITIES	Permit By Rule Status	PN122	087
SOLID WASTE PROCESSING	Waste Stabilization At Class I Landfills	PN095	090
TRANSFER STATIONS	Regulation of Transfer Stations	PN009	092

PERMITTING LANDFILLS

POLICY AREA	POLICY NAME	NO.	PAGE
CLOSURE / POST-CLOSURE	**Closure** Certification **Post-Closure** Certification and Permit Termination	PN106 PN127	093 096
CONSTRUCTION QA	Construction Quality Assurance Inspection	PN075	097
DUTIES	Assignment of Duties	PN066	100
HYDROGEOLOGIC REPORT	Hydrogeologic Report	PN070	101
PEER REVIEW	Peer Review Process	PN067	102
PERMIT REVIEW	Committee Meetings and Presentation Policy Tracking of Permit Review Timeframes	PN064 PN065	104 106
SERVICE AREAS	Service Areas	PN096	107

REMEDIATION

POLICY AREA	POLICY NAME	NO.	PAGE
REMEDIATION	Remediation Guidance Levels	PN030	108
REMEDIATION	Reporting of Illegal Disposal	PN101	110

SPECIAL WASTE APPROVAL

POLICY AREA	POLICY NAME	NO.	PAGE
SPECIAL WASTE APPROVAL	**Homeowner** Generated Special Waste **Signature** By Field Office Manager **Special Waste** From Outside Tennessee	PN014 PN011 PN013	111 112 113

SPECIFIC PROBLEM WASTES

POLICY AREA	POLICY NAME	NO.	PAGE
ASBESTOS	**Blanket Approval** For Disposal of Non-Regulated Asbestos Waste **Friable** Asbestos – Logs and 10 Day Notice Not Necessary	PN118 PN043	115 117
ASH	Municipal SW Sampling Frequency /Protocol	PN097	118
CONCRETE	**Concrete** Washout Waste Disposal	PN045	120
EMERGENCY/DEMOLITION DEBRIS	**Emergency** Debris Disposal **Demolition** Debris Generated as a Result of the Cleanup	PN117	121

	of Clandestine Methamphetamine Labs	PN121	124
FURNITURE	**Furniture** Waste	PN109	125
GREASE	**Grease Trap** Waste	PN040	126
MEDICAL WASTE	Landfill Disposal of Medical Waste	PN016	127
PAINT	**Household Paint** Management Requirements	PN125	131
	Lead-Based Paint Debris, Management and Disposal	PN115	137
PCB CONTAINING WASTE	**PCB** Bulk Product Waste	PN111	138
	PCB Contaminated Soil	PN025	142
	PCB Ballasts and Transformers	PN113	143
PETROLEUM CONTAMINATED SOILS	**Analytical** Methods for Use at Petroleum Contaminated Sites	PN108	144
	Environmental Cleanup Guidelines for Transportation Related Petroleum Spills	PN130	147
	Ground Water Classification Procedure at Petroleum Contaminated Sites	PN107	153
	Regulatory Placement And Clean-up Standards of Petroleum Contaminated Sites	PN023	155
	Regulatory Status of UST Wastes, Tank Bottoms, Aboveground Petroleum Product Storage Tanks	PN022	158
	Disposal of Petroleum Contaminated Soil and Debris in Class I Landfills	PN026	161
	Treatment at Permit By Rule Facilities	PN019	164
	Uniform Handling of Petroleum Fuel Contaminated Soils at Permit By Rule Facilities	PN024	168
RCRA WASTE ISSUES	**Delisted** Waste in Class I Landfills	PN110	169
	F003 Solvent Still Bottoms	PN098	170
TIRES	**Solid** Rubber Wheels	PN034	173
	Waste Tires and Problem Waste Collection Sites	PN031	174
USED OIL	**Used Oil** Filter Recycling and Disposal	PN033	176
WOOD WASTE	**Wood Waste** – Open Burning	PN094	178
	Wood Wastes From Chromated Copper Arsenate (CCA) Treated Wood	PN119	179

APPENDIX

POLICY AREA	POLICY NAME	NO.	PAGE
Archived Policies	Archived Policies	****	180

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Beneficial Use of Nontoxic Spent Foundry Sand
POLICY

I. Purpose

This policy was developed by the Tennessee Division of Solid Waste Management (the Division) to facilitate the beneficial use of nontoxic spent foundry sand in a manner that is protective of the public health and environment.

Generators of spent foundry sand are encouraged to actively explore and implement economically feasible alternatives to reduce the volume and toxicity of foundry sand produced, as well as on-site recycling, or recovery, before evaluating potential beneficial uses.

II. Scope

This policy sets forth beneficial uses of nontoxic spent foundry sand from iron and aluminum foundries. It describes notification requirements, lists uses which do not require Division review or approval, lists examples of uses which require project specific Division review, and outlines record keeping requirements.

III. Applicability

This policy applies to nontoxic spent sand from iron and aluminum foundries used or proposed to be used for a particular beneficial purpose in lieu of a competing raw material or finished product. This policy does not apply to waste disposal or indiscriminate dumping/filling.

IV. Initial Documentation Required

For a beneficial reuse of foundry sand to be covered by this policy, the foundry which generates the sand must provide documentation to the division that the sand is "nontoxic" and has been "processed for reuse" For the purposes of this policy, "nontoxic" means that the foundry sand is non-hazardous and contains chemical constituents in concentrations equal to or less than those outlined in Table I. Also, for the purposes of this policy, "processed for reuse" means that the sand has been subjected to a process by which metal and trash are removed. Metal or trash removal is not required provided the foundry can demonstrate that these materials are not present in their sand in significant quantities.

For uses outlined in Part V, items A through E of this policy, initial documentation is not required. However, if the foundry wishes to be covered by this policy, demonstration must

be submitted to the appropriate field office. Initial documentation is required for the small construction projects in part V, item F.

V. Uses Not Requiring Division Review

The following uses do not require prior Division review or approval:

A. *Manufacturing another product:* The use as a raw material in manufacturing another final product, including, but not limited to, grout, cement, flowable fill, lightweight aggregate, concrete block, bricks, asphalt, roofing materials, plastics, paint, glass, fiberglass, ornamental ceramics and other non-land applications, or as a substitute for a product (e.g. blasting grit), excluding soil products.

B. *Stabilization/solidification of other waste (for disposal)*: The use as a stabilization/solidification agent, singly or in combination with other additives or agents, for other wastes which will be disposed of at an approved disposal facility.

C. *Use in a composting process*: The use in a composting process when the process is performed in accordance with applicable composting regulations. This term does not include the use as a post-composting additive, or land application.

D. *Daily cover/final cover at landfill*: Uses as daily cover/final cover at a solid waste landfill, meeting all technical requirements for daily cover/final cover and approved by a permit. The amount of daily cover/final cover shall not exceed the amount under an approved permit.

E. *Landfill liner protective layer*: Use as a protective layer for landfill liners as part of an approved permit for the landfill.

F. *Small construction projects*: Uses outlined in Part VI of this policy when the amount used for any single project does not exceed 200 tons and is stabilized. The project must not impact streams, wetlands, or other waters of the State. For small construction projects to be covered under this policy, the generator must provide the "initial documentation" to the Division.

VI. Uses Requiring Division Review To Participate Under This Policy

The following uses require prior Division project review for concurrence. Notification shall be by the attached form.

A. *Structural fill*: An engineered use of nontoxic spent foundry sand structural fills for the following: building or equipment supportive base or foundation, foundation backfill, construction material for road bases and subbase, overpasses, embankments, parking lots, dams, retaining walls, dikes, levees; as a construction fill material for planned commercial and residential projects including office parks, commercial plans, malls,

industrial parks, institutions, subdivisions, apartments, duplexes, condominiums; as bedding and backfill material for sanitary sewer lines and other utility lines. Note that all above applications will be below final surface grade of the project when completed unless otherwise specifically approved by the Division.

B. *Mines/Strip mine projects*: Uses as fill in abandoned or closed mines or strip mine areas where the plans for which are approved by the Federal Office of Surface Mines and the TN Division of Water Pollution control as appropriate.

C. *Other uses*: The Director may approve other uses on an individual basis if they are consistent with this policy and protective of human health and the environment.

VII. Record Keeping Requirements

Each foundry subject to this policy must maintain the following records:

1. The amount of sand used;
2. The nature, purpose, and location of the projects;
3. Chemical analysis documenting the "nontoxic" nature of their sand (such analysis must be completed every two years or whenever process changes occur which may affect composition of the sand whichever is more frequent);
4. Any written approval/concurrence by DSWM where required for participation under this policy.

[Signature on File]_____ _____4-22-96_____
Tom Tiesler, Director (date)
Division of Solid Waste Management

TABLE I
(Revision 2)
Maximum concentration Limits for Nontoxic Foundry Sand

CONSTITUENT	TCLP LIMITS (see footnote) PPM	TOTAL LIMITS PPM
Barium	20.00	NA
Cadmium	.05	NA
Chromium	1.00	NA
Copper	13.00**	NA
Cyanide	2.00*	NA

Formaldehyde	NA	300.00
Lead	.50	NA
Mercury	.02	NA
Nickel	1.00	NA
Phenol	15.00	NA
Selenium	.50	NA

TCLP limits are generally 10 times D.W.S.
*Use modified TCLP extraction test, refer to Ohio policy D3987-85
**Copper is an MCLG in federal D.W.S.
NA = Not Applicable

Footnote: For the purposes of this policy, "nontoxic" means that the foundry sand is non-hazardous and contains chemical constituents in concentrations equal to or less than those outlined in Table I. The toxic constituents leaching procedure (TCLP) refers to the leaching procedure test as provided at RCRA 40 CFR 261.24. These TCLP limits in this policy are generally 10 times the drinking water standard.

ATTACHMENT I
Foundry Sand Beneficial Use Notification Form

GENERAL INFORMATION:

1. Name of Project _____

2. Entity Requesting Review: _____

3. Proposed Generator: _____

4. Proposed Use As: _____

5. Proposed Use Location (Enclose topographical map showing material placement boundaries. Include lowest elevation of material placement): _____

6. Name and address of property owner: _____

7. Amount of Nontoxic Spent Foundry Sand to be Used: _____

ENVIRONMENTAL CONSIDERATIONS:

1. Is the proposed use location subject to flooding? YES NO
   (Attach map indicating 100-year flood plains.)

2. Distance from proposed location to nearest surface water: _____
   (On the map, show any nearby perennial {blue line} streams, ponds, wetlands, etc.)

3. Describe runoff/silt control: _____

4. Indicate on the map approximate location of monitoring and/or potable water supply wells in the area.

5. What are the adjacent land uses? _____

6. Are you aware of any potential (attributable to this project) or existing public water supply or groundwater quality degradation in the area: YES NO
   Explain: _____

7. Indicate the area USGS soil type classification: _____

   This signature shall constitute personal affirmation that all statements or assertions of fact made in this proposal are true and complete and shall be subject to applicable state laws for false or misleading statements.

_____	_____
Signature of Project Manger	Name of Property Owner
_____	_____
Company	Signature
_____	_____
Title	Date
_____	POLICY/notebook/pn091
Date	

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Beneficial Use of a Solid Waste
POLICY

This policy will establish a procedure for the determination of beneficial use for a solid waste. A beneficial use determination by the Division of Solid Waste Management (DSWM) will be a concurrence that such approved use of solid waste will not be construed by the DSWM to be a use which constitutes disposal when conducted in the manner approved by the Department. This policy establishes a procedure for persons desiring such determinations.

Determination Procedure

A written petition for beneficial use determination may be submitted to the DSWM. Such petitions should include:

1. Identification, name, address and phone number of the Solid Waste generator;
2. An adequate characterization of the subject waste stream. The characterization must include the quantity of solid waste generated, concentrations of all potential contaminates, and a flow chart which describes the process that generates the waste;
3. A well defined beneficial use project proposal described in adequate detail;
4. Locations and property owners that are involved in the beneficial use project;
5. A record keeping and reporting system which will account for actual solid waste quantities used in the project;
6. A description of how the waste will be handled and stored prior to beneficial use and any run-on/runoff control measures for surface waters;
7. A description of how release of solid waste into the environment will be prevented;
8. A schedule proposing the project initiation, major steps and completion; and
9. Other information requested by the DSWM to evaluate the petition.

The DSWM will issue a written determination defining whether the proposal constitutes a beneficial use of the solid waste and will establish conditions for such use.

Storage of Wastes

Solid wastes stored for beneficial reuse are not subject to the requirement to have a permit if the provisions at rule 0400-11-01-.02(1)(b)3(xvi) are met. The rule states:

(xvi) The storage of solid waste that is incidental to its recycling, reuse, reclamation or salvage provided that upon request of the Commissioner, the operator demonstrates to the satisfaction of the Commissioner that there is a viable market for all stored waste and provided that all waste is stored in a manner that minimizes the potential for harm to the public and the environment. Material may not be stored for more than one (1) year without written approval from the Division.

Land Application of Wastes

Land application of solid wastes is allowed under the provisions of rule 0400-11-01-.13. Land application of food processing wastes requires a permit by rule at each application facility. Land application of landscaping and landclearing wastes and farming wastes are exempt from permit requirements. A beneficial use determination would not normally be necessary for these wastes. Certain farming wastes, such as manure, can be over applied and may require a beneficial use determination to establish an appropriate application rate. Land application of all other wastes must have written beneficial use approval and are subject to rule 0400-11-01-.02(1)(b)3(xxii) which states:

(xxii) The beneficial use of waste, which does not constitute disposal, provided that upon request of the Commissioner, the generator demonstrates to the satisfaction of the Commissioner that such use is not detrimental to public health, safety, or the environment.

For land application of solid wastes the DSWM considers a solid waste to have beneficial use when:

a. the operator demonstrates the waste has a beneficial use for land application;

b. the waste does not cause a threat to public health, safety, or the environment; and

c. the waste is handled in accordance with the requirements at rule 0400-11-01-.13.

_[Signature on File]_____ _3-28-08_____
Mike Apple, Director Date
Division of Solid Waste Management

policy/notebook/pn028
Revision 1: March 2008

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Civil Engineering Applications Acceptable for Reimbursement as a Beneficial End Use of Waste (Scrap) Tires

POLICY

Purpose

This document is a statement of policy designed to describe civil engineering applications that are deemed appropriate by the Division of Solid Waste Management (SWM) for reimbursement through the solid waste assistance grant program as a beneficial end use of waste (scrap) tires generated in Tennessee, in accordance with T.C.A. 68-211-867(b)(5). This policy does not mandate the use of products or materials resulting from waste (scrap) tires.

Background

A beneficial end use of waste (scrap) tires in civil engineering applications is defined as the use of tires to serve as a replacement for another material, after it is processed so as to lose its identity as a solid waste or as a tire by providing a sound environmental or engineering advantage, or by the material becoming a value-added product that is returned to commerce. In other words, civil engineering applications should not be used just to bury waste (scrap) tires. Further, a civil engineering application is the use of waste (scrap) tires in place of some conventional construction material such as clean fill, aggregate and rock. A beneficial end use shall not result in unacceptable damage to the environment or public health and safety. Approved beneficial end uses shall be in general conformity with "ASTM Standard Practice for Use of Scrap Tires in Civil Engineering Applications" (D 6270-98).

Civil engineering markets are continuing to gain wider acceptance with leading applications being drainage layers for landfills, lightweight fill, and aggregate for septic tank leach fields. For these civil engineering applications, waste (scrap) tires are processed into tire derived aggregate (TDA). The beneficial properties of TDA include lightweight, high permeability, ability to attenuate vibrations, and good thermal insulating properties.

Applications Qualified for Reimbursement

In all civil engineering applications using tire chips or shreds:

1. All tire chips or shreds shall have the bead wire removed;
2. Tire chips or shreds shall have less than 1% (by weight) of metal fragments, which are not at least partially encased in rubber;
3. Tire chips or shreds should generally be unattached to one another by wires; and

4. All tire chips or shreds shall be free of all flammable contaminants, including wood fragments, wood chips, any other fibrous organic matter, or the remains of tires that have been subjected to a fire.

Specific Civil Engineering Applications Eligible for Reimbursement

I. *Class I Landfill Construction and Closure*

A. The underdrain layer beneath the liner.

B. Pipe trenches associated with the leachate collection/recirculation system, landfill gas collection system, and ground water control system.

C. The leachate drainage and operations layers above the liner (but not as alternate cover material).

D. The drainage layer in the final cover design.

These applications shall have the prior approval of the Division of Solid Waste Management. Further, these applications do not preclude the Division of Solid Waste Management from applying additional or stricter standards to the actual installation. The Division of Solid Waste Management will consider the landfill operator or the party purchasing the tire chips or shreds from the processor to be the end user.

II. *Public Works Construction Projects*

The Division of Solid Waste Management will approve for grant eligibility the beneficial end use of waste (scrap) tires in the construction of paved roads, bridge approaches, levees etc.:

A. Backfill material for embankments, retaining walls, and bridge abutments.

B. Subgrade base beneath roads (including, but not limited to road bed base material) and subgrade insulation for roads.

C. Subgrade lightweight fill in public parking lots.

D. Rubber-modified asphalt after the tires have been processed into crumb rubber.

Additional public works construction projects using waste (scrap) tires in civil engineering applications include the following:

A. Molded rubber products including, but not limited to dock bumpers, crash barriers, etc.

B. Covering material for playground surfaces.

C. Soil amendments for athletic fields and golf courses.

Depending on the specific beneficial use proposed under public works construction projects, authorization may be requires by local governmental offices (including, but not limited to building codes, zoning, health) prior to start-up and installation.

The Division of Solid Waste Management will consider the construction contractor or the party purchasing the tire chips from the processor to be the end user. Further, the use of waste (scrap) tires as general fill is not included in the above uses nor allowed.

III. *Drainfield Aggregate*

The Division of Solid Waste Management will approve for grant eligibility as a beneficial end use of waste (scrap) tires the application of tire chips in the construction of subsurface sewage disposal systems and ground water/surface water diversion systems, i.e. French drains, for subgrade building foundations under the following conditions:

1. The substitution of tire chips for conventional drainfield aggregate has the prior approval of the local or state government agency having jurisdiction over installation of such systems;

2. The tire chips are sold by the processor to an installer/home construction contractor, or to a company that stockpiles the material for the purpose of selling it to installers/home construction contractors;

3. The tire chips delivered to the end user are to meet the specifications of the local or state government agency having jurisdiction over installation of such systems; and

4. Any layers of 100% tire chips or shreds shall not exceed 3 meters (117 inches) in thickness.

The Division of Solid Waste Management will consider the installer/home construction contractor or the party purchasing the chips from the processor to be the end user. Further, the use of waste (scrap) tires as general fill is not included in the above uses nor allowed.

Appropriateness of ASTM Standard Practice for Use of Scrap Tires in Civil Engineering Applications

ASTM Standard Practice for Use of Scrap Tires in Civil Engineering Applications (D 6270-98) describes several uses that are contained in this policy. Further, the ASTM D 6270-98 should be utilized when proposing any of the civil engineering applications as identified in this policy. As pointed out in ASTM D 6270-98, it is the responsibility of the design engineer to determine the appropriateness of using waste (scrap) tires in a particular application and to select applicable tests and specifications to facilitate construction and environmental protection. A copy of the ASTM Standard Practice (D 6270-98) is available at the ASTM web site:
http://www.astm.org/cgi-bin/SoftCart.exe/index.shtml?E+mystore
[Note: Must pay to download/view a copy of the ASTM specifications.]

Approval by the Division of Solid Waste Management

As noted in the above policy, the Division of Solid Waste Management must approve the application prior to grant eligibility. In addition, anyone proposing a civil engineering application should consult with the Division of Solid Waste Management's Field Office staff in order to review the proposal. Further, these applications do not preclude the Division of Solid Waste Management from applying additional or stricter standards to the actual installation.

[Signature on File] _08/01/05___
Mike Apple, Director Date
Division of Solid Waste Management

policy/notebook/pn123
Revised: July 2005

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Landfill Operators Certification Fees
POLICY

Purpose

This policy establishes the procedures and responsibilities within the Division of Solid Waste Management (SWM) regarding the landfill operators' certification fees and its relationship with the Division of Fiscal Services (DFS) that collects these fees.

Background

The landfill operators certification training program was initiated through the enactment of the Solid Waste Management Act of 1991. TCA 68-211-853 sets forth the statutory objective of establishing by rule a program for the certification of Class I landfill operators. The statute imposes a fee for the operator training and certification program. As authorized by state statute, the Division of Solid Waste Management (SWM) promulgated Rule 0400-11-01-.12, which established procedures and requirements for those required to receive training and certification and sets forth specific fees. As of January 2005, SWM is responsible for all these functions with the exception of depositing of fee payments. The Fee Section within the Division of Fiscal Services performs the fee deposit responsibility.

Definition of Terms

"Certification" means a certificate of completion issued by the Department upon attending the LOCT class, passing the landfill operators examination, and payment of the required fee.

"DFS" means the **D**ivision of **F**iscal **S**ervices.

"LOCT" means the **L**andfill **O**perators **C**ertification **T**raining program, which includes the training classes and examination in order for operators to be certified.

"Operator" means the person or persons applying for or holding a permit, or who are otherwise responsible for the operation of a facility. [Rule 0400-11-01-.01(2) Definitions]

"Recertification" applies to an operator who has been certified and chooses to recertify by obtaining 24 credit hours of Department-approved training within a three (3) year period.

"SWANA" means the **S**olid **W**aste **A**ssociation of **N**orth **A**merica.

"SWM" means the Division of **S**olid **W**aste **M**anagement.

Landfill Operator Certification Fee Collection & Deposit Process

1: Issue LOCT Registration **Responsible Entity: SWM**

SWM prepares a registration brochure that announces the training class, examination, and certification. This occurs annually in the spring of the year. The registration brochure is developed by SWM and mailed to all landfill owners and certified operators. The brochure identifies the training location, dates, and times; the fees that will be charged for the training and certification; and a pre-registration form (application), which requires submittal of the fee to the Department.

2: Submit Registration Forms **Responsible Entity: Operators**

Upon receipt of the announcement brochure, the landfill owners and operators complete the pre-registration form and submit the form along with the fee to the Division of Solid Waste Management. The following is the fee schedule for the LOCT program:

Full Certification*	$400.00
LOCT: Second Day (8 hours)**	$80.00
LOCT: Third Day (8 hours)**	$80.00

*Certification fee is set by Rule 0400-11-01-.12(1)(c)9.

**Certified landfill operators have the option to audit the LOCT class in order to receive a maximum of eight (8) credit hours toward their 24 hours for recertification.

The landfill operator is to pay the appropriate fee based on the fee schedule by submitting their pre-registration form and payment to SWM.

3: Receive Fees & Deposit Fees **Responsible Entity: SWM & DFS**

SWM receives the pre-registration form and fee (based on the fee schedule under Item 2 above) from each eligible landfill owner or operator. SWM forwards checks and copy of pre-registration forms to DFS for deposit in the Solid Waste Management Fund under the agency revenue source code [“LOT”]. SWM will maintain and update the LOCT database based on the fee payments received.

4: Conduct LOCT Class **Responsible Entity: SWM**

SWM staff develop and conduct the LOCT class and examination. Additional instructors may be used from outside organizations (their expenses may be paid by the Department).

5: Issue Certificates **Responsible Entity: SWM**

Based on the LOCT database and confirmation of payment, SWM will issue a certificate of completion to the appropriate landfill owner and operator. The certification will not be issued until the appropriate fee has been collected. The certificates are to be signed by the SWM Division Director.

6: Issue Recertification Responsible Entity: SWM

When a landfill operator obtains 24 credit hours of Department approved training within a three (3) year period, SWM notifies the operator to pay the recertification fee of $100*. At least thirty (30) days prior to the expiration date, SWM issues an invoice to the operator requesting payment of the $100 recertification fee. Upon receipt of the recertification fee, SWM will issue a new certificate to the landfill operator. The recertification fee is forwarded to DFS for deposit in the Solid Waste Management Fund under the agency revenue source code [“LOT”].

*Recertification fee is set by Rule 0400-11-01-.12(1)(c)9.

7: Issue Certificates for SWANA Certified Operators Responsible Entity: SWM

Based on the LOCT database, SWM reviews the listing of landfill operators that have received certifications from SWANA. Prior to the expiration date of the operator’s SWANA certificate, SWM contacts the operator to verify the expiration date and request a copy of the operator’s most recent SWANA certification. A Tennessee certification fee is not required for a SWANA certified operator. Upon receipt of a copy of the operator’s SWANA certificate, SWM will issue a State of Tennessee certificate to the SWANA certified operator. SWM will maintain and update the LOCT database with the new expiration date based on the operator’s SWANA certificate. The department has a reciprocity agreement with SWANA in accordance with Rule 0400-11-01-.12(1)(c)8.

[Signature on File] 02-16-10
Mike Apple, Director Date
Division of Solid Waste Management

policy/notebook/pn120
Revision 1: February 2010

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Training Opportunities For Recertification Credit Hours

POLICY

Purpose

This policy identifies how the Department will assess training credit hours in order for landfill operators to obtain recertification. The Solid Waste Management Act of 1991 requires the certification of Class I landfill operators and their periodic recertification.

Background

Rule 0400-11-01-.12(1)(c)4 states that all persons required to obtain certification must become recertified within three (3) years by attending 24 hours of Department approved training. Further, under Rule 0400-11-01-.12(1)(c)7, the Department will maintain a list of approved training programs recognized by the Department.

Pursuant to Rule 0400-11-01-.12(1)(c)8(ii), the Department allows for reciprocity for those landfill operators holding Solid Waste Association of North America (SWANA) certification. A Tennessee certificate will be issued with the same expiration date as the SWANA certificate.

Training Opportunities

The Department recognizes the following training opportunities in order for a landfill operator to obtain the 24 hours for recertification over the three (3) year period:

1. Attend the Department's Annual Basic Landfill Operators Certification Training class held in the spring of each year. [A maximum of 8 credit hours can be obtained.]

2. Attend the Department's Certified Landfill Operator's One-Day Course held in the fall of each year (held at two locations). [A maximum of eight (8) credit hours can be obtained.]

3. Attend the Solid Waste Sessions held at the Annual Solid and Hazardous Waste Conference and Exhibition (Gatlinburg, TN) [At least nine (9) credit hours can be obtained.]

4. Attend and receive a certificate for the Tennessee Erosion Prevention and Sediment Control Training and Certification Program. Training course information can be obtained from the following web site: www.tnepsc.org. [Six (6) credit hours can be obtained for Level I training; and 13 credit hours for Level II training.]

5. Attend and receive the Level 1 Recertification under the Tennessee Erosion Prevention and Sediment Control Program. Recertification training course information can be obtained from the following web site: www.tnepsc.org. [Three (3) credit hours can be obtained for this recertification training.]

6. Attend UT-Center for Industrial Services training classes, if the Department deems the training is pertinent to certified landfill operators. The Department has approved the following classes as being eligible for re-certification credit hours: 8 Hour Excavation Competent Person (eight (8) credit hours); Confined Space Overview (eight (8) credit hours); and 16 Hour Manhole Operations and Safety Training (16 credit hours).

7. Attend approved SWANA training courses, if the Department deems the training is pertinent for landfill operators. [The hours of credit will vary and will be limited to actual classroom time.]

8. Attend other landfill related training classes; the landfill operator must submit to the Department (prior to attending the class) a request for evaluation training hours. If the Department deems the training is pertinent for landfill operators, the Department will identify total credit hours to be awarded. [The hours of credit will vary and will be limited to actual classroom time.]

For those training opportunities that are not sponsored by the Department, each landfill operator must submit a written request for approval of those credit hours. A copy of the pertinent training brochure or course outline must accompany the request. The outline must specify the course content and number of hours allocated to each topic.

Upon receipt of the written request, the Department will review the pertinent training brochure or course outline. Credit hours will be granted based on relevancy to landfill operations and awarded after proof of successful completion. The Department will acknowledge in writing to the landfill operator how many credit hours have been awarded that will apply toward recertification.

Summary

TDEC encourages Tennessee Class I landfill operators to participate in these types of worthwhile training programs in order to obtain the 24 credit hours over three (3) years for recertification.

Once a landfill operator has obtained the required 24 credit hours for recertification, the Department will invoice the operator in order to secure payment of the $100.00 recertification fee [Rule 0400-11-01-.12(1)(c)9(ii)]. If a landfill operator has obtained more than the 24 credit hours, the Department will allow a maximum of six (6) credit hours above the required 24 credit hours to be carried forward for recertification over the next three (3) year period.

However, if a certified landfill operator does not obtain the required 24 credit hours for recertification within the three (3) years, the operator must attend the Department's Annual Basic

Landfill Operators Certification Training class and take the examination. The operator will be required to pay the certification and training fee of $400.00.

The Division of Solid Waste Management will maintain up to date information about landfill operator certification training programs. For such information, please contact:

Certification Training Coordinator
Division of Solid Waste Management
5th Floor, L&C Tower
401 Church Street
Nashville, TN 37243
615-532-0780

___[Signature on File]_____ _02/03/2010_____
Mike Apple, Director Date
Division of Solid Waste Management

policy/notebook/pn103
Revision 2: February 2010

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Inspection Frequency – Solid Waste Facilities
POLICY

The following table provides minimum inspection frequencies for solid waste facilities. These timeframes should meet regulatory requirements for facility compliance schedules.

Class I Landfill~~s~~	12 per year (No more than 45 days between inspections.)
Class II, III & IV Landfills	1 per quarter
Post Closure Inspection	2 per year
Permit By Rule Facility	1 per quarter
Convenience Center	1 per year
Land Application Facility	As Needed

Follow-up inspections should be done as needed to insure compliance at the facility. Scheduling of post closure inspections should allow for observation once during the wet season and once during the growing season.

_[Signature on File]_____ _1-11-2013____
Patrick J. Flood, PE, Director Date
Division of Solid Waste Management

pn074: Revision 1

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Records Inspection at Landfills
POLICY

The following is a compilation of requirements for record keeping at landfills.

Regulation/Policy	Subject Records
.01(4)(d)2	Special Waste Records – The operator shall keep records on the receipt and management of special waste approvals.
.02 (2)(a)4	Application, Plans, and Supporting Documents – The operator shall keep all records used to complete permit applications.
.02(4)(a)7	Records Location – All records must be kept at the facility or other locations approved by the Commissioner.
.02(4)(a)9(ii)	Monitoring and Records – All monitoring records must be kept for the life of the facility and the post-closure care period. Minimum and type of information is identified here in the regulations.
.04(2)(k)3(i)(II)VI	Tires – The Operator shall keep records to establish when each tire pile was begun (to assure less than one year).
.04(2)(s)	Random Inspections – Random inspection records must be maintained in a bound notebook, and include the information specified in the rule. It will be the policy of this Division to require that random inspection records by kept for a minimum of three (3) years. Facilities may, at their discretion, choose to keep those records for a longer time. A copy of the random inspection checklist is found at policy 73.
.04(5)(a)4	Gas Migration Monitoring Records – The operator must keep all gas monitoring records as required in the rule.
.04(7)(a)4(vii)	Ground Water Monitoring Records – The operator must keep records of all ground water sampling activities, the analysis results, ground water surface elevations, and any other ground water records required in the permit. The records must be kept at the facility or some other location within Tennessee approved in the permit.

.08(3)	The Records of Waste Received – The operator shall maintain written records of waste received in tons. The current month's records must be at the facility. The facility must designate to DSWM the location of site of older records.
Policy 43	Records for Asbestos – The NESHAP manifest or its equivalent shall be adequate in lieu of other shipping and receiving records.

_[Signature on File]_____ _03-20-2001_____
Mike Apple, Director Date
Division of Solid Waste Management

policy/notebook/pn072
Revision 1: March 2001

LANDFILL INCOMING WASTE
RANDOM INSPECTION CHECKLIST

Use checklist for all suspicious loads and for 5% of all incoming loads of solid waste brought into the facility for disposal. Random inspections and records are required by the Rules promulgated under the Solid Waste Management Act at Rule 0400-11-01-.04(2)(s)

Date _____ Time _____

Customer _____ Vehicle License Plate # _____

_____

Type Waste:

☐ Municipal / County ☐ Commercial ☐ Industrial ☐ Construction / Demo

Are there any unauthorized wastes?

- ☐ automobile batteries
- ☐ whole tires
- ☐ bulk liquid
- ☐ pcb's
- ☐ unauthorized special waste
- ☐ unauthorized hazardous waste (corrosive, ignitable, reactive, TCLP Toxic or listed hazardous waste)
- ☐ Other _____

Waste accepted?

☐ yes ☐ no

Comments: _____

_____

_____

_____

Inspector's Name (Print) **Driver's Name (Print)**

_____ _____

Inspector's Signature / Date Driver's Signature / Date

Notification of unauthorized waste:

☐ TN Division of Solid Waste Management _____ Name / Date

☐ Waste Hauler _____ Name / Date

☐ Waste Generator _____ Name / Date

policy/notebook/pn073
Revision 1: March 2001

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Groundwater Monitoring Frequency Change
POLICY

Landfill facilities in assessment with quarterly groundwater monitoring may be conditionally approved to continue monitoring with an alternate frequency (not less than semi-annual) as long as the facility provides proof that the conditions below are met. The new frequency should not change the facility status or any other requirement (i.e., sampling off-site drinking water supplies) under their Assessment Monitoring Program.

1. The landfill has been adequately characterized by installing additional monitoring wells/monitoring points by demonstrating the nature, and both vertical and horizontal extent of the release.

2. If contaminants have migrated off-site, all persons must be notified who own the land, and all persons who reside on the land that directly overlies any part of the plume of contamination.

3. The proposed sampling and reporting frequency must be capable of determining whether solid waste or solid waste constituents from the facility have entered the groundwater, the rate and extent of migration of waste or waste constituents in the ground water, and the concentration in the ground water of such wastes or waste constituents.

4. The proposed sampling frequency must be as protective of human health and the environment as the former frequency.

5. At minimum, eight consecutive quarters of groundwater monitoring data should be provided to demonstrate that there has been no significant variation in the overall mean value for any constituent at any sampling location.

[Signature on File]_____ 7-1-10____
Mike Apple, Director Date
Division of Solid Waste Management

policy/notebook/pn132
Original: July 2010

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Ground Water Monitoring Guidance
For Solid Waste Landfill Units
POLICY

Rule 0400-11-01-.04(7) provides the standards/requirements for the ground water monitoring of solid waste landfill (SWLF) units. This document provides regulatory guidance to the Division of Solid Waste Management (DSWM) staff and owners/operators (O/O) of permitted SWLF units regarding the ground water (GW) monitoring requirements. Additional technical guidance is provided in the 1993 EPA publication (EPA530-R-93-017) titled Solid Waste Disposal Facility Criteria found at web site http://www.epa.gov/epaoswer/non-hw/muncpl/landfill/techman/index.htm. The requirements for the GW detection monitoring system and general sampling, analysis, and recordkeeping requirements are addressed in paragraphs I and II, followed by discussions of the GW detection, assessment, and quality assessment monitoring programs in paragraphs III, IV, and V. Paragraph VI describes when and how off-site drinking water sources are to be included in the assessment efforts. Attachment One consists of a flowchart which summarizes the different steps for GW monitoring and assessment programs as described in paragraphs III through VI below.
Note: Appendices I, II, and III referenced in this document are found in Rule 0400-11-01-.04.

I. GW Monitoring System

The detection GW monitoring system specifications for SWLF units are provided in Rule 0400-11-01-.04(7)(a)3 and are established during the permitting process for new SWLFs. SWLFs that were in existence on the effective date (March 18, 1990) of the new regulatory requirements were required to upgrade their existing system to achieve compliance. SWLFs must have a GW water monitoring system consisting of a sufficient number of wells and/or springs, placed at appropriate locations and depths, to yield GW samples from the uppermost aquifer that:

1. Represent the quality of background GW that has not been affected by leakage from the facility; and

2. Represent the quality of GW passing the compliance boundary hydraulically downgradient (e.g., based on static head differences) from the waste disposal area.

The actual number and placement of wells will be dependent on site-specific factors, including footprint size and physical layout, etc., and must *at least* include 1 upgradient and 2 downgradient monitoring points, unless other monitoring points and locations are otherwise approved by the DSWM.

All monitoring wells must be cased in a manner that maintains the integrity of the monitoring well bore hole and have locking caps. This casing must be fitted with a screened interval, with inert gravel or sand packed around the screen as necessary to enable collection of GW samples at depths where appropriate flow zones exist. The annular space (e.g., the space between the bore hole and the well casing) above the sampling depth must be sealed with a suitable material (e.g., cement grout or bentonite slurry) to prevent contamination of samples and/or the contamination of groundwater, and to prevent the loss of the volatile gases.

Note: Please refer to the 1993 EPA publication (EPA530-R-93-017) titled Solid Waste Disposal Facility Criteria found at web site http://www.epa.gov/epaoswer/non-hw/muncpl/landfill/techman/index.htm for additional standards and technical guidance on the placement and construction of monitoring wells.

II. Sampling, Analysis, and Recordkeeping Requirements

The sampling, analysis, and recordkeeping requirements located in Rule 0400-11-01-.04(7)(a)4 apply to all GW monitoring programs under the regulations as described in this document.

1. GW monitoring programs must include consistent sampling and analytical procedures designed to ensure accurate monitoring results representative of actual GW quality at all monitored points in the approved GW monitoring system.

   (a) At a minimum, the program must include procedures and techniques for:

      (i) Sample collection;

      (ii) Sample preservation and shipment;

      (iii) Analytical procedures;

      (iv) Chain of custody control; and

      (v) Quality assurance and quality control.

   (b) GW monitoring programs must include appropriate sampling and analytical methods, which accurately measure hazardous constituents and other monitoring parameters in GW samples. Unless otherwise approved by the DSWM, appropriate methods from EPA Publication SW-846 shall

be used to analyze all samples except drinking water method 508A may be used for polychlorinated biphenyls. The laboratory reporting limits (PQL or PQL equivalent such as EQL, RL, LOQ, etc.) shall be the lowest practical quantitation limits that can be reliably achieved within specified limits of precision and accuracy and shall be at least four times below all established groundwater protection standards in Appendix III of Rule 0400-11-01-.04 or other groundwater protection standards approved by the DSWM. There are SW-846 methods (e.g., 6010B) that have a few analytes (e.g. antimony, cadmium, and thallium) with practical quantitation limits (laboratory reporting limits) that are greater than groundwater protection standard(s). In those few cases, another SW-846 method (e.g., 6020) shall be used with the laboratory reporting limits being the lowest practical quantitation limits that can be reliably achieved within specified limits of precision and accuracy.

Note: GW samples shall not be field-filtered prior to laboratory analysis, unless both filtered and unfiltered samples are collected and analyzed.

2. GW elevations must be measured (to the nearest 0.01 foot) in each monitoring well prior to purging for every sampling event. The GW elevations shall be measured in all monitoring points whether or not a well will be sampled unless otherwise approved by the DSWM. The elevation for the top of the casing of all monitoring wells and all other monitoring points shall be established to Mean Sea Level (MSL). The O/O must determine the rate and direction of GW flow each time GW is sampled. GW elevations in wells monitoring the same waste management area must be measured in a period of time short enough to avoid temporal variations in GW water flow that could preclude accurate determination of GW flow rate and direction. Normally the measurements are made within a 24-hour period. All monitoring wells shall be inspected for the pad, above ground casing, locking cap, and lock integrity. The O/O shall replace any lock that has been compromised on the day of the finding. The O/O shall repair any monitoring well pad, casing, and locking cap that compromises the integrity of the monitoring well within fifteen days of the finding.

3. The O/O must establish background GW quality in **one or more hydraulically upgradient** well(s) and other approved monitoring points (springs) for each of the monitoring parameters/constituents of the approved GW program for the affected SWLF unit as required by Rule 0400-11-01-.04(7)(a)3(i). Rule 0400-11-01-.04(7)(a)5(ii)(II) requires a minimum of four independent samples be collected from each monitoring well (point) and analyzed for the constituents contained in Appendix I of this Rule, or those in the alternative list approved under Rule 0400-11-01-.04(7)(a)5(i)(I) or (II), prior to or during the first semi-annual sampling event period. Ideally, these four independent samples (from each monitoring point) should be collected and analyzed at three-month intervals (to enable fluctuations due to seasonal variations to be taken into account) prior to the initial

semi-annual sampling event; however, at a minimum, each of the four independent samples (from each monitoring point) must be collected and analyzed at approximately two month intervals throughout the six month long semi-annual sampling event, after the initial background sampling event. Unless the O/O can demonstrate that the up-gradient GW quality has been impacted by another source, the background levels for constituents that do not naturally occur, shall be the laboratory reporting limits (PQL or PQL equivalent such as EQL, RL, LOQ, etc.) for use in all GW Monitoring data evaluations. (Please read the note in subparagraph II.4 immediately below for additional clarification.)

4. The O/O must select and report in the GW Detection Monitoring Program document (Paragraph III below) a statistical method to be used in evaluating GW monitoring data. The number of samples collected to establish GW quality data must be consistent with the appropriate statistical procedures determined pursuant to Rule 0400-11-01-.04(7)(a)4(v). If the O/O desires to utilize an alternative statistical method, he must request a variance under Rule 0400-11-01-.04(7)4(vi) and receive approval from the DSWM prior to utilizing the alternative statistical method. Statistical evaluations are not applicable to all constituents that do not naturally occur unless the O/O can demonstrate to the Division's satisfaction that the contamination is from another source.
Note: If background has not been established from an upgradient-monitoring point, then the O/O must install and sample at least one upgradient monitoring well to establish background. At existing facilities where background has not been established and the O/O can demonstrate to the Division's satisfaction that it is not possible to install an upgradient monitoring well(s) and no other options (e.g., spring) are available, then the O/O shall provide an alternative approach for statistical comparisons for DSWM approval. All demonstrations referred to in this note shall be submitted in a report certified in accordance with subparagraph II.8 below. Additionally if waste was placed in the SWLF unit prior to establishment of background concentrations under subparagraph II.3 above, resulting in the possibility that the downgradient wells have been affected, then the O/O ***cannot*** *use any method that relies on intra-well comparisons unless the O/O can demonstrate to the Division's satisfaction that the monitoring point was not impacted at the time of sampling.*

5. The O/O must keep records of all GW activities conducted, all analytical results obtained, and all associated GW surface elevation measurements throughout the active life of the facility and throughout the post-closure care period as well. Such records must be kept at the facility or at some other location within Tennessee as specified in the permit.

6. The O/O must determine whether or not there has been a statistically significant increase above background values for each parameter or constituent, as required in the approved monitoring program for the SWLF, as dictated in the regulations and permit, and as described in this document. Comparison must be made of

subsequent sample analytical results to background concentrations or values established using the selected statistical procedure, which will at least meet the general performance standard of assuring with a reasonable degree of confidence that the migration of waste constituents from the facility into or through the uppermost aquifer at the compliance monitoring boundary will be detected. Statistical evaluations are not applicable to all constituents that do not naturally occur unless the O/O can demonstrate to the Division's satisfaction that the contamination is from another source. If any constituent that does not naturally occur is detected and the O/O **cannot** demonstrate to the Division's satisfaction that the contamination is from another source, then the landfill has impacted the GW and the presence of the constituent(s) are considered verification that there is a statistically significant increase above background value(s).
*Note: If waste was placed in the SWLF unit prior to establishment of background concentrations resulting in the possibility that the downgradient wells have been affected, then the O/O **cannot** use any method that relies on intra-well comparisons unless the O/O can demonstrate to the Division's satisfaction that the monitoring point was not impacted at the time of sampling. At existing facilities where background has not been established and the O/O can provide documentation and justification that it is not possible to install an upgradient monitoring well(s), then the O/O shall provide an alternative approach for statistical comparisons for DSWM approval.*

7. All GW sampling and analysis results, statistical determinations, and associated recordings of GW water surface elevations must be submitted to the DSWM within sixty (60) days following the last day of the sampling event. To facilitate handling and evaluation of this data, the Commissioner may specify the manner and form in which the data must be reported as authorized in Rule 0400-11-01-.04(7)(a)4(viii). All GW monitoring reports shall at a minimum provide the following:

   (a) A description of the sampling procedures performed (including field measurements of pH, conductivity, temperature, turbidity, etc.; and calculations/measurements of purge volumes), the date(s) and time(s) of field activities (including field instrument calibration and decontamination), and the weather conditions at the site when the activities were performed. Much of this information may be reported in field data forms for each monitoring point. The sampling shall be conducted in accordance with procedures established in an approved Detection Monitoring or GW Quality Assessment Program.

   (b) The MSL elevation of the top of the casing for each monitoring well, the location and the GW surface elevations for each monitoring point (e.g., wells, springs, etc.), and the GW flow direction and rate.

(c) A description of the results the inspections of all monitoring wells pad, above ground casing, locking cap, and lock The O/O shall replace any lock that has been compromised on the day of the finding. The O/O shall repair any monitoring well pad, above ground casing, and locking cap that compromises the integrity of the monitoring well within fifteen days of the finding.

(d) On a to-scale map of the facility, the locations of all monitoring points, the MSL potentiometric surface determined from water level measurements collected during the event, the property boundaries, and active and closed fill areas.

(e) A list of the monitoring parameters and the methods used to analyze the samples.

(f) Copies of the chain of custody forms and the laboratory report sheets.

(g) Tables listing each monitoring point and including the results of the most recent sampling event, background GW quality concentrations established under subparagraph II.3 above, and GW protection standards established under part IV.1.(c) below for all parameters/constituents. (These tables shall also be provided in a spreadsheet(s) on computer disk.)

(h) The statistical method used that is established in accordance with subparagraph II.4 above.

(i) The results of the statistical evaluation to determine whether or not there has been a statistically significant increase above background values for all naturally occurring parameters/constituents monitored.
Note: Other constituents, that do not naturally occur and O/O have demonstrated to the Division's satisfaction that the contamination is from another source, shall also undergo statistical evaluation.

(j) For SWLFs that are submitting a report under the GW Quality Assessment Program under paragraph V. below must include a narrative description of the rate and extent of migration of waste or waste constituents in the GW. In addition to the information required in part II.6.(i) above, the to-scale map(s) must show the extent of contamination for all parameters/constituents that are above the groundwater protection standards.

(k) A conclusion section that summarizes the results of the GW sampling event, notes anything unusual, and provides the appropriate sampling/analyses determinations (based on the appropriate GW monitoring program) and the approximate start date for the next planned

sampling event. The conclusion shall also summarize all naturally occurring constituents that are statistically significant above background values, all detected constituents that do not naturally occur, and all constituents that exceed the GW protection standards established under part IV.1.(c) below.

(l) The certification described in subparagraph II.8 below.

8. All plans, programs, and reports must be certified by a person representing the O/O as described in Rule 0400-11-01-.02(2)(a)7, 8 and 10.

III. Detection Monitoring Program

Detection Monitoring Program requirements are found in Rule 0400-11-01-.04(7)(a)5 and are established during the permitting process for SWLFs.

1. The program must be described in a document titled "Ground Water Detection Monitoring Program Plan" and is part of the permit (Narrative Description of the Facility and Operations). The GW Detection Monitoring Program Plan must be submitted to the DSWM for approval. Normally this occurs during the permitting process. The O/O cannot make modifications to the approved GW Detection Monitoring Program Plan without submitting a written request and receiving written approval from the DSWM. The GW Detection Monitoring Program Plan must describe the following:

   (a) For each monitoring point, the detection monitoring parameters for which the GW sample will be analyzed and the analytical method to be utilized. *Note: The parameters will be those set forth in Appendix I unless DSWM has approved in writing a request to delete any of the Appendix I parameters and/or establish an alternative list of inorganic indicator parameters in accordance with Rule* 0400-11-01-*04(7)(a)5(i) (I) and (II).*

   (b) Each of the monitoring points (e.g., wells and springs) in the approved GW monitoring system, and the frequency at which each point will be sampled. The monitoring points must be shown on a to-scale map of the facility which also shows the boundaries of the facility and the active, closed, and planned fill areas; roads and buildings; and topographic features (e.g., sinkholes). Unless otherwise specifically approved by the DSWM, each monitoring point must be sampled at least semi-annually.

   (c) The background GW quality data established or to be established for newly permitted SWLF in accordance with subparagraph II.3 above.

   (d) The field procedures to be utilized in measuring water levels, purging monitoring wells, and collecting GW water samples from monitoring

wells, springs (where applicable), and/or domestic water supply wells (where applicable). This must identify how portable, direct reading electronic instruments will be utilized in the field efforts, and how the field efforts and resulting data will be recorded.

(e) The method to be used for each sampling event to perform the statistical evaluation of the analytical data required in subparagraph II.4 above. Such evaluations must be performed for **each** sampling event in accordance with a method listed in Rule 0400-11-01-.04(7)4(v) unless an alternative statistical method is specifically approved by the DSWM. If the O/O desires to utilize an alternative statistical method, he must request a variance under Rule 0400-11-01-.04(7)4(vi) and receive approval from the DSWM under Rule 0400-11-01-.01(5) prior to utilizing the alternative statistical method.
Note: O/O shall follow the guidance in subparagraphs II.3, II.4 and II.6 above regarding background and statistical methods.

(f) All GW Detection Monitoring reports shall be submitted in compliance with the requirements of subparagraph II.7 above.

2. If the O/O determines that there is a statistically significant increase above background for any constituent that naturally occurs or the detection of any constituent that does not naturally occur for one or more approved detection monitoring parameters, then the O/O must, within 14 days of this finding, send a notice to the DSWM adequately detailing the findings. Statistical evaluations are not applicable to all constituents that do not naturally occur unless the O/O can demonstrate to the Division's satisfaction that the contamination is from another source. If any constituent that does not naturally occur is detected and the O/O **cannot** demonstrate to the Division's satisfaction that the contamination is from another source, then the landfill has impacted the GW and the existence of the constituent(s) documents for all purposes that there is a statistical significant increase above background value(s). The O/O has 90 days [Rule 0400-11-01-.04(7)(a)5(iii)(III)] from sample analysis to demonstrate that a source other than a SWLF unit caused the contamination or that the statistically significant increase resulted from error in sampling, analysis, and/or statistical evaluation, or from natural variation in GW quality. The 90-day time frame for a demonstration begins on the date the sample(s) is analyzed by the laboratory. A report documenting this demonstration must be certified by a qualified GW scientist and approved by the DSWM. If a successful demonstration is documented and approved, the O/O may continue detection monitoring as specified in this section. If, however, such a demonstration is not documented by the O/O and approved by the DSWM within 90 days from the date the sample(s) is analyzed by the laboratory, then the O/O shall initiate an assessment monitoring program as set forth in paragraph IV below [Rule 0400-11-01-.04(7)(a)5(iii)(III)].

IV. Assessment Monitoring Program

Assessment monitoring is required whenever a statistically significant increase above background has been determined for any constituent that naturally occurs or the detection of any constituent that does not naturally occur for one or more of the Appendix I constituents or alternative constituents approved under Rule 0400-11-01-.04(7)(a)5(i)(I) or (II). Statistical evaluations are not applicable to all constituents that do not naturally occur unless the O/O can demonstrate to the Division's satisfaction that the contamination is from another source. There are three distinct phases to the GW assessment program, which the DSWM refers to as Phase 1, 2 and 3. The three different phases of GW Assessment are described in subparagraphs IV.1, IV.2, and IV.3 below.
Note: The O/O may document or attempt to document that the impact to the GW is due to gas migration and not from leachate at the SWLF. Regardless of how the GW is impacted by a SWLF (gas or leachate), if the constituents are above background, the SWLF remains in assessment. SWLF impacts by gas migration do not in any way eliminate or reduce the duty to comply with the assessment and corrective action requirements. However, the O/O may take immediate action to correct the likely cause of the impact (gas and/or leachate), but the O/O cannot defer compliance with the required assessment activities.

1. GW Assessment Monitoring Phase 1

(a) Ninety (90) days from sample analysis showing a statistically significant increase above background for any constituent that naturally occurs, or the detection of any constituent that does **not** naturally occur for one or more of Appendix I constituent(s) or alternative constituent(s) [Rule 0400-11-01-.04(7)(a)6(ii)], the O/O shall initiate GW Assessment Monitoring Phase 1. Within the next 90 day of initiating GW Assessment Monitoring Phase 1, the O/O shall:

(i) Initial Assessment Sampling Event – Sample and analyze all downgradient-monitoring points (e.g., wells, springs, etc.) for all Appendix II constituents for the initial assessment sampling event. The O/O may request deletion of some of the Appendix II constituents from this initial assessment sampling event, provided he can adequately justify that the removed constituents are not reasonably expected to be in, or derived from, the waste contained in the unit. The O/O may also request approval to sample an appropriate subset of monitoring points. All requests shall be made in writing with justification and be certified by a person representing the O/O in accordance with subparagraph II.8.
Note: In order to comply with the ninety (90) day time frame, this must be conducted within the first thirty (30) days.

(ii) Background Sampling for Identified Appendix II Constituents – Sample and analyze all approved upgradient and downgradient monitoring points (e.g., wells, springs, etc.) for four independent samplings within sixty (60) days in order to comply with the ninety (90) day time frame. The samples shall analyzed for all Appendix II constituents detected in the Initial Assessment Sampling Event described in subpart IV.1.(a)(i) that had not been previously detected. The purpose of the four sampling events is to establish background for any Appendix II constituent for which background had not been previously established and obtain data for the required statistical evaluation. Background must be established from an upgradient monitoring point for any Appendix II constituent that background had not been previously established. Unless the O/O can demonstrate that the up-gradient GW quality has been impacted by another source, the background levels for constituents that do not naturally occur shall be the laboratory reporting limits (PQL or PQL equivalent such as EQL, RL, LOQ, etc.) for use in all GW monitoring data evaluations.
Note: Please read the note in subparagraph II.4 above for additional clarification

(b) The O/O must notify the DSWM of all detected Appendix II constituents within 14 days of obtaining analytical results [Rule 0400-11-01-.04(7)(a)6(iii)(I)] in compliance with part IV.1.(a) above.

(c) Within sixty (60) days after completing the sampling under part IV.1.(a) above, the O/O must submit a report that complies with all of the parts in subparagraph II.7 above. If all Appendix II constituents concentrations are **below** the GW protection standards, then the O/O shall proceed to Phase 2 of the Assessment Monitoring Program (subparagraph IV.2 immediately below). If any Appendix II constituent concentration is **above** its GW protection standard, then the O/O must notify the DSWM within 14 days of the this finding and proceed to a GW Quality Assessment Program (paragraph V. below).

(d) All SWLFs must be designed, constructed, operated, maintained, closed, and cared for after closure to comply with the GW protection standards.

(i) The GW Protection Standards shall be:

(1) For constituents for which a maximum contaminant level (MCL) is listed in Appendix III of Rule 0400-11-01-.04, the MCL for that constituent; or

(2) For constituents for which MCLs have not been promulgated, the background concentration for the constituent established from wells installed in accordance with Rule 0400-11-01-.04(7)(a)3; or

(3) For constituents for which the background level is higher than the MCL in Appendix III of Rule 0400-11-01-.04 or health based levels identified under subpart IV.1.(d)(ii) below, the background concentration.

(ii) The O/O may request, and the DSWM may approve, an alternative GW protection standard for constituents without MCLs. The MCLs are provided in Appendix III of Rule 0400-11-01-.04. Each alternative GW protection standard shall be one number for the site, like a MCL, that does not vary from monitoring point to monitoring point. The alternative GW protection standard cannot be changed from monitoring event to monitoring event because the data used for establishing a standard is based on long-term exposure. The request must be in the form of an Alternate GW Protection Demonstration Report prepared and certified by a qualified toxicologist. The report must demonstrate that the requested alternative GW protection standard(s) is protective of public health and the environment in compliance with all the requirements under Rule 0400-11-01-.04(7)(a)1(ii) and (iii) [this subpart and subpart (iii) below]. [See the note at the end of part IV.1.(d).] The report must also be certified by the O/O. These GW protection standards shall be appropriate health based levels that satisfy the following criteria:

(1) The level is derived in a manner consistent with Environmental Protection Agency guidelines for assessing the health risks of environmental pollutants (51 CFR 33992, 34006, 34014, 34028, Sept. 24, 1986);

(2) The level is based on scientifically valid studies conducted in accordance with the Toxic Substances Control Act Good Laboratory Practice Standards (40 CFR part 792, August 17, 1989) or equivalent;

(3) For carcinogens, the level represents a concentration associated with an excess lifetime cancer risk level (due to continuous lifetime exposure) within the 1.0×10^{-4} to 1.0×10^{-6} range; and

(4) For systemic toxicants, the level represents a concentration to which the human population (including sensitive subgroups) could be exposed to on a daily basis that is likely to be without appreciable risk of deleterious effects during a lifetime. For purposes of this subpart, systemic toxicants include toxic chemicals that cause affects other than cancer or mutation.

(iii) The synergistic/additive impacts due to the presence of multiple contaminants in the GW, exposure threats to sensitive environmental receptors, and other site-specific exposure or potential exposure to GW should be taken into consideration in establishing alternative GW protection standards.

Note: In lieu of having a qualified toxicologist prepare and certify an Alternate GW Protection Demonstration Report, the O/O and his/her representative may use USEPA Region 9's Preliminary Remediation Goals for tap water as alternative GW protection standards for constituents without MCLs. USEPA Region 9's Preliminary Remediation Goals and User's Guide and Background Technical Document can be found at http://www.epa.gov/region09/waste/sfund/prg/index.html. Each alternative GW protection standard shall be one number for the entire site, like a MCL GW protection standard, that does not vary from monitoring point to monitoring point.

2. GW Assessment Program-Phase 2

(a) Sampling and Analysis

(i) The O/O must semi-annually sample and analyze GW samples from all monitoring points (e.g., wells, springs, etc.) for the following:

1st Sampling Event: All Appendix I constituents, any additional approved alternative parameters, and all other Appendix II constituents that have been previously detected during GW monitoring.

2nd Sampling Event: All Appendix II constituents and any additional approved alternative parameters.

(ii) The O/O may request to delete any of the Appendix II monitoring parameters for a SWLF unit if it can be shown that the removed

constituents are not reasonably expected to be in or derived from the waste contained in the unit. Additionally, the O/O may request to sample a selected subset of monitoring points for the Appendix II monitoring parameters. All requests shall be made in writing prior to the sampling event with adequate justification and be certified by a person representing the O/O in accordance with subparagraph II.8 above. A reduction in sampling parameters and/or monitoring points requires approval by the DSWM prior to the sampling event.

(b) Within sixty (60) days after completing the semi-annual sampling under part IV.2.(a) above, the O/O must submit a report in compliance with subparagraph II.7 above. [Rule 0400-11-01-.04(7)(a)6(ii)]. If all Appendix II constituents concentrations are **below** the GW protection standards, then the O/O shall remain in the GW Assessment Program under Phase 2 until all naturally occurring Appendix II constituents are statistically below background and other constituents that do not naturally occur (e.g. organics) are below their laboratory reporting limit for two consecutive sampling events. If any Appendix II constituent concentration is **above** its GW protection standard, then the O/O must notify the DSWM within 14 days of the this finding and proceed to a GW Quality Assessment Program (paragraph V. below).

V. GW Quality Assessment Program – Phase 3

1. The O/O must submit a **GW Quality Assessment Plan** to the DSWM not more than forty-five (45) days after the O/O is aware that any Appendix II constituent(s) concentration(s) is **above** its GW protection standard. Additionally, Rule 0400-11-01-.04(7)(a)7 requires the O/O to initiate the assessment of corrective measures within ninety (90) days after the O/O is aware of any exceedance. The DSWM should send a **Notice of Violation "NOV"** letter to the O/O for violating the GW Protection Standard under Rule 0400-11-01-.04(7)(a). The **"NOV"** should establish the compliance date for the submittal of the **GW Quality Assessment Plan. The DSWM is authorized to require the O/O take any measure necessary to protect human health and the environment [Rule 0400-11-01-.04(7)(a)9(i)(III)] and the DSWM may require such action at any time [Rule** 0400-11-01-**.04(7)(a)6(iv)(VIII)].**

2. GW Quality Assessment Plans shall describe in detail the activities necessary to:

   (a) Determine whether solid waste or solid waste constituents from the SWLF have entered the GW, the rate and extent of migration of waste or waste constituents in the GW, and the concentration in the GW of such waste or waste constituent(s).

(b) Specify the number of additional GW sampling locations (springs and wells) and depth of additional well(s) to define the nature and the vertical and horizontal extent of the release. At least one additional monitoring well must be installed at the SWLF boundary in the direction of the contaminant(s) migration.

(c) Notify all persons who own land or reside on the land that directly overlies any part of the plume of contamination if contaminants have migrated off-site.
Note: This shall be documented and updated annually as required under subpart VI.2.(a)(iii).

(d) Identify all domestic and commercial water use sources within a one-mile radius from the center of the SWLF. The plan must propose a user survey that identifies all sources of drinking water (wells and/or springs) within a one-mile radius from the center of the SWLF. The plan must specify that a report containing the results of the survey will be submitted to the DSWM within 45 days of approval of the plan. The O/O may request a reduction or modification to the one-mile radius if adequate justification (e.g. a hydrogeologic barrier or divide such as river is within the one-mile radius) is provided and accepted by the DSWM. The survey report shall contain a topographic map (or legible enlarged copy) identifying the drinking water sources, the latitude and longitude coordinates, the names, addresses and phone numbers (if publicly available) of the owners, the SWLF property boundaries, the SWLF operational boundaries and the one-mile radius.

(e) Conduct quarterly sampling in accordance with subparagraph V.4 below.

(f) Comply with paragraph II (Sampling, Analysis, and Recordkeeping Requirements) above.

3. A qualified GW scientist and a person representing the O/O as described in Rule 0400-11-01-.02(2)(a)7, 8 and 10 must certify the GW Quality Assessment Plan. If the initial plan is deficient, then a Notice of Deficiency (NOD) should be issued requiring a revised GW Quality Assessment Plan. If the revised Plan is deficient, a **Notice of Violation (NOV)** should be issued requiring a second revised GW Quality Assessment Plan. If the second revised GW Quality Assessment Plan is deficient, a **Second Notice of Violation (NOV)** should be issued requiring a third revised GW Quality Assessment Plan, and the DSWM Environmental Field Office shall submit an enforcement request due to the O/O's failure to provide an adequate GW Quality Assessment Plan.
Note: This is consistent with the DSWM Enforcement Policy. Discussions among the Field Office Staff, Enforcement Chief and, as appropriate, the Director, are in order for any unusual circumstances.

4. While the assessment plan is being developed and approved, and throughout implementation, the O/O must conduct quarterly sampling of all monitoring points (e.g., wells, springs, etc.) and submit results in quarterly reports. Quarterly the O/O shall sample and analyze all monitoring points (e.g., wells, springs, etc.) for the following:

   1st Sampling Event: All Appendix I constituents, any additional approved alternative parameters, and all other Appendix II constituents that have been previously detected during GW monitoring.

   2nd Sampling Event: All naturally occurring constituents with a statistically significant increase above background and all detected constituents that do not naturally occur (See subparagraph II.6 above).

   3rd Sampling Event: All Appendix II constituents and any additional approved alternative parameters.

   4th Sampling Event: All naturally occurring constituents with a statistically significant increase above background and all detected constituents that do not naturally occur (See subparagraph II.6 above).

5. The SWLF shall remain in the GW Quality Assessment Program until the extent and nature of contamination in the GW has been defined for all constituents that have been released by the SWLF and an acceptable corrective action GW monitoring program under Rule 0400-11-01-.04(7)(a)9(i)(I) has been implemented.

VI. Off-Site Drinking Water

1. The requirements of this section apply to a SWLF when:

   (a) The O/O fails to comply with any compliance schedule under paragraph V (GW Quality Assessment Program).

   (b) Assessment monitoring performed pursuant to paragraphs IV and V above find that Appendix II constituent(s) concentration(s) is **above** its GW protection standard at <u>any</u> down-gradient monitoring point for more than <u>one year</u> and the extent of contamination in the GW has <u>not been adequately defined</u>.

(c) The DSWM determines, based on site-specific conditions (e.g., karst geologic formations), that the provisions of this section should be implemented without waiting for a year of documented exceedances of a GW Protection Standard.

Note: The DSWM is authorized to require the O/O take ***any measure necessary*** *to protect human health and the environment [Rule 0400-11-01-.04(7)(a)9(i)(III)] and the DSWM may require such action at any time [Rule 0400-11-01-.04(7)(a)6(iv)(VIII)].*

2. As required pursuant to subparagraph VI.1 above, the O/O shall perform the following activities:

(a) Area GW User Survey

(i) The O/O will conduct a user survey that identifies all sources (wells and/or springs) used for drinking water within a one-mile radius from the center of the SWLF. However, the O/O may request a reduction or modification to the one-mile radius if adequate written justification (e.g., hydrogeologic barrier or divide such as river is within the one-mile radius) is provided by the O/O to, and accepted in writing by, the DSWM. All requested reduction or modification shall be made in writing with justification and be certified by a person representing the O/O in accordance with subparagraph II.8.

(ii) Unless a longer time period is allowed by the DSWM, the user survey will be completed and a report submitted to the DSWM within 45 days of the date the DSWM directs the O/O to perform the survey. The report shall contain a topographic map (or legible enlarged copy) identifying the drinking water sources, the latitude and longitude coordinates, the names, addresses and phone numbers (if publicly available) of the owners, the SWLF property boundaries, the SWLF operational boundaries and the one-mile radius (or alternative boundary accepted by the DSWM).

(iii) The O/O shall update the user survey required under subpart VI.2.(a)(i) at least on an annual basis and submit the results of the survey annually. In conjunction with the annual user survey, the O/O shall document the notification to all persons who own land or reside on the land that directly overlies any part of the plume of contamination if contaminants have migrated off-site. Notification is required under part V.2(c) above and Rule 0400-11-01-.04(7)(a)6(iv)(V).

(b) Monitoring of Off-Site Drinking Water Sources

(i) If assessment monitoring at the SWLF has determined that any Appendix II constituent concentration is **above** its GW protection standard, the O/O must collect representative GW samples from all drinking water sources identified in the Area GW User Survey and analyze each sample collected for: (1) all Appendix II constituents that do not naturally occur and were detected in the SWLF's GW, and (2) all naturally occurring Appendix II constituents that are **above** its GW protection standard. The O/O is not required to sample for any Appendix II constituent if a written demonstration is submitted to the DSWM, and the DSWM concurs that the constituent detected at the SWLF is a result of another source or natural variation under Rule 0400-11-01-.04(7)(a)5(iii)(III). Such demonstrations shall be certified by the O/O in accordance with subparagraph II.8 above and a qualified GW scientist. The O/O may request a reduction in the number of drinking water sources to be sampled if adequate written justification is provided and accepted in writing by the DSWM. All requested reductions shall be made in writing with justification and be certified by a person representing the O/O in accordance with subparagraph II.8 above. If any Appendix II constituent that does not naturally occur is detected, and/or if any Appendix II constituent that naturally occurs is detected above its GW protection standard, then the O/O shall notify the DSWM by telephone or fax of the detection within one working day and resample the water source and provide the analytical results to the DSWM within two working days. The time frame for the resample and notification begins when the O/O becomes aware of the analytical results .The complete results from the sampling and analyses of the drinking water sources must be submitted to the DSWM within 30 days of the last day of the sampling event, and in a report that meets the requirements of subparagraph II.7 above.

(ii) The O/O must notify and provide the analytical results by letter to all off-site water source owners and users (renters, etc. if known), whose water sources were sampled. If the initial and verification sampling and analyses described in subpart VI.2(b)(i) above documents any detection of an Appendix II above its GW protection standard, the O/O shall notify the off-site water source owner(s) and users (renters, etc. if known) by telephone (if publicly available) and in writing by certified mail of the sampling/analyses results. If the O/O is unsure if any other person(s) uses the impacted off-site water source, then in the certified letter the O/O shall request the name(s), address(s) and phone number(s) (if

publicly available) of any other users and inform the impacted off-site water source owner that they need to notify any other users. The O/O shall provide a copy of all correspondence and analytical results to the DSWM.

(iii) If the SWLF is the most reasonable cause of an Appendix II constituent being found above the GW protection standard(s) in an off-site drinking water source(s), then the DSWM staff shall recommend the O/O to provide the impacted off-site party with an alternative drinking water. If the O/O does not want to provide an alternative drinking water, the DSWM Field Office staff shall notify the Director and the Solid Waste Management Program Manager by telephone and by e-mail to determine the next steps for the Department regarding the impacted off-site water supply.

(iv) The O/O shall continue collecting and analyzing samples of off-site drinking water sources in accordance with subpart VI.2.(b)(i) semi-annually. The off-site samples shall be collected during 1st and 3rd sampling events listed in subparagraph V.4. This sampling shall continue until the approval of the Corrective Action GW Monitoring Program under Rule 0400-11-01-.04(7)(a)9(i)(I) or the site is in compliance with Rule 0400-11-01-.04(7)(a)9(v).

Attachment One
Ground Water Monitoring and Corrective Action for Solid Waste Disposal Facilities

Detection Monitoring – Owner operator (O/O) samples and analyzes all monitoring points (wells, springs, etc.) in accordance with the approved detection monitoring plan at least semi-annually, satistically evaluates data as applicable and submits reports within 60 days from the sampling event [.04(7)(a)5].

Naturally occurring Appendix I or alternative constituent(s) concentration(s) statistically above background or any other Appendix I that does not naturally occur (e.g., organics) detected?

NO → O/O demonstrates in certified report statistical increase caused by other source, error or natural variation and the DSWM concurs with the within 90 days of date the sample(s) were analyzed. [.04(7)(a)5(iii)(III)]

YES → O/O demonstrates in certified report statistical increase caused by other source, error or natural variation and the DSWM concurs with the within 90 days of date the sample(s) were analyzed. [.04(7)(a)5(iii)(III)]

YES → **NO**

NO → **GW Assessment Monitoring-Phase 1**

O/O samples and analyzes all downgradient monitoring points (wells, springs, etc.) for Appendix II within 30 days for the initial assessment sampling event [.04(7)(a)6(ii)]. O/O must notify the DSWM of all detected Appendix II constituents within 14 days of obtaining lab results [.04(7)(a)6(iii)(I)]. Within the next 60 days after the initial sampling event, the O/O must sample and analyze all upgradient and downgradient monitoring points (wells, springs, etc.) for all Appendix II constituent(s) that were not previously detected until the initial assessment sampling event for an additional four (4) additional sampling events. O/O submits with report within 60 days from the last sampling event. [.04(7)(a)6(ii)].

All Appendix II constituent(s) level(s) statistically below background for two consecutive sampling events [.04(7)(a)6(iii)(III)]?

YES → Naturally occurring Appendix I or alternative constituent(s) concentration(s) statistically above background or any other Appendix I that does not naturally occur (e.g., organics) detected?

NO → **GW Assessment Monitoring-Phase 2**

O/O samples and analyzes all monitoring points (wells, springs, etc.) semi-annually. The first event of each year all samples are analyzed for all Appendix II constituent(s) detected in Phase 1 and all Appendix I constituents. The second event of each year all samples are analyzed for all Appendix II constituent(s). O/O statistically evaluates data and submits reports [.04(7)(a)6(iii)(II)]. O/O may request reduction in Appendix II sampling requirements. See guidance.

Any Appendix II constituent concentration above GW Protection Standard?

NO → Any naturally occurring Appendix II constituent concentration statistically above background or any Appendix I constituent that do not naturally occur detected?

YES → **GW Assessment Monitoring-Phase 2**

NO → Any naturally occurring Appendix II constituent concentration statistically above background or any Appendix I constituent that do not naturally occur detected?

YES → Once a GW protection standard has been exceeded, the O/O can **not** return to detection monitoring until the extent and nature of contamination has been defined for all constituents and an acceptable corrective action ground water monitoring program under Rule 0400-11-01-.04(7)(a)9(i)(I) has been implemented. O/O must take any measure necessary to protect human health and the environment [.04(7)(a)9(i)(III)]. Commissioner may require such action any time [.04(7)(a)6(iv)(VIII)].

O/O submits **GW Quality Assessment Plan- Phase 3** within 45 days of exceeding any GW protection standard. {Plan to define extent of contamination (must install at least one additional well), identify GW users, notify all persons who own or reside on land directly overlying the plume [.04(7)(a)6(iv)].} All monitoring points (wells, springs, etc.) shall be sampled quarterly as follows: 1st - All Appendix I constituents, any additional approved alternative parameters, and all other Appendix II constituents that have been previously detected during GW monitoring; 2nd and 4th -All constituents with a statistically significant increase above background and all detected constituents that do not naturally occur; and 3rd -All Appendix II constituents and any additional approved alternative parameters.

O/O implements approved GW Quality Assessment Plan (including installing additional well(s) and samples surrounding GW drinking water supplies if required) conducts sampling quarterly [.04(7)(a)6(iv)(II)] and submits reports until completed. O/O continues assessment of corrective measures and discusses results prior to selection in a public meeting [.04(7)(a)7(iv)]. Within 90 days O/O initiates an assessment of corrective measures [.04(7)(a)7(i) and (iii)].

O/O completes GW Quality Assessment, O/O selects corrective remedy [.04(7)(a)8(ii) thru (iv)] and submits report within 14 days of selection including the selected remedy [.04(7)(a)8(i)], implementation schedule [.04(7)(a)8(iv)] and a Corrective Action GW Monitoring Program [.04(7)(a)9(i)(I)] [quarterly sampling required -.04(7)(a)6(iv)(II)]. If O/O determines compliance with .04(7)(a)8(ii) can not be practically achieved, O/O must submit a report justifying alternative measures in compliance with .04(7)(a)9(iii) within the 14 days.

O/O implements Corrective Remedy Plan and Corrective Action GW Monitoring and submits reports required in the Corrective Action GW Monitoring Program [.04(7)(a)9(i)]. During implementation of selected remedy if the DSWM determines it is not successful, O/O must implement another remedy [.04(7)(a)9(ii)], unless O/O makes a successful determination under 04(7)(a)9(iii) that compliance cannot be practically achieved.

Corrective Remedy complete when contamination is below GW protection standards for 3 years or alternate DSWM established time frame [.04(7)(a)9(v)].

NOTES: All reports must be submitted within sixty days of each sampling events [.04(7)(a)4(viii)]. This flowchart outlines the regulatory requirements for ground water monitoring and corrective action and any omission(s) do not negate any permit or regulatory requirements.

NOTICE

The guidance provided in this document is not intended, nor can it be relied upon, to create any rights enforceable by any party in litigation with the State of Tennessee. DSWM officials may follow the guidance provided in this document, or vary from said guidance, based on site-specific circumstances. The DSWM also reserves the right to change this guidance at any time without public notice.

_[Signature of File]_____ _[4-19-06]_____

Mike Apple, Director **Date**
Division of Solid Waste Management

policy/notebook/pn124
Revision 1: April 2006

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Reviewing Ground Water Monitoring Reports For Solid Waste Landfills
POLICY

Objective:

(1) Implement a Ground Water Report Review Checklist for use by solid waste facilities and geologists, whose primary duties involve groundwater compliance review for Solid Waste Landfills.

(2) Integrate pertinent data from the checklist to a Ground Water Summary Spreadsheet covering all facilities with a ground water monitoring program at each Environmental Assistant Center (EAC).

Use of the Checklist:

The Division is adopting the use of the attached Ground Water Report Review Checklist to help facilitate consistent report review, ensure that important items are not overlooked, and maintain an ongoing quick reference to the history of ground water monitoring at a given facility.

Any observed problems (checked items) may easily be followed by the cited regulation on the checklist.

The EAC Geologist should evaluate each ground water sampling report submitted to their office with the Ground Water Report Review Checklist. Completed copies of the review should be forwarded to the Central Office and the appropriate facility.

Use of the Ground Water Summary Spreadsheet

The Division is adopting the use of the attached Ground Water Summary Spreadsheet, which will provide information from the checklist pertinent to the ground water monitoring program for all facilities at each EAC.

The EAC Geologist should submit the Ground Water Summary Spreadsheet semi-annually (July 1 & January 1).

The information gained from the spreadsheet will be used by the Central Office to write a summary report reflecting overall ground water conditions at solid waste landfills throughout the State. The summary report should be written and available semi-annually.

_____[Signature on File]_____ _____04/07/2003___
Mike Apple, Director Date
Division of Solid Waste Management
Policy/notebook/pn116
Original: April 2003

GROUND WATER REPORT REVIEW CHECKLIST

Facility Name: _____ ID #: _____

( ) Class I ( ) Class II ( ) Class III ( ) Class IV Status: ( ) OPEN ( ) CLOSED

Type Monitoring: ( ) Detection ( ) Assessment

Date Sampled: _____ Date Last Sampled: _____ Expected Date Next Sampling: _____

Current Sampling Interval: ( ) Semi-annual ( ) Quarterly ( ) Other: _____

Parameters: ( ) Appendix I: ( ) Appendix II ( ) Others: _____

Wells: Upgrade: _____ Downgrade: _____ Other Points _____

Sampled with (pumps, bailers, dedicated/portable, etc?): _____

Report Written By (Company/Author): _____

Date Received: _____ Date(s) Reviewed: _____

Code	REPORT ADDRESSES	Yes	No	COMMENTS
7100	Report submitted within 60 days of sampling event? 0400—11—01—.04(7)(a)4.(viii)			
7120	Report indicates that sampling has been done in accordance with facility's approved monitoring plan 0400—11—01—.04(7)(a)5.(i)			Date of approved version: Amendments/revisions:
7130	Analytical Results Provided 0400—11—01—.04(7)(a)4.(viii)			Field Parameters: Lab Analysis: Summary Spreadsheets Included:
7140	Leachate Analyzed 0400—11—01—.04(4)(a)8.(ii)			Date of Analysis:
7150	Copies of Field Data Sheets/Record 0400—11—01—.02(4)(a)9.(iii) 0400—11—01—.04(7)(a)5.(I)			Sampling Personnel: Employed by: Place sampled: Sampling Date(s) and Time(s) recorded: Others/Observers present:
7160	Copies of laboratory reports 0400—11—01—.02(4)(a)9.(iii)			Laboratory: Analysis dates: Personnel performing analysis: Correct analytical methods & equipment:
7170	Chain of Custody forms 0400—11—01—.04(7)(a)4.(i) II and IV			Holding times adhered to: Sample preservation and transport appropriate:
7180	Ground Water Elevations 0400—11—01—.04(7)(a)4.(ii) 0400—11—01—.04(7)(a)5.(ii)(III) 0400—11—01—.02(4)(a)9.(ii)			
7190	Flow direction and rate information 0400—11—01—.04(7)(a)4.(ii)			Method used:
7200	Statistical evaluation of analytical data 0400—11—01—.04(7)(a)4.(v)			Method used:
7210	Statistically significant increase over background indicated 0400—11—01—.04(7)(a)5.(iii)			14 Day notification done: Assessment program est. w/in 90 days: Other source demonstrated:

Continued On Reverse)

GROUND WATER SAMPLING EVENT REPORT REVIEW

FACILITY _____

SAMPLING EVENT DATE(S) _____

Code	REPORT ADDRESSES	Yes	No	COMMENTS
7220	Inorganics exceed the MCLs or GW protection std 0400—11—01—.04(7)(a)1. And .04(7)(b, c, or d) as appropriate			Parameter(s)/MCL or standard (Well/Concentration):
7230	VOC's present in the ground water analysis 0400—11—01—.04(7)(a)4(viii)			Parameter(s) (Well/Concentration):
7240	VOC's (if present) exceed MCLs or GW protection std 0400—11—01—.04(7)(a)1. And .04(7)(b, c, or d) as appropriate			Parameter(s)/MCL or standard (Well/Concentration):
7250	Facility has a statistically significant exceedance of 1 or more parameter? 0400—11—01—.04(7)(a)4(viii) and (ix) 0400—11—01—.04(7)(a)5(iii)			Parameter(s) (Well/Concentration):

GENERAL COMMENTS

Condition of wells, equipment malfunction, weather, "dry" wells, problems encountered, – Reviewer's general notes or questions based on evaluation of this report, etc.

Reviewed by: _____ Signature: _____Date: _____

SAMPLE

GROUND WATER SUMMARY
SPREADSHEET

Columbia "Class I" Facilities

SITE ID #	Status	Name	Frequency	Monitoring Status	Sample Date	Violation Code(s)	Contaminant(s)
SNL591020238	**O**	Cedar Ridge Landfill	Semiannual	Detection	11/13/2002		
SNL501020221	C	Lawrenceburg/County Landfill	Semiannual	Detection	12/14/2002		
SNL021020101	**O**	Quail Hollow Landfill	Semiannual	Detection	11/14/2002		
SNL261020204	C	Franklin County Landfill	Semiannual	Detection	9/7/2002	7220	Cadmium
SNL281020204	C	Pulaski City Landfill	Semiannual	**Assessment**	8/13/2002	7220, 7230, 7240, 7250	Multiple Volatiles
SNL511020076	C	Hohenwald City Landfill	Semiannual	Detection	9/11/2002		
SNL521020169	C	Fayetteville/Linclon Co. Landfill	**Quarterly**	**Assessment**	10/31/2002	7220, 7230, 7240, 7250	Multiple Volatiles
SNL601020060	C	Maury County Landfill	Semiannual	**Assessment**	10/1/2002	7220, 7230, 7240, 7250	Chloride, Multiple metals, & Benzene
SNL681020104	C	Perry County Landfill	Semiannual	Detection	8/22/2002		
SNL411020033	C	Hickman County Landfill	Semiannual	Detection	10/30/2002	7220, 7250	Mercury

Columbia "Class II" Facilities

IDL281020059	**O**	Magetteaux Ind. Landfill	Semiannual	Detection	11/14/2002		
IDL501020060	**O**	UCAR Lawrenceburg Landfill	Semiannual	Detection	8/8/2002		
IDL511020037	**O**	Boston/Dana Ind. Landfill	Semiannual	Detection	11/15/2002		
IDL601020017	**O**	Solutia Ind. Landfill	Semiannual	Detection	9/18/2002		
IDL601020030	C	Monsanto Landfill	Semiannual	Detection	9/18/2002		
IDL601020032	C	Associated Commodities Landfill	Semiannual	**Assessment**	12/12/2002	7220, 7250	Chloride, Barium, & Aluminum
IDL601020047	**O**	UCAR Columbia Landfill	Semiannual	Detection	8/9/2002		
IDL601020055	**O**	Occidental Ind. Landfill	Semiannual	Detection	10/16/2002		
IDL601020089	**O**	Rhodia Ind. Landfill	Semiannual	Detection	11/15/2002		

Columbia "Class III & IV" Facilities

DML601020029	**O**	Maury County Demo Landfill	Semiannual	Detection	10/1/2002		

Tennessee Department of Environment and Conservation

ASBESTOS

Memorandum of Agreement

Introduction: Amendments to Asbestos M.O.U. of 1980 Between DAPC and DSWM

The purpose of this document is to incorporate the changes to Rule 1200-3-11-.02 required by the initial adoption of the revised Asbestos NESHAPS by DAPC board on January 8, 1992.

Revisions to Rule 1200-3-11-.02 have been implemented to upgrade the regulation to conform to EPA's November 20, 1990, Asbestos NESHAP Revisions to 40 CFR Part 61, Subpart M published in FR Vol. 55, No. 244 on pages 48406 to 48433. The principal changes that will effect the existing M.O.U. are as found in the sections of the new regulation identified below:

Rule 1200-3-11-.02(2)(d)	Standard for demolition and renovation.
Rule 1200-3-11-.02(2)(j)	Standard for waste disposal for asbestos mills
Rule 1200-3-11-.02(2)(l)	Standard for inactive waste disposal sites for asbestos mills and manufacturing and fabricating operations
Rule 1200-3-11-.02(5)	Standard for active waste disposal sites
Rule 1200-3-11-.02(6)	Standard for operations that convert asbestos containing waste material (ACWM) into non-asbestos (asbestos-free) material

Whereas the Tennessee Department of Environment and Conservation, through the Division of Solid Waste Management (DSWM) is required by Section 68-211-101 et. Seq., Tennessee Code Annotated, to regulate the construction, operation, and maintenance of solid waste processing and disposal facilities in order to protect the public health, safety and welfare and specifically in respect to the agreement, the air quality of the State of Tennessee through a comprehensive siting and inspection program of approved disposal facilities; and

Whereas the Tennessee Department of Environment and Conservation, Division of Air Pollution Control (DAPC) has in the administration of TCA Section 68-201-101 et. Seq., developed procedures and standards for the protection of the air quality of the State; and

Whereas the Tennessee Department of Environment and Conservation has a public obligation to maintain a coordinated regulatory program of all regulated environmental functions in the State of Tennessee, the standards by which these programs are administered shall be consistent. This agreement shall be the mechanism by which this objective is attained.

Therefore, be it resolved that both divisions mutually understand, agree and approve that the Division of Solid Waste Management is recognized as the agency having authority for the regulation of sanitary landfills in such a manner as to preclude the pollution of the air in the State of Tennessee through the administration of the following activities enumerated, herein.

Site Selection

1. The Division of Solid Waste Management (DSWM) will conduct preliminary site reviews in the selection of potential sites for sanitary landfills or special waste site.
2. DSWM will provide DAPC with location of sites and other information deemed pertinent to proposed sitings, handling and operating procedures for contaminant waste.

Technical Review

1. DSWM will utilize DAPC established management practices and adhere to the regulations found in Chapter 1200-3-11-.02 of the Tennessee Air Pollution Control Regulations for the disposal of (special air contaminant) wastes at sites approved by DSWM.

2. DSWM will ascertain that the design of a sanitary landfill or special waste site utilizes all adaptable best management practices (BMP's) for emission control of special air contaminant wastes to minimize the potential for degradation of air quality.

   The BMP's to be reviewed include, but are not restricted to:

   (1) Phased site development (minimum specific area).
   (2) Timely, correct handling procedures, cover, compaction and revegetation.
   (3) Soil characterization, geologic structure for minimum potential of movement and surface water control.
   (4) Operators protective equipment.
   (5) No visible emissions.
   (6) Logs completed (shipping and receiving).

Inspections and Enforcement

1. DSWM will establish site specific requirements for compliance. The compliance shall reflect BMP's and site specific handling as necessitated by special air contaminate waste permit and procedures.

2. A representative of the Division of Air Pollution Control (DAPC) will be able to witness the disposal of ACWM at any time such material is to be transported to and disposed of at the designated landfill accepting the asbestos containing waste material (ACWM). Since it is the responsibility of the DAPC to make visible emission evaluations and since the DAPC representative is trained in the procedures to make such evaluations, the DAPC in cooperation with DSWM will provide this technical support as a means to achieve mutual compliance with the regulations of both divisions. Any enforcement activity that occurs as

a result of a violation of the no visible emissions regulation Will be jointly undertaken with the DAPC representative providing expert witness testimony.

3. DSWM will note procedures employed during unloading to ensure that signs bearing the correct warning language as specified by the APC Rule 1200-3-11-.02(2)(k)4 are affixed to the vehicle while at the disposal site.

Preliminaries

1. Contact must be established with the appropriate Solid Waste Management representative.

2. The site selection for the material must be registered and approval obtained in writing prior to disposal of the material through the Division of Solid Waste Management. All appropriate agencies and individuals will be presented with this information.

3. Permission from the official responsible for the approved facility must be obtained in writing prior to the disposal of the material. All appropriate agencies and individuals will be presented with this information.

Procedures for Disposal of Asbestos Waste

1. Ten working days advance notice must be given to the DAPC of asbestos removal to allow field personnel to view the removal procedures at the originating site. This can be accomplished by Submittal of Notification of Asbestos Demolition or Renovation (Figure 3 of the DAPCR).

2. The containers for the waste must be in fact leak-tight containers and approved by the Division of Air Pollution Control.

3. The waste should be transported in an enclosed vehicle or on a covered 39-14-503 carrier as described in Tennessee Code Annotated. The waste Shipment Record (Figure 4) will be completed and a copy submitted to the Division of Solid Waste Management.

4. Advance notice must be given to the landfill operator prior to receiving the waste, or a routine schedule established such that the operator will have time to prepare an area to receive the waste. Communication procedures should be sufficient between the contractors or plants and landfill operators to allow flexibility. The only required document the DAPC will need to meet its regulatory requirements is the waste Shipment Record (Figure 4) and proof that the records are returned to the waste originator for disposal tracking purposes. Copies of the 10 day notice letter to DAPC are not necessary but can be referenced in a letter to the disposal site. The DAPC will track all notices (Figure 3) received and update, copy or advise DSWM of status on request. When the Waste Shipment Record is not received by the waste generator confirming disposal, the Technical Secretary will, upon receipt of such notice, contact the DSWM to request their cooperation in tracking the shipment and provide investigatory support off site if needed.

5. Respirators which meet the DSWM requirements for asbestos must be provided for the landfill employees involved in the disposal process. This is the responsibility of the landfill owner.

   Landfill operators will note procedures employed during unloading of ACWM to ensure that signs bearing the correct warning language as specified by the APC rule 1200-3-11-.02(2)(k)4 are affixed to the vehicle while at the disposal site.

6. The appropriate solid waste and air pollution control representatives will witness the initial disposal to ensure proper handling and disposal procedures (if desired by the respective agencies). Following initial disposal, a representative of the DAPC will be able to witness the disposal of ACWM at any time such material is to be transported to and disposed of at the designated landfill accepting the ACWM.

7. The asbestos waste containers must be confined to a specific area, prepared by the landfill operator, at the disposal site to assure proper disposal with minimum complications.

8. The containers of waste must be handled carefully and deliberately such that there will be <u>no rupturing of containers nor visible emissions</u> in the disposal process. When improperly packaged ACWM is observed by the owner or operator of any asbestos waste disposal site to be disposed of both the Technical Secretary and the DSWM must be notified so that independent investigations of the cause for improper packaging can be conducted at both the disposal site by DSWM and at the point of removal.

9. The operator will immediately apply one foot of cover material over the waste and then compact the cover material.

10. Upon completion, the site shall be recorded with the Register of Deeds as a former disposal site containing asbestos.

    The DSWM will notify the DAPC upon receipt of closure so that the DAPC can update the asbestos notification database to flag this location as no longer being able to accept ACWM for disposal purposes.

11. Specific area used for disposal of asbestos shall be noted on site plan.

<u>2-9-93</u>	<u>Signature on File</u>
Date	John W. Walton, Director of Air Pollution Control
<u>2-9-93</u>	<u>Signature on File</u>
Date	Tom Tiesler, Director of Solid Waste Management

policy/notebook/pn087
Revision 1: February 1993

DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF AIR POLLUTION CONTROL

NOTIFICATION OF ASBESTOS DEMOLITION OR REMEDIATION

Operator Project #	Postmark	Date received	Notification #

I. Type of Notification (O-Orig. R-Revised C-Canceled)

II. Facility Information (Identify Owner, Removal Contractor, Operator)

Owner Name:
Address:
City: State: Zip:
Contact: Telephone: ( )

Removal Contractor:
Address:
City: State: Zip:
Contact: Telephone: ( )

Other Operator:
Address:
City: State: Zip:
Contact: Telephone: ( )

III. Type of Operation ((D-Demo. O-Ordered Demo. R-Renov. E-Emer. Renov.)

IV. Is Asbestos Present? (Yes/No)

V. Facility Description (Include Building Name, Number and Floor or Room Number:

Building Name:
Address:
City: State: Zip:
Site Location:
Building Size: Total Sq. Ft. # of Floors: Age in Years:
Present Use: Prior Use:

VI. Procedure and Analytical Method Used to Detect the Presence of Asbestos Material

VII. Approximate Amount of Asbestos In Work Area Including

1. Regulated ACM to be Removed 2. Category I ACM Not Removed 3. Category II ACM Not Removed	RACM To Be Removed	Nonfriable Asbestos Material: Not To Be Removed Cat I	Not To Be Removed Cat II	To Be Removed Cat I	To Be Removed Cat II	Units of Measureme
Pipes						LnFt Ln m
Surface Area						SqFt S q m
Vol RACM off Facility Components						CuFt Cu m

VIII. Scheduled Dates Asbestos Removal Start: Complete:
Scheduled Dates of Preparation Start: Complete:
Days of Week: (circle) All Sun Mon Tue Wed Thu Fri Sat Hours of Day:

IX. Scheduled Dates Demo/Renovation Start: Complete:

X. Description of Planned Demolition or Renovation Work, Method(s) to be Used.

XI. Description of Work Practices and Engineering Controls to be used to Prevent Emissions of Asbestos at the Demolition and Renovation Site.

XII. Waste Transporter #1		
Name:		
Address:		
City:	State:	Zip:
Contact: Person:	Telephone: ( )	
Waste Transporter #2		
Name:		
Address:		
City:	State:	Zip:
Contact: Person:	Telephone: ( )	
XVIII. Waste Disposal Site		
Name:		
Address:		
City:	State:	Zip:
Telephone:		
XIV.If Demolition Ordered by a Government Agency, Please Identify Below::		
Name:	Title:	
Authority:		
Date of Order (MM/DD/YY):	Date Ordered to Begin (MM/DD/YY):	
XV.For Emergency Renovations		
Date and Hour of Emergency (MM/DD/YY):		
Description of the Sudden, Unexpected Event:		
Explanation of How the Event Caused Unsafe Conditions or Would Cause Equipment Damage or an Unreasonable Financial Burden:		
XVI: Description of Procedures to be Followed in the Event Asbestos is Found or Previously Nonfriable Asbestos Material Becomes Crumbled, Pulverized, or Reduced to Powder.		
XVII. I Certify That an Individual Trained in the Provisions of This Regulation (40 CFR Part 61, Subpart M) Will be On-Site During the Demolition or Renovation and Evidence That Required Training has Been Accomplished by This Person Will be Available for Inspection During Normal Business Hours. (REQUIRED AFTER NOVEMBER 20, 1991) _____ _____ (Signature of Owner/Operator) (Date)		
XVIII. I Certify That the Above Information is Correct. _____ _____ (Signature of Owner/Operator) (Date)		

Submit Completed Form by U.S. Postal Service / Commercial Deliver Service or Hand Deliver to:

Division of Air Pollution Control
9th Floor , L & C Annex
401 Church Street
Nashville, TN 37243-1531.
(615) 532-0554

Department of Environment
and Conservation
Division of Air Pollution Control

9th Floor L & C Tower
401 Church Street
Nashville, TN 37243-1551
(615)-532-0554

ASBESTOS WASTE SHIPMENT RECORD

GENERATOR

1. Work site name and mailing address	Owner's name	Owner's telephone no. ( )
2. Operator's name and address		Operator's telephone no. ( )
3. Waste disposal site (WDS) name, mailing address physical site location and disposal facility permit number		WDS phone no. ( ) Permit no.
4. Name and address of responsible agency		
5. Description of materials	6. Containers No. Type	7. Total quantity m^3 yd^3
8. Special handling instructions and additional information		

9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

Print/type name & title _____ Signature _____ Month Day Year _____

TRANSPORTER

10. Transporter 1 (acknowledgement of receipt of materials)

Print/type name & title _____ Signature _____ Month Day Year _____

Address _____ Telephone No. ( ) _____.

11. Transporter 2 (acknowledgement of receipt of materials)

Print/type name & title _____ Signature _____ Month Day Year _____

Address _____ Telephone No. ( ) _____.

DISPOSAL SITE

12. Discrepancy indication space

13. Waste disposal site
Owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.

Print/type name & title _____ Signature _____ Month Day Year _____

INSTRUCTIONS

Waste Generator Section (Items 1-9)

1. Enter the name of the facility at which asbestos waste is generated and the address where the facility is located. In the appropriate spaces, also enter the name of the owner of the facility and the owner's phone number.

2. If a demolition or renovation, enter the name and address of the company and authorized agent responsible for performing the asbestos removal. In the appropriate spaces, also enter the phone number of the operator.

3. Enter the name, address, and physical site location of the waste disposal site (WDS) that will be receiving the asbestos materials. In the appropriate spaces, also enter the phone number of the WDS. Enter "on-site" if the waste will be disposed of on the generator's property.

4. Provide the name and address of the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program.

5. Indicate the types of asbestos waste materials generated. If from a demolition or renovation, indicate the amount of asbestos that is: Friable asbestos material / Nonfriable asbestos material.

6. Enter the number of containers used to transport the asbestos materials listed in item 5. Also enter one of the following container codes used in transporting each type of asbestos material (specify any other type of container used if not listed below):
   DM-Metal drums, barrels DP – Plastic drums, barrels BA-6 mil plastic bags or wrapping

7. Enter the quantities of each type of asbestos material removed in units of cubic meters (cubic yards).

8. Use this space to indicate special transportation, treatment, storage or disposal or Bill of Lading information. If an alternate waste disposal site is designated, note it here. Emergency response telephone numbers or similar information may be included here.

9. The authorized agent of the waste generator must read and then sign and date this certification. The date is the date of receipt by transporter.

NOTE: The waste generator must retain a copy of this form.

Transporter Section (Items 10 & 11)

10. & 11. Enter name, address, and telephone number of each transporter used, if applicable. Print or type the full name and title of person accepting responsibility and acknowledging receipt of materials as listed on this waste shipment record for transport. Enter date of receipt and signature.

NOTE: The transporter must retain a copy of this form.

Disposal Site Section (Items 12 &13)

12. The authorized representative of the WDS must note in this space any discrepancy between waste described on this manifest and waste actually received as well as any improperly enclosed or contained waste. Any rejected materials should be listed and destination of those materials provided. A site that converts asbestos-containing waste material to nonasbestos material is considered a WDS.

13. The signature (by hand) of the authorized WDS agent indicates acceptance and agreement with statements on this manifest except as noted in item 12. The date is the date of signature and receipt of shipment.

NOTE: The WDS must retain a completed copy of this form. The WDS must also send a completed copy to the operator listed in item 2.

Tennessee Department of Environment and Conservation

ADMINISTRATION OF FINANCIAL ASSURANCE

Memorandum of Agreement

BECAUSE both the Division of Radiological Health (DRH) and the Division of Solid Waste Management (SWM) have jurisdiction over facilities managing both radioactive materials and hazardous waste or mixed waste; and

BECAUSE both Divisions have rules that require financial assurance to protect the public and the environment from such facilities becoming unable to properly close or reclaim the facility; and

BECAUSE in the case of facilities that handle mixed waste there is a potential for duplication between the DRH financial assurance and the SWM financial assurance; and

BECAUSE both Divisions wish to reduce unnecessary duplication and cost to the regulated community; and

BECAUSE cooperation and coordination are necessary to the proper administration of the financial assurance mechanisms for these sites.

The Division of Radiological Health and the Division of Solid Waste Management wish to enter into this Memorandum of Agreement.

1. This Agreement and the process it outlines are only applicable to facilities or portions of facilities that handle mixed waste.

2. Both Divisions agree that if either Division proposes any changes in financial assurance rules, it will notify the other Division of the proposed change.

3. Both Divisions recognize that certain changes to their financial assurance rules could impair the ability of the Divisions to coordinate clean-ups.
4. Both Divisions agree to notify the other if there is a failure of the facility to maintain their financial assurance or a decision by a bank not to renew a letter of credit or of a surety not to continue a bond, or other similar events relating to actual or potential failures to maintain financial assurance.

5. Both Divisions agree to notify the other if they become aware of circumstances that might warrant forfeiture of financial assurance.

6. If a forfeiture becomes necessary, the Divisions will coordinate actions during the process of forfeiture as well as during the planning process for remediation and during remediation itself. This will include but is not limited to: specifying a person in each Division who is the contact person, if different from the Director, having a single contractor to do work, setting up a procedure for one Division to be "the lead" while obtaining necessary expertise and comment from the other Division.

Signed this __21st___ day of __July_____, 1993

__Signature on File_____
Tom Tiesler, Director
Division of Solid Waste Management

__Signature on File_____
Michael H. Mobley, Director
Division of Radiological Health

___Signature on File_____
Wayne K. Scharber
Assistant Commissioner
Bureau of Environment

policy/notebook/082
Original: July 1993

Department of Environment and Conservation

Solid Waste Permit Status at Radiological Facilities

Memorandum of Agreement

This memorandum of agreement (MOA) is entered into by the Division of Radiological Health (DRH) and the Division of Solid Waste Management (DSWM). Certain radiological waste processing facilities that are licensed by the DRH, including those that handle bulk survey for release (BSFR) material, also have solid waste management activities as part of their operations. The DSWM has made a determination that these facilities are not processing solid waste subject to a permit-by-rule, but are generating solid waste during the process of handling BSFR waste material. This MOA is an agreement between DSWM and DRH acknowledging that the DRH licensing program provides appropriate oversight for the Department of Environment and Conservation. It is understood that any questions arising to DRH regarding solid waste management at these facilities will be referred to DSWM.

Per this agreement, the DSWM shall not require a permit-by-rule for these facilities. DSWM shall instead regulate the solid waste generated from these facilities by use of the special waste approval process. All special wastes approved from facilities with a DRH waste processing license shall meet the following conditions for disposal:

1. The waste shall be immediately disposed of at the landfill working face and then immediately covered. The waste shall not be salvaged or recycled.

2. Disposal facilities that receive special wastes from facilities with DRH waste processing licenses shall install, calibrate, maintain, inspect and test periodically radiological sensing equipment at the facility scales. Records that verify these calibration requirements have been met annually shall be kept at the scale house and made available to DSWM personnel upon request and during inspections. A written protocol for responding to alarms triggered by this special waste shall be maintained at the landfill facility.

3. The generator shall provide an annual report to the Division of Solid Waste Management. This report must include the total quantity of special waste under this approval that was delivered to and disposed at Class I landfills in Tennessee.

This agreement is entered into by DRH and DSWM in a cooperative effort to increase the timeliness of service delivery, enhance overall customer service, and realize greater departmental efficiency.

_[Signature on File]_____	_[Signature on File]_____	__09/12/06_____
Mike Apple	**Eddie Nanney**	**Date**
Director, DSWM	**Director, DRH**	

policy/notebook/pn126
Original: September 2006

Tennessee Department of Environment and Conservation

USE OF DIVISION OF SUPERFUND CONTRACTORS

Memorandum of Agreement

Whereas, there is a need by the Division of Solid Waste Management (hereafter "SWM" to have services of a contractor to conduct investigations of certain suspected inactive hazardous waste disposal sites; and

Whereas, the Division of Superfund thereafter, "DSF" is authorized to and does maintain the services of a contractor capable of conducting investigations of hazardous substance disposal sites; and

Whereas, a hazardous waste is a hazardous substance as defined at TCA 68-46-202(2); and

Whereas, the use of the DSF contractor must be consistent with uses of the Remedial Action Fund as described at TCA 68-46-205; and

Whereas, the collection of civil penalties and damages under TCA 68-46-101 et. Seq. must be deposited in the Remedial Action Fund as required at TCA 68-46-204(a).

Therefore, be it required that the Divisions mutually understand, agree, and approve that:

1. SWM is authorized to request the DSF to engage and initiate investigation of inactive hazardous waste disposal sites by the DSF contractor; and
2. Such response actions may be limited by the availability of funds and priorities of the Superfund Program. The contractor will be paid from the Remedial Action fund for services allowed at TCA 68-46-205; and
3. If otherwise appropriate under TCA 68-46-114(b)(4), SWM will assess as damages any amounts expended from the Remedial Action fund pursuant to said investigation; and
4. This agreement shall not be construed as allowing expenditures for hiring personnel for continuing programs of the department of Health and Environment pursuant to Part I of Chapter 46 or for any ongoing or long term research activities.

Signature on File _____
Tom Tiesler, Director
Division of Solid Waste Management

April 6, 1987 _____
Date

Signature on File _____
James C. Ault, Director
Division of Superfund

April 6, 1987 _____
Date

policy/notebook/086
Original: April 1987

Tennessee Department of Environment and Conservation

REMEDIATION INITIATIVES AND SITE MANAGEMENT

Memorandum of Agreement

The Tennessee Department of Environment and Conservation has a public obligation to maintain a coordinated regulatory program for all regulated functions in the State and the standards by which programs are administered should be consistent. The Division of Solid Waste Management (DSWM) and the Division of Superfund (DSF) strive to achieve comparable levels of protection of human health, safety and the environment at sites.

This agreement is not intended to define the authority of either Division. Instead, it is to be utilized by the Divisions whenever oversight is needed at sites that could fall under the jurisdiction of either Division.

PURPOSE

The purpose of this agreement is to:

(1) designate the appropriate Division to handle sites that are subject to the statutes of both Divisions, and to
(2) promote consistency in site assessment and cleanup.

PRINCIPLES OF OPERATION

To the extent allowed by federal and state statutes, DSF and DSWM will strive to:

(1) Achieve comparable levels of protection of human health and the environment when remedial and corrective actions are performed or overseen by the two Divisions.
(2) Promote remedial and corrective actions at sites and facilities to levels which comply with CERCLA, RCRA, Part 1 and Part 2 of the Hazardous Waste Management Act (HWMA), the Solid Waste Management Act, the Clean Water Act, and the Clean Air Act.

The Divisions will pursue the following objectives:

(1) Development of common soil standards or methodology for developing soil standards.
(2) Development of consistent procedures for identification, investigation and remedial/corrective actions.
(3) Apply consistent procedures to implement ground water classification rules and standards.

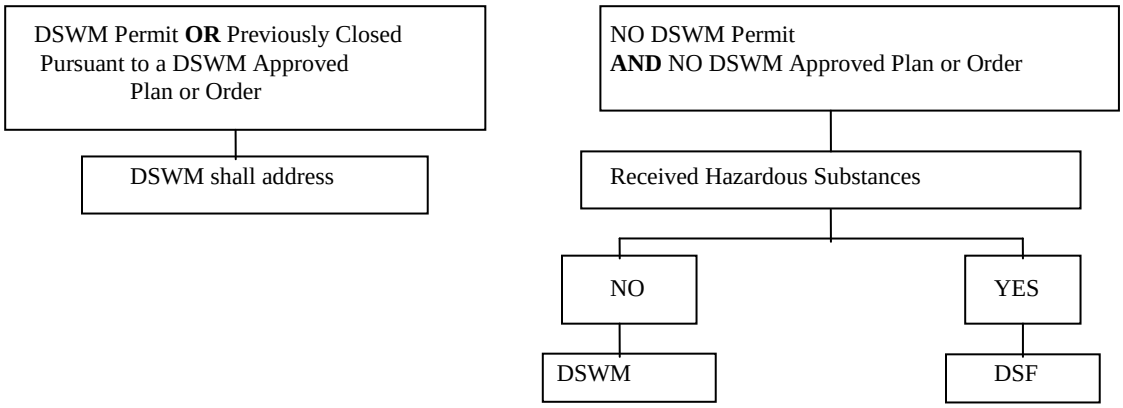
The Divisions will operate as follows:

(1) The DSWM shall perform appropriate actions under the Solid Waste Management Act, Part 1 of the HWMA, and RCRA. The DSF shall perform appropriate actions under Part 2 of the HWMA and CERCLA.
(2) Both Divisions shall strive to uniformly apply air, water, and soil standards.
(3) Both Divisions shall maintain a current public record of sites or facilities being addressed. Files on said sites are public information and are accessible to other Division personnel, EPA, and the public by appointment during normal business hours.

DEFINITIONS

1. Facility means all contiguous land, and structures, other appurtenances and improvements on the land, used for treating, storing, or disposing of hazardous waste. A facility may consist of several treatment, storage, or disposal operational units.
2. For the purposes of this agreement, inactive means there is not any active disposal taking place at the site, area or unit regardless of whether there is an ongoing business at the facility or site.
3. Site means the areal extent of contamination and all areas in very close proximity to the contamination necessary for implementation of the remedial response.

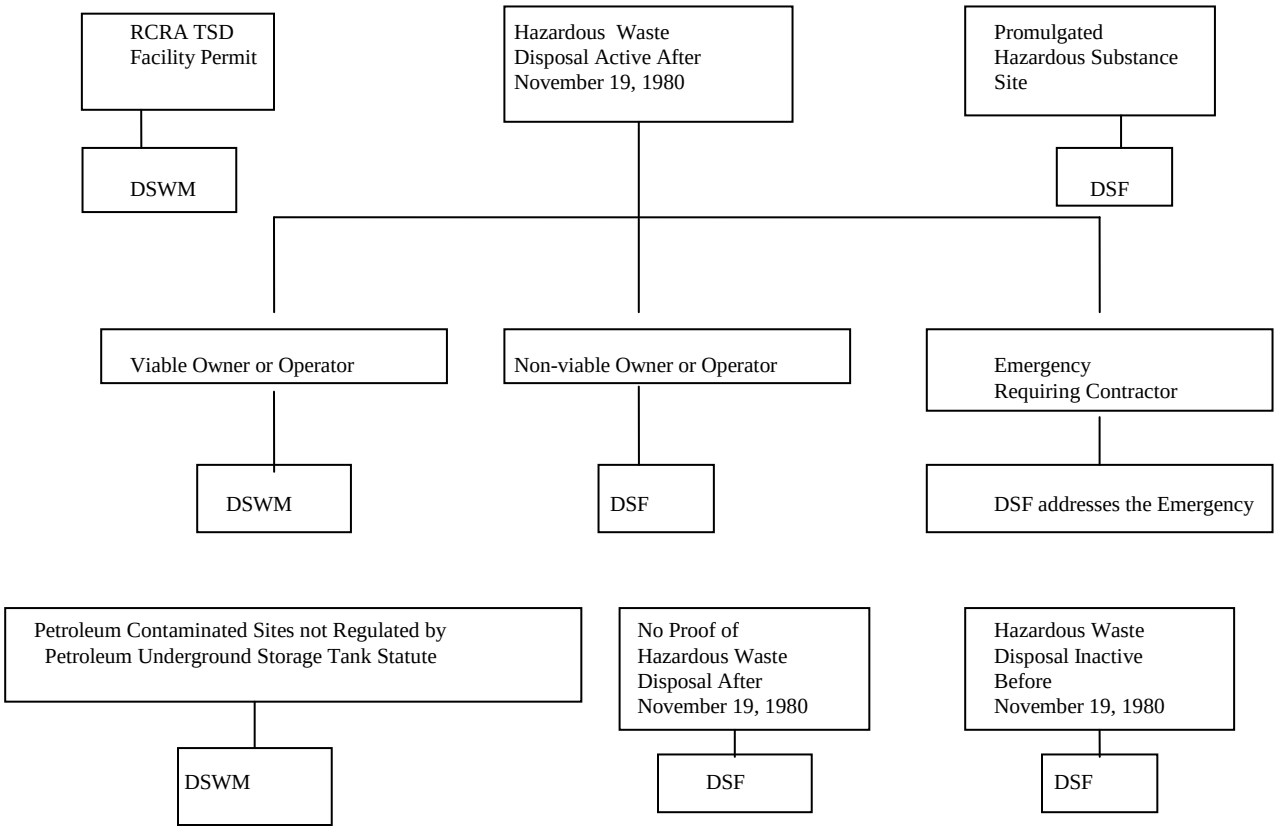
INACTIVE MUNICIPAL LANDFILL/DUMP PROCEDURE



The DSWM shall address an inactive municipal landfill or dump if either:
(1) the municipal landfill or dump had a DSWM permit or was closed pursuant to a DSWM approved plan or order, **or**
(2) the municipal landfill or dump had no DSWM permit and the landfill or dump received no hazardous substances except those from households, farms, or demolition activities.

The DSF shall address the inactive municipal landfill or dump if:
(1) the inactive municipal landfill or dump was not permitted by DSWM
(2) the inactive municipal landfill or dump was not closed pursuant to a DSWM approved plan or order **and**
(3) the landfill or dump received hazardous substances from sources other than households, farms, or demolition activities.

DISPOSAL SITE PROCEDURE



The Division of Solid Waste Management shall address the following sites:

1. Where the hazardous waste disposal occurred at a RCRA permitted Treatment, Storage, and Disposal (TSD) Facility,
2. Where the hazardous waste disposal occurred after November 19, 1980, and
3. Petroleum contaminated sites not regulated under the Petroleum Underground Storage Tank statute.

The Division of Superfund shall address the following sites:

1. Inactive hazardous substance sites where the hazardous waste disposal occurred and ceased before November 19, 1980.
2. Inactive hazardous substance sites where there is no proof that hazardous waste disposal was taking place after November 19, 1980.
3. Sites which are promulgated as inactive hazardous substance sites under T.C.A. Section 68-212-201 et seq.

SPECIAL CASES: (Where allowed by the statutes, if there is a conflict between the above generalizations and the special cases, the special cases shall take precedence)

1. If either Division has issued an order or has initiated a regulatory action for investigation or remediation, said Division shall regulate the area through completion of the remediation process.
2. If either Division is participating in a Memorandum of Agreement or Memorandum of Understanding with the Federal Government concerning a site or facility, this agreement between the Division of Solid Waste Management and the Division of Superfund shall not affect said participation responsibility.
3. If USEPA has performed removal activities at a site under CERCLA, then the site shall be addressed by the Division of Superfund unless the removal activities were requested by the Division of Solid Waste Management.
4. Any site promulgated to the USEPA National Priorities List (NPL) or proposed for promulgation shall be addressed by the Division of Superfund.
5. Drycleaner sites in the Drycleaner Environmental Response Program shall be addressed by the Division of Superfund.
6. RCRA Treatment Storage Disposal (TSD) Permitted Facilities or facilities where the hazardous waste disposal occurred after November 19,1980 where:
   a) the liable parties are bankrupt without financial assurance, or
   b) no viable liable party under RCRA for corrective action can be found

   the facility may be transferred from DSWM to DSF to effectuate cleanup upon agreement between the Division Directors.
7. In the event of a multimedia investigation, the investigation team shall follow this agreement to assign the site.
8. At a site where neither Division has begun a regulatory action for investigation or remediation and both Divisions have statutory authority to address the site, parties who are willing and able to perform an investigation and cleanup may petition their Division of choice to oversee the site investigation and cleanup.
9. The Commissioner or his designee may assign sites as deemed appropriate.

RCRA ENFORCEMENT AT DSF SITES

The DSWM may conduct a review process to identify RCRA violations which caused the contamination and may take enforcement action consistent with similar violations and circumstances. The DSF shall screen any sites that are proposed for the program which operated after November 19, 1980 to determine if potential RCRA violations have occurred. If so, this information will be turned over to the DSWM for possible enforcement action consistent with similar violations and circumstances. Further, if the willingness to cooperate of a liable party is considered in RCRA enforcement when oversighted by the DSWM, then parties oversighted by the DSF will be given the same consideration.

SITE SPECIFIC DETERMINATION

Nothing in this agreement prevents the Divisions from discussing specific sites and making site specific determination about which Division addresses the site. These agreements shall be made

at the Division Director level. In the event a determination is not made at the Division Director level, then the Bureau of Environment Administrator will make the determination.

AGREEMENT REVIEW AND MODIFICATION

Technical and legal changes may require modification of these procedures. Therefore, the Division Directors will review this agreement as necessary. Changes to this agreement will be signed by both Division Directors and the Bureau of Environment Administrator.

AGREED to this date __5/21/98_____ and subject to change in writing upon assessment of the need.

Signature on File_____
Tom Tiesler, Director
Division of Solid Waste Management

Signature on File_____
Jim Haynes, Director
Division of Superfund

Signature on File_____
John Leonard
Bureau of Environment Administrator

policy/notebook/pn104
Original: May 1998

Tennessee Department of Environment and Conservation

MANAGEMENT OF PETROLEUM CONTAMINATED SOIL FROM LEAKING UST SITES

Memorandum of Agreement

The purpose of this memo is to clarify the management of petroleum contaminated soils from leaking petroleum underground storage tank ("UST") sites. Due to the overlap of the Solid Waste Regulations and the Underground Storage Tank Regulations there has been much confusion among staff members about this issue. There is also a great deal of confusion in the regulated community concerning which Division oversees the treatment/disposal of petroleum contaminated soil.

Petroleum contaminated soil is generated whenever an UST has leaked. The soil may come from the permanent closure of an UST or from an UST site investigation and cleanup. Usually the soil is treated to remove the hydrocarbons to a level below the UST minimum cleanup levels 10 ppm Total Benzene, Toluene, and Xylene ("BTX") and 100 ppm Total Petroleum Hydrocarbons ("TPH").

The issue of concern is the Divisional responsibility for overseeing the soil treatment operations. There are four different scenarios involving petroleum contaminated soil treatment:

1. Treatment of Petroleum Contaminated Soil from leaking UST sites on the Site of Generation;

2. Treatment of Petroleum Contaminated Soil from leaking UST sites on a site owned by the Generator or a Subsidiary;

3. Treatment of Petroleum Contaminated Soil from leaking UST sites on a site owned by a Third Party, and

4. Treatment of Petroleum Contaminated Soil from leaking UST sites generated in another state.

Each of these categories will be discussed and the requirements for treatment/disposal will be presented as well as the Divisional responsibility for oversight. This should limit confusion in the regulated community and within the Department as well.

1. <u>Treatment of Petroleum Contaminated Soil from an UST site On the Site of Generation</u>

This category of soil treatment is probably the least confusing. Under the authority of the TN Petroleum UST Act, T.C.A. 68-53-127, all on-site activities associated with the investigation and cleanup of releases from petroleum UST's are solely regulated under this statute. This is commonly known as the UST exclusivity provision. The Division of Underground Storage Tanks will continue to oversee soil treatment at these sites. In order to insure that petroleum contaminated soil is managed/treated properly and does not pose a hazard to citizens or the environment, the following conditions must be met:

A. All petroleum contaminated soil must be placed on a relatively impermeable barrier. The barrier must be of sufficient strength/pliability to prevent tearing during the turning/tilling of the soil. The soil layer should be on deeper than 2 feet to allow easy turning and aeration;

B. A berm must be placed around the entire perimeter of the soil pile to prevent run-off and run-on;

C. The soil must be covered during all precipitation events;

D. At a minimum the soil should be turned once every two weeks;

E. The soil pile should not be within 100 ft. of any residence, business, or other place of human occupancy;

F. All local and state air pollution laws/regulations must be followed;

G. The treatment operation must be managed to prevent any off site releases;

H. Soil cannot be reused/disposed of until the level of Total BTX is less than 10 ppm and the level of TPH is less than 100 ppm. The responsible party must have approval from UST for the final disposition of the soil. Treated soil below 10 ppm BTX and 100 ppm TPH may be used by landfills as cover material. This soil should not be used as fill material in residential or recreational areas.

I. The soil treatment area must not be in a 100 yr. flood plain or a wetlands;

J. The soil treatment can not violate any local rules or laws (i.e., zoning, business use, etc.); and

K. Technical Guidance Document 005 "Sample Requirements for Aerated and Stockpiled Soils Containing Petroleum" must be followed when complying with item H.

2. <u>Treatment of Petroleum Contaminated Soil at a Location Other than the Site of Generation Owned by the Responsible Party or a Subsidiary</u>

Petroleum contaminated soil from an UST site that is treated on a site other than the site of generation does not fall under the exclusivity provision of the TN Petroleum UST site. The exclusivity provision applies only to on-site activities; once contaminated media/debris leaves the site it is subject to all applicable rules and regulations. In this particular case the petroleum contaminated soil becomes regulated under 0400-11-01 et. seq. once it leaves the site.

The responsible party does not need a solid waste processing permit if the soil is treated on a site owned by the responsible party or one of its subsidiaries. The responsible party is the UST owner, company, person, corporation, etc. The property must be owned by the Responsible Party. Property owned by an individual who owns the company or works for the company does not fall into this category. This is allowed under the Solid Waste Processing and Disposal Rules, 0400-11-01-.02(1)(b)2(ix). Further if the petroleum contaminated soil from an UST site is treated in a manner approved by the Division of Underground Storage Tanks and the level of Total BTX is less than 10 ppm and the level of TPH is less than 100 ppm then the soil is no longer regulated as a solid waste. This is stated in the Solid Waste Processing and Disposal Rules, 0400-11-01-.02(1)(b)2(xiv).

To avoid confusion in the regulated community the Division of Underground Storage Tanks will continue to oversee petroleum contaminated soils in this category. This will also limit confusion between the two Divisions. The Division of Underground Storage Tanks will insure that soil treated at an alternate location owned by the responsible party or his subsidiary is managed as outlined in (1.) above The responsible party shall provide UST with a copy of the deed for the property used for treatment. Should the responsible parties fail to meet these requirements then the soil is a regulated solid waste and the site of treatment is an unpermitted solid waste disposal facility and the responsible party will be cited for illegal disposal of a solid waste. UST will initially investigate complaints concerning soil treatment at these sites. Should the treatment of petroleum contaminated soil at the site cause a problem UST will issue a Notice of Violation to the tank owner. If after 30 days (or other reasonable time period) the violation is not corrected the UST Field Office will contact the SWM Field Office to inform them of the problem. UST and SWM will make a joint site visit to document the problem. A compliance review meeting will then be held by SWM concerning the site. UST personnel will attend the compliance review to present the concern over improper soil treatment. If after the compliance review meeting the problem is not resolved then the SWM Field Office will submit the case to the SWM Solid Waste Enforcement staff for formal enforcement action including a show cause meeting and issuance of a Commissioner's Order. UST personnel will attend showcause meetings if needed and testify before the Solid Waste Disposal Control Board as necessary.

*If any petroleum contaminated soils from sites other than UST sites are accepted for treatment then a Solid Waste Processing Permit is needed. A Solid Waste Processing

Permit would be needed for the facility if it received petroleum contaminated soils from other states.

3. Treatment of Petroleum Contaminated Soil on a site owned by a Third Party

This category of soil treatment is specifically regulated by the Division of Solid Waste Management. Petroleum contaminated soil is a regulated solid waste once it leaves the UST site. If the property where the soil is taken for treatment is owned by a third party then a Solid Waste Processing Facility Permit is required. Should the Division of Underground Storage Tanks be asked to approve such a site for petroleum contaminated soil it will be referred to the Division of Solid Waste Management for permitting. No soil treatment may occur at this site until the solid Waste Processing Permit is approved by the Division of Solid Waste Management.

The Division of Underground Storage Tanks will approve the treatment of soils at permitted solid waste processing facilities, provided the facility is in compliance with the Division of Solid Waste Management. This will allow soil with Total BTX levels less than 10 ppm and TPH levels less than 100 ppm to be deferred from regulation as a solid waste.

4. Treatment in Tennessee of Petroleum Contaminated Soil Generated in another State

Treatment in Tennessee of petroleum contaminated soil generated in another state is not regulated under the Tennessee Petroleum Underground Storage Tank Act. Such soil is a special solid waste (requiring prior approval before acceptance by any permitted facility) under the Solid Waste Management Act and the Solid Waste Processing and Disposal Rules. Petroleum contaminated soils brought into Tennessee from another state are regulated by the Division of Solid Waste Management.

Should there by any questions on this issue you may call the UST contact at 615-532-0945. or the SWM contact at 615-532-0780.

_[Signature on File]_____ _12-10-1991_____
Tom Tiesler, Director Date
Division of Solid Waste Management

_[Signature on File]_____
Chuck Head, Director
Division of Underground Storage Tanks

policy/notebook/pn021
Original: December 1991

Tennessee Department of Environment and Conservation

REVIEW OF PROPOSED LANDFILL SITES

Memorandum of Agreement

This memorandum of agreement (MOA) is entered into by the Division of Water Pollution Control (DWPC) and the Division of Solid Waste Management (DSWM). Both Divisions mutually understand, agree and approve that the Division of Solid Waste Management is recognized as the program having authority over the regulation of solid waste facilities, and that a primary objective of such regulation is that the construction, operation and maintenance of such facilities be done in a manner as to avoid the pollution of waters of the State. In order to achieve this objective, certain activities of DSWM shall be coordinated with DWPC, in a manner which fosters teamwork and communication between the two Divisions.

LANDFILL SITING

1. DSWM will review preliminary hydrogeologic evaluations conducted by the applicant in the selection of potential sites for solid waste facilities.

2. Upon receipt of a Part I application and the required hydrogeologic report, DSWM will provide DWPC with a 7 ½ minute USGS quadrangle sheet noting the location of the proposed footprint for a potential site. A memo from DSWM summarizing the proposed time table for project completion, including any regulatory deadlines, will be attached and, if deemed necessary, the DSWM geologist will attach a brief narrative of information pertinent to the site. DWPC shall communicate with DSWM regarding the necessity for and timing of a field assessment, which should be coordinated so that both DWPC personnel and the DSWM geologist may view the site together. After any needed field assessment is completed, DWPC shall forward to DSWM a report which includes input on all water issues (e.g., defining streams, wetlands, wellhead protection zones, etc. and evaluating any effects of the proposed facility on water quality). The report should also include any DWPC recommendations for consideration by DSWM in the final evaluation of the proposed site. All technical concerns of DWPC shall be discussed jointly prior to any final determination by DSWM.

3. DSWM rules provide that disposal facilities must be located "such that the fill areas are, at a minimum, 200 feet from the normal boundaries of springs, streams, lakes, and other bodies of water" [0400-11-01-.04(3)], and that "Facilities must not be located in a wetland" [0400-11-01-.03(2)(p)]. However, applicants for permits for solid waste disposal facilities are not precluded from making application to the appropriate agencies for 404/401 permits or aquatic resource alteration permits (ARAPs) to authorize changes in such area so as to allow them to be considered as potential sites for such facilities. Similarly, DSWM may grant variances from the siting restrictions found in its regulations

if it is determined that alternative standards or requirement achieve protection of the public health and environment equal to the regulatory requirements. DWPC shall evaluate applications concerning aquatic resource alterations in accordance with applicable DWPC rules and standards. DWPC shall proceed to process such applications and issue a notice of determination, containing a decision to issue or deny the ARAP or 401 permits. DSWM shall, thereafter, make a tentative permit decision, with the public notice thereof referencing the decision made by DWPC concerning any aquatic resource alteration. Public hearings conducted by DWPC are limited to the technical considerations set forth by the proposed aquatic resource alteration, whereas public hearings conducted by DSWM address all aspects of the proposed disposal facility's design, construction and operation.

4. The above provisions shall apply to the expansion of existing solid waste facilities as well as to siting of new facilities.

Whereas, there are anticipated technical and legal changes which may require further modification of these procedures periodically, the undersigned Division Directors will scrutinize this Agreement on a continuing basis.

(Signature on File)	(Signature on File)	4/18/08
Mike Apple,	Paul E. Davis,	Date
Director, DSWM	Director, DWPC	

policy/notebook/pn083
Revision 1: April 2008

Tennessee Department of Environment and Conservation

WATER QUALITY PERMITS AT LANDFILLS

Memorandum of Agreement

This memorandum of agreement (MOA) is entered into by the Division of Water Pollution Control (DWPC) and the Division of Solid Waste Management (DSWM). Both Divisions mutually understand, agree and approve that the DSWM is recognized as the program having authority over the regulation of solid waste facilities, and that a primary objective of such regulation is that the construction, operation and maintenance of such facilities be done in a manner as to avoid the pollution of waters of the State. In order to achieve this objective, certain activities of DSWM shall be coordinated with DWPC, in a manner which fosters teamwork and communication between the two Divisions.

REQUIRED PERMITS

STORM WATER – CONSTRUCTION ACTIVITIES

The DSWM will review the design and operating plans of all solid waste landfills to ensure that best management practices (BMP) for silt control are utilized during construction and operation. The BMP to be reviewed include, but are not limited to the "Erosion and Sediment Control Handbook" distributed by the DWPC. Areas within the landfill facility boundary which drain into storm water ponds designed to handle the 25-year, 24-hour rainfall event, as required by the DSWM rules, are not required to obtain NPDES permit coverage for those storm water discharges.

Typically, NPDES coverage for storm water discharge(s) from any disturbed areas greater than one acre is obtained by filing a Notice of Intent (NOI), Storm Water Pollution Prevention Plan (SWPPP), and an appropriate fee with the DWPC. The DWPC issues coverage under the construction general permit (CGP). Landfill operators must obtain CGP coverage with the DWPC for any disturbed areas greater than one acre within the landfill facility boundary which do not drain into the above ponds. Examples of areas requiring a SWPPP include a borrow area greater than one acre, or construction of an equipment maintenance facility which disturbs an area greater than one acre. Compliance monitoring of such areas will be as described in this MOA.

STORM WATER – INDUSTRIAL ACTIVITIES

Landfills must also comply with the Tennessee Multi-Sector Permit for Industrial Activities (TNR050000), Sector L. Landfills which receive industrial wastes, including all Class I and Class II sites, must obtain coverage under this permit from the DWPC. This permit regulates the storm water discharge from waste footprint areas and typically applies at the outfall pipe from the

storm water retention pond(s). For new landfills, a NOI must be submitted to the DWPC central office in Nashville five (5) days prior to the commencement of waste placement. Existing landfills should already have this permit in place. Compliance monitoring of landfills with Sector L permits will be as described in this MOA.

LEACHATE MANAGEMENT

Direct Discharge to Publicly Owned Treatment Works (POTW)

No permit from the DWPC is required for direct discharge of leachate to a POTW. The landfill will be required to meet certain pretreatment requirements which are enforced by the POTW.

Discharge to Surface Waters

A landfill that discharges or plans to discharge treated leachate to surface waters must apply for a NPDES permit from the DWPC.

Pump and Haul

A landfill that utilizes a pump and haul operation to dispose of leachate must incorporate the following into the Operations Manual for the facility. These provisions may be adopted as a minor permit modification for an existing landfill. This permit modification will be issued instead of obtaining a State Operating Permit from DWPC. For a new landfill, these provisions should be submitted in the Part II application.

a. Records documenting each load of leachate must be maintained at the landfill or at an alternate location approved by the DSWM for at least three (3) years. At a minimum, the records shall include the date and the quantity of leachate hauled, the treatment plant receiving the leachate, and the hauling company.

b. Transfer of leachate to the haul truck must be performed by a person trained to operate the transfer equipment at the landfill or in the presence of a landfill operator.

c. Leachate spills not contained within the secondary containment area or caught in a sump designed for this purpose must be reported to the DSWM.

d. The treatment plant receiving the leachate must be a facility authorized to receive industrial wastewater.

COMPLIANCE MONITORING AND ENFORCEMENT

1. The DSWM will perform compliance monitoring of permitted solid waste facilities as necessary. The DWPC, with assistance from the DSWM, shall investigate alleged water quality violations by such facilities. Environmental field office personnel of both

Divisions shall coordinate in conducting such investigations so that site inspections may be made with both DSWM and DWPC personnel present to observe and discuss findings.

2. The DWPC may require permittees to perform compliance monitoring of facilities issued permits under the Water Quality Control Act and/or may conduct its own monitoring. The DWPC shall pursue enforcement activity when a solid waste facility is in violation of any such permit or in any instance where a violation of any such permit or in any instance where a violation of the Water Quality Control Act does not also constitute a violation of the Solid Waste Disposal Act. The DWPC may submit enforcement requests to DSWM for water quality violations by solid waste facilities. If such a request is submitted, DWPC personnel shall be available as needed during follow-up inspections and hearings.

3. Each Division shall respond to citizen complaints arising under their respective Acts in a manner consistent with paragraphs 1 and 2 above.

4. Each Division shall keep the other advised as to the status of enforcement matters addressing violations which result from coordinated investigations of permitted solid waste facilities. Each environmental field office inspector (DSWM & DWPC) involved in the investigation of the site shall receive copies of significant documents (e.g., NOV's, Commissioner's Orders, Final Orders, correspondence relating to the status of remedial activities) generated during any enforcement proceeding, to ensure continued communication between the Divisions throughout such proceeding. Personnel from each Division may be utilized in any contested case hearings before the Solid Waste Disposal Control Board or the Water Quality Control Board.

Whereas, there are anticipated technical and legal changes which may require further modification of these procedures periodically, the undersigned Division Directors will scrutinize this Agreement on a continuing basis.

(Signature on File)	(Signature on File)	4/18/08
Mike Apple,	Paul E. Davis,	Date
Director, DSWM	Director, DWPC	

policy/notebook/pn084
Revision 1: April 2008

Tennessee Department of Environment and Conservation

MUNICIPAL WASTEWATER SLUDGE HANDLING AND DISPOSAL

Memorandum of Understanding

THIS MEMORANDUM OF UNDERSTANDING is entered into between the Division of Solid Waste Management (DSWM) and the Division of Water Pollution Control (DWPC) under, and in accordance with, the authority of the Tennessee Solid Waste Act, Tennessee Code Annotated §§ 68-31-101 et seq. (1986); Resource Conservation and Recovery Act, Subtitle D, as amended (1984); the Tennessee Water Quality Control Act of 1977, Tennessee Code Annotated §§ 69-3-101 et seq. (Cum. Supp. 1983); and the Water Quality Act of 1987 (P.L. 100-4).

PURPOSE

Under Federal authority several significant amendments have been made to the Clean Water Act. One of these amendments pertained to sewage sludge (Section 405(d)). The overall intent of these amendments is to have municipal wastewater treatment plant sludge controlled by regulations promulgated under the authority of the Water Quality Act, specifically with respect to 40 CFR Part 503, Subparts B and C. In keeping with this national concept, the State of Tennessee, Department of Environment and Conservation is clarifying responsibilities for municipal wastewater sludge handling and disposal from DSWM to DWPC.

DEFINITIONS

"COMMISSIONER" – The Commissioner of the Tennessee Department Environment and Conservation or his authorized representative.

"DOMESTIC WASTEWATER" – Wastewater of the type commonly introduced into a treatment works by residential users.

"MUNICIPALITY" – A city, town, county, district, association or other public body (including an inter-municipal agency of two or more of the foregoing entities) created under State law having jurisdiction over treatment of domestic wastewater, or any other entity defined as such by the Commissioner.

"LAND APPLICATION" means the spraying or spreading of sewage sludge onto the land surface; the injection of sewage sludge below the land surface; or the incorporation of sewage sludge into the soil so that the sewage sludge can *either condition the soil or fertilize crops or vegetation* grown in the soil.

"MUNICIPAL SLUDGE" means any solid, semi-solid, or liquid waste generated from a treatment works treating domestic sewage, exclusive of the treated effluent from that facility.

"SEWAGE SLUDGE UNIT" is land on which only sewage sludge is placed for final disposal. This does not include land on which sewage sludge is either stored or treated. "Land" does not include waters of the State of Tennessee, as defined in Tennessee Water Quality Control Act.

"SLUDGE" means any solid, semi-solid, or liquid waste (i.e., biosolids) generated from a commercial, municipal, industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility, exclusive of the treated effluent from a wastewater treatment plant.

"SURFACE DISPOSAL SITE" is an area of land that contains one or more active sewage sludge units. An active sewage sludge unit is a sewage sludge unit that has not closed.

ELEMENTS OF UNDERSTANDING

There is mutual understanding between the Division of Solid Waste Management (DSWM) and the Division of Water Pollution Control (DWPC) on the following:

1. DSWM will continue to process applications for special waste approvals for all Wastewater Treatment Sludges being shipped to Class I municipal solid waste landfills.
2. DSWM will continue processing permit applications for all composting operations utilizing municipal wastewater treatment sludge as an ingredient in the composting process.
3. DWPC will handle all aspects of land application of sludge originating at treatment works treating domestic sewage as described at 40 CFR Part 503.
4. DWPC will be responsible for surface disposal facilities. Upon request, DSWM will evaluate and report to DWPC concerning the adequacy of the facility design, site geology, groundwater and methane monitoring systems at treatment works treating domestic sewage sludge surface disposal units which are not land application sites. This includes, but may not be limited to sludge monofills, surface impoundments, lagoons, waste piles, and sludge disposal in trenches and area fills.

EFFECTIVE DATE: February 15, 2000

Signature on File_____
Paul Davis, Director
Division of Water Pollution Control

Signature on File_____
Mike Apple, Director
Division of Solid Waste Management

APPROVED:
Signature on File_____
John Leonard
Assistant Commissioner for Environment
policy/notebook/pn114
Original: February 2000

Tennessee Department of Environment and Conservation

WATERWORKS SLUDGE

Memorandum of Agreement

THE MEMORANDUM OF AGREEMENT is entered into between the Division of Solid Waste Management (DSWM) and the Division of Water Supply (DWS) under, and in accordance with, the authority of the Tennessee Solid Waste Act, Tennessee Code Annotated § 68-211-101 et seq. and the Tennessee Water Quality Control Act of 1977, Tennessee Code Annotated § 69-3-101 et seq. (Cum. Supp. 1983); and the Water Quality Act of 1987 (P.L. 100-4); and the provisions of Tennessee Code Annotated § 68-221-101 et seq.

PURPOSE

The Division of Water Supply is the division responsible for investigating, inspecting and general supervision over the operation and maintenance of water supply and waterworks systems. The Division of Solid Waste Management is responsible for the general supervision over the operation and maintenance of solid waste processing and disposal facilities or sites. The purpose of this memorandum of agreement is to transfer the responsibility for the "land application" of sludge generated from waterworks systems from the DSWM to DWS.

DEFINITIONS

"Waterworks system" shall be defined as per TCA 68-221-101.

"DWS" will mean Tennessee Department of Environment and Conservation, Division of Water Supply.

"DSWM: will mean Tennessee Department of Environment and Conservation, Division of Solid Waste Management.

ELEMENTS OF AGREEMENT

There is mutual agreement between the Division of Solid Waste Management and the Division of Water Supply on the following:

1. DWS will assume primacy for all beneficial use or disposal by land application of waterworks treatment sludge on the effective date of this MOA.

2. DWS will grant interim acceptance for all such land application sites approved by DSWM prior to the effective date of this MOA.

3. DSWM will make available to DWS all files on any existing sites authorized by the DSWM.

4. The DSWM will make copies of such land application files available to DWS staff. When field offices are physically located in the same building, a mutually acceptable location for the files will be agreed upon by the office supervisors for DSWM and DWS.

5. The DSWM retains regulatory responsibility for such sludge disposal in landfills permitted by DSWM. All other such sludge management uses will be regulated by the DWS.

6. DSWM staff will be available to DWS staff for consultations on past projects on a case-by-case basis. These consultations will be to provide background information and may involve site inspections, reviews of reports and/or applications on a very limited basis.

7. When siting new waterworks treatment sludge application sites, the DWS will utilize the buffer zone standards in the attachment.

EFFECTIVE DATE: April 1, 1996

Signature on File
David Draghon, Director
Division of Water Supply

Signature on File
Tom Tiesler, Director
Division of Solid Waste Management

APPROVED:

Signature on File
Kenneth W. Bunting, Administrator
Land and Radiological Program

Signature on File
James W. Haynes, Administrator
Air and Water Programs

Signature on File
Wayne K. Scharber, Deputy Commissioner
Environment

policy/notebook/pn089
Original: April 1996

ATTACHMENT

The following buffer zones standards will apply to new sites used for the land application of waterworks treatment sludge:

Subject	Minimum Buffer Distance
dwelling	250 feet
road	20 feet
surface water	200 feet
public well	1,000 feet
private well	500 feet
water table	4 feet (vertically)

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Local Government Approval for
Permit-By-Rule Coal Ash Fill Facilities
POLICY

In Opinion No. 98-136 dated August 6, 1998, the Office of Attorney General set forth the status of "permit-by-rule" coal ash fill areas under T.C.A. §§ 68-211-105(h) and 68-211-701, *et. seq*.

The opinion states that if a coal ash fill area, which is intended primarily for structural and embankment fill, meets the disposal restrictions established in the Tennessee Solid Waste Disposal Control Board's permit-by-rule requirements, it would be subject to local review and approval, assuming the affected county or municipality has adopted the provisions of T.C.A. § 68-211-701, *et. seq.*, before the Tennessee Department of Environment and Conservation could issue a permit-by-rule for construction of such a project.

_[Signature on File]_____ __04-07-2009___
Mike Apple, Director **Date**

policy/notebook/pn129
Original: April 2009

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Review of Minor Modifications
POLICY

Purpose
The purpose of this policy is to establish a procedure for the review of minor modifications for solid waste landfills and solid waste permit by rule facilities.

Landfills
The definition of a minor modification for landfill permits is found at Rule 0400-11-01-.02(6)(b)5. In general, a minor modification is a change in the plans for a facility which will not alter the expected impact of the facility on the public, public health, or the environment. The following procedure is to be followed:

- The field office permit writer completes review of the requested modification and submits the landfill minor modification checklist (attached) to the Director.

- If appropriate, the field office manager will work with the external affairs director to notify local government of the receipt of the request for minor modification. Notification should be made if the minor modification might impact nearby residents (e.g., changes to operational hours, new entrance, etc.). Notification, if appropriate, should be made within ten (10) days of minor modification receipt.

- After submitting the checklist and notification as necessary, the field office manager signs the requested approval. This step will not be delayed unless the field office is contacted by the director regarding the minor modification.

- Revised permit documents are filed at the field office and copied to the central office.

Permit By Rule Facilities
Minor modifications for permit by rule facilities are not defined in the Rule. For purposes of this policy, modification of a permit by rule which does not require resubmitting of a notification package and fee will be handled as a minor modification. Such minor changes include changes in equipment, operations, or storage capacity. An example of a modification which would require resubmitting a notification and fee include a change of classification (e.g., change from a transfer station to a processing facility). The following procedure is to be followed:

- The field office completes review and submits a memorandum to the central office describing the modification and recommending approval or other action.

- If appropriate, the field office manager will work with the external affairs director to notify local government of the receipt of the request for minor modification. Notification should be made if the minor modification might impact nearby residents (e.g., changes to operational hours, new entrance, etc.). Notification, if appropriate, should be made within ten (10) days of minor modification receipt.

- The central office issues a letter of acceptance or denial of the minor modification to the permittee as an addendum to the original permit by rule.

(SIGNATURE ON FILE) JULY 2, 2013
Patrick J. Flood, PE, Director Date
Division of Solid Waste Management
pn131: Original

Landfill Minor Modification Evaluation Checklist

Site Name: _____ **Site ID**: _____
Reviewer: _____ **Date Received**: _____

Does minor modification request involve a change in site capacity? Y / N
If yes, what is the estimated change in capacity? _____

Does minor modification request involve a change in the final contours? Y / N

Does minor modification request involve a change in the direction of site drainage? Y / N

Does minor modification request involve a change to an existing facility-specific permit condition? Y / N

Does this minor modification request involve a change in the plans for a facility which will alter the expected impact of the facility on the public, public health, or the environment? Y / N

If the answer to any of the above questions is "yes", then the request must be processed as a major permit modification, and all related fees and procedures for a major permit modification, such as public notice/public comment, etc., must be observed. If the answer to all of the above questions in "no", then proceed with completion of this checklist.

Please provide a brief narrative summary of the changes included in this proposed minor permit modification:

_____
_____
_____
_____

Do you recommend issuance of the proposed minor permit modification(s): Y / N

Do you recommend notification to local government of the minor modification? Y / N
If yes, please explain. _____
_____
_____

Comments:
_____
_____
_____
_____

_____ _____
Permit Writer Signature Date Reviewed

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Environmental Site Assessment
POLICY

In accordance with TCA § 68-211-105 all new Class I, II, III, and IV facilities and coal ash fill permit-by-rule facilities must have environmental site assessments that include an evaluation of the quality of groundwater beneath the proposed facility. This requirement does not include expansions, modifications, or new units for existing permitted facilities.

The environmental site assessment will be submitted along with the part II application or permit-by-rule notification. Ground water must be sampled and analyzed for Appendix I constituents or for constituents listed in the ground water monitoring plan. In addition to the required ground water data the assessment may also include the following:

1. Soil Data; and a

2. Site Development History / Land Use.

In accordance with TCA § 68-211-107, all land disposal facilities with a new permit or an expansion permit for which the tentative permit decision was published after July 1, 2006, including class IV and coal ash permit-by-rule facilities, must at least annually sample ground water. Ground water must be sampled and analyzed for Appendix I constituents or for constituents listed in the ground water monitoring plan.

__[Signature on File]_____ __09/21/06_____
Mike Apple, Director Date
Division of Solid Waste Management

policy/notebook/pn128
Original: September 2006

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Permit By Rule Status For Recycling Facilities
POLICY

Purpose:

The purpose of this policy is to assist the Division of Solid Waste Management staff in determining whether or not a given recycling facility requires a permit by rule. It will present the criteria and the rationale used by DSWM to distinguish between the two types of recycling facilities in the permit-by-rule determination.

Definitions:

TCA 68-211-103 defines *solid waste processing* as follows: "Solid waste processing means any process that modifies the characteristics or properties of solid waste, including, but not limited to, treatment, incineration, composting, separation, grinding, shredding, and volume reduction, provided, that it does not include the grinding or shredding of landscaping or land clearing wastes or unpainted, unstained, and untreated wood into mulch or other useful products."

TCA 68-211-802 defines *recovered materials* as follows: "Recovered materials means those materials which have been diverted or removed from the solid waste stream for sale, use, reuse or recycling, whether or not requiring subsequent separation processing. Such recovered materials are not solid waste."

TCA 68-211-802 defines *recovered materials processing facility* as follows: "Recovered materials processing facility means a facility engaged solely in the storage, processing and resale or reuse of recovered materials. A recovered materials processing facility is not a solid waste processing facility."

Background:

In practice, the Division has required a permit for recycling operations that are defined as *solid waste processing facilities*, but has not required a permit for those recycling operations that can be defined as *recovered materials processing facilities*.

The key to making a distinction between the two types of recycling operations is the material being processed or handled. A facility handling a material that is clearly a waste (e.g. garbage, ash, contaminated soil, wastewaters) is required to get a permit-by-rule.

Facilities handling materials that have been source separated from the waste stream fall within the definition of "recovered material processing facility." Simply separating a waste from the

waste stream, however, does not automatically place a facility into that category. The Division must consider if the recovered material has a market value. Facilities having recovered materials of market value and a recycling infrastructure in place will be considered recovered material processing facilities. Some of these materials may include cardboard, glass, paper, and many types of metal.

If the value of a recovered material is marginal or if the recovery process results in a large stockpile of material, the Division may require a permit-by-rule. An advantage of this approach is that fees may be waived if a facility demonstrates that 75% of materials are recycled each year. A drawback is that the operation then becomes subject to the Jackson Law in a county that has adopted that statute.

Summary/Conclusion:

The following guidelines may be used to determine the requirement for a permit-by-rule.

1. The facility will not be required to obtain a permit-by-rule, if all of the following apply:

   (a) there is minimal processing (washing, baling) before shipment to an end user or manufacturer;

   (b) the waste is pre-sorted before arriving at a facility;

   (c) there is a viable market that is being utilized; and

   (d) there is no speculative accumulation.

2. If wastes are sorted after arriving at the facility, this is considered to be "solid waste processing" and a permit-by-rule is required. If, however, 75% of the total incoming waste is shipped off-site to a valid recycling facility, no annual maintenance fee is due. The facility must keep and submit records on an annual basis to claim this exemption (see rule 0400-11-01-.07(1)(b)4).

3. If a facility receives both sorted and unsorted wastes, and sorting occurs for the unsorted wastes, a "processing facility" permit-by-rule is required.

The following are examples of processing facilities with recycling that ***require*** a permit-by-rule:

1. Facilities that receive household waste (garbage), process it (i.e. screen, separate, grind, etc.) to remove metal, paper, etc., and then transport off-site the remaining waste for disposal, are required to have a permit-by-rule.

2. Facilities that process scrap tires are required to have a permit-by-rule. The Division has always considered scrap tires to be a waste because the cost to manage them is far greater than their market value. Requiring a permit-by-rule for these facilities has two advantages. First, it minimizes any potential environmental problems through routine inspections, and secondly, it insures sufficient financial assurance funds are available to properly close the facility. Because markets and end uses can change over time, this determination could be modified at a later date.

The following are examples of processing facilities with recycling that ***do not require*** a permit-by-rule:

1. Facilities that collect pre-sorted aluminum cans and then bale them for shipment to a secondary aluminum smelter. The aluminum cans are a "*recovered material"* and the baling operation is a "*recovered materials processing facility."*

2. Facilities that collect used or discarded electronics for recycling do not require a permit-by-rule. There are a small number of these facilities that are in current operation. Some of the electronic devices are repaired for reuse. Others are salvaged for their usable components. The remaining devices are shredded to recycle plastics, metals, and glass. As in the used tire example, the Division may find it necessary to begin requiring these facilities to obtain a permit-by-rule.

__(Signature on File)_____ ___03/30/05____

Mike Apple, Director **Date**
Division of Solid Waste Management

policy/notebook/pn122
Original: March 2005

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Waste Stabilization At Class I Landfills
POLICY

A. **Design and Operating Criteria**

The following information or design criteria must be included in the Permit By Rule application:

1. Primary (mixing) vessel design.
   a. watertight construction
   b. covered (e.g. as a roof)
   c. meets safety standards for an open pit as applicable
   d. leak detection capability
   e. leak containment – such that any leaks are contained within the detection system, but not necessarily full secondary containment
   f. use of a flexible membrane liner must conform to Rule .04(4)

2. Characterization of bulking agents and pozzolanic agents
   a. description
   b. analytic data as applicable

3. Provisions for maintenance testing (leak testing)

4. Provisions for Containment of Washdown Water or Spills (may be within primary vessel)

5. Provisions for Management / Screening of Obnoxious (odorous) Wastestreams

6. Provisions for testing of wastes after processing

B. **Wastestream Approval** (Special Waste Approval)

The following minimum requirements for special waste approval must be incorporated into the Permit By Rule application:

1. Each wastestream (but not each shipment) must obtain a special waste approval which provides for disposal only in the associated Class I Landfill

2. The 50 mile limitation remains in effect for out-of-state wastestreams

3. The special waste application must include a description of those parameters which will be checked upon receipt of the wastestream

C. **Recordkeeping**

The following minimum recordkeeping requirements must be incorporated into the Permit By Rule application:

1. Each load must be accompanied by a certification that the load is not a RCRA hazardous waste (may be part of a special waste manifest or similar paperwork).

2. Records on the waste profile tests performed after receipt of the waste, but prior to treatment, must be kept.

3. Records on the treated waste (e.g. paint filter test) must be kept.

4. Records must be kept at the landfill facility or the processing facility or at another location approved by the Department.

_[Signature on File]_____ _06-26-1996_____
Tom Tiesler, Director Date
Division of Solid Waste Management

policy/notebook/pn095
Original: June 1996

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Regulation of Transfer Stations
POLICY

TRANSFER STATIONS

The regulation of transfer stations is found at rule 0400-11-01-.02(1)(c)1(v) with corresponding fee language at rule 0400-11-01-.07, paragraphs (2) and (3).

A transfer station is defined in the regulations as "a combination of structures, machinery or devices at a place or facility which receives solid waste taken from public and/or private collection vehicles and which is placed in other transportation units for movement to another solid waste management facility." Transfer stations are registered under a permit by rule with a prefix of "TRF". A transfer station may use a compactor to load vehicles without being designated as a solid waste processing facility. Transfer stations may also salvage recyclable marterials as part of the transfer station operation. Recycling activities should be described in detail in the permit by rule notification.

SATELLITE COLLECTION

In order to be registered as a transfer station, some type of fixed location (i.e. facility) with "structures, machinery, or devices" must exist. It is not the intent of the DSWM to regulate those types of waste collections which use smaller collection vehicles to deliver wastes to a larger collection vehicle. Such operations do not use a fixed location for the transfer, nor would they be likely to have "structures, machinery, or devices" at those sites.

The DSWM has encountered some waste collection operations which utilized trailers temporarily parked in areas that are unfenced and unattended. Such an operation is not a transfer station as defined by the DSWM. Persons using trailers which have received waste collected from off-site and left unattended may, if warranted, be cited for disposal. If such trailers contain medical waste, state law defines this as a criminal violation under certain circumstances (T.C.A. §55-8-162).

__(Signature on File)_____ __(05/09/08)____
Mike Apple, Director Date
Division of Solid Waste Management

policy/notebook/pn009
Revision 2: May 2008

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Final Certification of Closure for Disposal Facilities and Facility Parcels

POLICY

Purpose

The intent of this policy is to clarify the review and approval procedures for the closure and certification of a disposal facility or a disposal facility "parcel". Final certification of a landfill or a portion of a landfill (parcel) allows release of the financial assurance for closure and begins the post-closure care period for that landfill or parcel.

Definitions/Regulations

Rule 0400-11-01-.01(2) – Definitions contains the following:

> "Parcel" means a discrete portion of a disposal facility.
>
> "Phased Development Plan" means a plan for developing a tract of land as a disposal facility in sequential segments, or parcels, provided that the entire tract of land is covered by a permit authorizing such use. As used in this rule, **a parcel must be of adequate acreage to sustain at least five years of use** based on estimated solid waste volumes to be handled over that period.

Rule 0400-11-01-.04(8)(c)9 states:

The operator must notify the Division Director in writing within 60 days of his completion of closure of the disposal facility or disposal facility parcel. Such notification must include a certification by the operator that the disposal facility or disposal facility parcel has been closed in accordance with the approved closure/post closure care plan. Within 21 days of the receipt of such notice the Division Director shall inspect the facility to verify that closure has been completed and in accordance with the approved plan. Within 10 days of such verification, the Commissioner shall approve the closure in writing to the operator. Closure shall not be considered final and complete until such approval has been made.

Summary

Once the landfill operator submits a written certification of closure, the environmental field office is responsible for evaluation of the documents to verify that closure is complete and in accordance with the plan. In most cases this will include review of construction quality assurance documents. The field office will send a memo to the Director recommending certification of closure once the

above determination has been made. The memo shall include the date that the landfill owner sent closure certification and the date of final inspection. If the certification is for a parcel, a description and map of the parcel shall be attached.

The final closure certification shall be issued from the central office under the Director's signature. The closure certification form letter is attached.

__[Signature on File]_____ _09/21/06___
Mike Apple, Director Date
Division of Solid Waste Management

policy/notebook/pn106
Revision 1: September 2006

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State of Tennessee
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
Division of Solid Waste Management
Fifth Floor, L & C Tower
401 Church Street
Nashville, Tennessee 37243 – 1535

[Date]

[Facility Owner/Operator]
[Facility Name]
[Facility Address 1]
[Facility City], TN [Facility Zip Code]

RE: Approval of Closure Certification: **[Facility Name]**
[Facility Permit ID Number]

Dear [Facility Owner/Operator]:

On [**Date of Receipt**)] the Division of Solid Waste Management (DSWM), [**Environmental Field Office Name**], received closure certification from the above referenced facility. Based on a review of the certification document and upon a facility inspection conducted on [**Date of Inspection]**, verification of final closure for this facility **[or facility parcel]** has been determined to be complete and approval is hereby granted.

Pursuant to Tennessee Rule 0400-11-01-.03(3)(i)2, **[Facility or Facility Parcel Name]** is hereby notified that it is no longer required to maintain financial assurance for closure of the facility **[or facility parcel]**. You will be sent separate correspondence regarding the release of your financial assurance.

Further, the thirty (30) year post closure care period for this facility **[or facility parcel]** begins upon receipt of this approval letter. All post closure care activities outlined in Rule 0400-11-01-.04(8)(e) and all post closure care activities specified in the facility's approved Closure/ Post Closure Plan must be followed as required.

If you have questions concerning financial assurance you may contact O. J. Wingfield at 615-532-0877. Please contact this office at 615 532-0780 with questions concerning the closure certification.

Sincerely,

Mike Apple, Director
Division of Solid Waste Management

cc: Glen Pugh, Solid Waste Program Manager
[Environmental Field Office Manager Name], [Field Office Name]
O. J. Wingfield, Financial Responsibility Group

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Post-Closure Certification and Permit Termination

POLICY

Purpose

The intent of this policy is to clarify the review and approval procedures for the post-closure certification and subsequent termination of a landfill permit at the completion of the post-closure care period. Post-closure certification by the landfill owner initiates the process of terminating the landfill permit.

Post-closure certification of a landfill parcel or phase follows this same procedure including release of that portion of the financial assurance, but will not result in termination of the permit.

Procedure Review

At the end of the post-closure care period, the landfill owner must submit written certification that post-closure has been completed in accordance with the closure plan. The environmental field office will evaluate this certification. The field office will then submit a memo to the Director either recommending termination of the permit or an extension of the post-closure care period. Attachments to the memo shall include a copy of the final site inspection and a copy of the deed notation identifying the site as a landfill. If a recommendation is made to extend the post-closure care period, any problems at the site – such as groundwater contamination, leachate breakouts, erosion, or obvious gas impacts should be listed on the inspection sheet and explained in the memo.

If the owner's post-closure written certification is accepted, a public notice of intent to terminate the permit will be prepared and issued by the central office. Once a permit is terminated, the Financial Responsibility Group will be notified so that financial assurance may be released.

__[Signature on File]_____ __09/21/06__
Mike Apple, Director Date
Division of Solid Waste Management

policy/notebook/pn127
Original: September 2006

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Construction Quality Assurance Inspection
POLICY

Objective: To ensure proper construction practices and construction quality assurance procedures are followed at permitted landfills in Tennessee.

The performance of liner/leachate collection systems and final cover systems is an integral part of our ground water protection strategy. The following inspection schedule is provided as a guideline or goal for field offices to use in performing construction inspections, and is a description of the critical steps in the construction process.

At a minimum, each construction project (i.e. construction on each cell) should be inspected at least twice, once during the construction and again just prior to receiving waste. In addition, field office staff should attend a pre-construction meeting at least once for each permitted facility.

Inspection Schedule

I. Pre-Construction Meeting

This type of meeting should be attended by SWM staff at least once for each facility. It might be necessary to attend a second meeting if significant problems were noted during the initial construction phase. The owner (who may be represented by his engineer), the engineer (CQA officer), and the construction contractor should all be present and discuss the site specific CQA Plan for the facility. The following should be discussed:

A. Role of CQA officer
B. Test frequency and methods for borrow material, liner and other materials
C. Equipment required
D. DSWM role in the project

II. Base Grade Inspection

Many recent permits have been issued with a specific condition requiring inspection by DSWM of the base grade of excavation. This inspection is more directly related to the geologic buffer, but it can have implications for liner construction. For example, if sandy or rock zones are noted, and the excavation material was proposed to be used as liner construction material, then its borrow stockpile should be closely inspected.

III. Clay Liner Construction Inspection

This type of inspection should be performed as necessary, but in order to evaluate construction techniques, the inspector should be present when clay is being placed and compacted. As-built clay liners look very much the same whether they fail permeability tests or not. Use the inspection checklist to look for such items as:

A. Borrow material properties
B. Number of passes
C. Lift thickness
D. Type of equipment, etc.

IV. Final inspection – Clay Liner

In order for the composite liner concept to work, intimate contact between the FML and the clay liner is necessary. Therefore, the finished surface of the clay liner should be smooth, free of rocks or other protrusions, and free of desiccation cracks (see checklist).

V. FML Installation Inspection

Proper liner (FML) installation is very difficult and prone to human error. Fortunately all seams can be field tested for integrity and sample scan be lab tested for strength. Our field inspection is primarily to observe the seaming technique (see checklist).

VI. Final Inspection/Drainage Layer Inspection

This inspection should be made prior to the facility receiving waste and is primarily used to check that the leachate collection system will function as designed. Look for proper materials of pipes and geotextiles and make sure that grades have been surveyed (see checklist).

Use of the Checklist

A CQA checklist should be completed whenever one of the above site inspections is performed. A copy should be forwarded to the Central Office and one copy to the owner. Any observed problems (checklist items) may be followed up on or responded to in a number of ways. In order of preference they are as follows:

1. Item is discussed and resolved with owner or CQA officer on-site at the time of inspection. This should be noted in the comments section.

2. Item is followed up by a subsequent inspection and so noted as being satisfactory in the comment section.

3. Item is discussed verbally with owner (or engineer) subsequent to inspection and, if resolved, the conversation should be recorded by a memo to the file.

4. Item is noted in a cover letter to owner when their copy of the CQA checklist is sent. Owner should be requested to respond to the item in writing.

Resolution of disputed (unresolved) items may be pursued as a Permit violation. Keep in mind that our ultimate measuring stick for a successful liner project is the undisturbed permeability test of the completed liner

_[Signature on File]_____ _08-19-1996_____
Tom Tiesler, Director Date
Division of Solid Waste Management

policy/notebook/pn075
Revision 1: August 1996

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Assignment of Duties
POLICY

When a Part I landfill application is sent from a Field Office to the Central Office, it is the responsibility of Permit Administration to publish a preliminary public notice in appropriate newspapers.

When a Part II is complete and a decision made to permit or deny a permit to the applicant, Permit Administration will publish a second notice known as a "tentative decision" notice, in the same newspapers that published the preliminary notice. A copy of the DRAFT permit is sent to the appropriate people and places for public viewing. A copy of the DRAFT permit and Fact Sheet are sent to the public library nearest the proposed landfill site.

It is the responsibility of the Field Office to take the appropriate manuals and drawings to the same library.

_[Signature on File]_____ _02-16-1996_____
Tom Tiesler, Director Date
Division of Solid Waste Management

policy/notebook/pn066
Revision 1: February 1996

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Hydrogeologic Report
POLICY

As provided in Solid Waste Rule 0400-11-01-.04(9) the Part II Permit Application shall include a hydrogeologic report. Although this report is specific data relative to the geologic review of a site, this report is the basis for the preparation of engineering plans. In view of the multi-discipline decisions that this report impacts, the final review of this report shall be coordinated by the field office manager At such time as the hydrogeologic report has been determined to be deficient or adequate to meet regulatory requirements, a letter will be forwarded under the signature of the field office manager. This letter may require additional information and/or summarize weaknesses of the site. A memo prepared by the staff geologist will be drafted in order that specific details of the review may be documented. This procedure is not a reflection of the capability of any discipline, but rather reflects the need for careful coordination.

_[Signature on File]_____ _01-29-1991_____
Tom Tiesler, Director Date
Division of Solid Waste Management

policy/notebook/pn070
Original: January 1991

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Peer Review Process
POLICY

Effective immediately, the Division of Solid Waste Management is initiating a Peer Review Procedure for all landfill applications. The objective of this policy is to provide for consistency in the Division's review process and to provide support and training for Field Office staff.

The following steps are to be completed before the Permit Review Committee meeting is held for a given application:

1. As soon as it is received, one copy of the Hydrogeologic Report will be forwarded to the Central Office.

2. The Field Office Manager will designate a Project Manager for the application.

3. As soon as it is received, one copy of the Plans and Operation Manual will be forwarded to the Central Office.

4. Any written comments (input) from the Central Office will come from the Technical Section to the Project Manager.

5. The Project Manager will be responsible for scheduling a Peer Review Meeting with the Technical Section. They will determine which staff will attend.

Project Manager – The Project Manager is designated by the Field Office Manager, and may be any position within the given Field Office. This designation should be made at least by the time a Hydrogeologic Report is received by the field Office. When this Report is forwarded to the Central Office, the Project Manager's name may be attached.

A Project Manager's role is to coordinate the review process. This role includes meeting time deadlines, receiving input from other Divisions, completing the Peer Review Process, and scheduling a meeting with the Permit Review Committee.

Peer Review Meeting – This meeting will typically be held at the Field Office and will be conducted by the Project Manager. The purpose of this meeting is to discuss the comments or input that the Central Office staff has previously provided or have brought to the meeting. The Project Manager will decide how to incorporate this input into the review process.

The Central Office will notify all other Field Offices of the scheduled Peer Review meeting so that interested technical staff may attend. In addition, the Director may designate a particular Field Office person to attend a Peer Review meeting. I encourage everyone involved in this process to work towards a goal of accurate and timely permit application review.

_[Signature on File]_____ _03-23-1998_____
Tom Tiesler, Director Date
Division of Solid Waste Management

policy/notebook/pn067
Revision 1: March 1998

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Permit Review Committee Meetings and Presentation
POLICY

In the future the Solid Waste Permit Review Committee will meet the first Thursday of each month.

All permits to be considered must be received in this office no later than two weeks prior to the committee meeting. An agenda of permits to be considered and the approximate time they will be heard will be sent to all Field Office Managers for their information prior to the meeting.

Please bring, do not mail, the materials that make up a complete package which shall consist of the following:

1. Hydrogeological Report
2. Engineering Plans
3. Operations Manual
4. Closure/Post Closure Plan – Cost estimate for closure
5. Completeness Determination Letter
6. Field Office Review Time (days)
7. Two copies of the Application to be brought to the Permit Review

The originals for the draft permit, fact sheet and application for permit must be submitted. The original for the draft permit should be on plain bond paper, not letterhead, and should not have "draft" stamped on it. It will become the final permit when signed. The attached permit form is to be the format used on all draft permits.

The fact sheet should briefly set forth the principal facts and the significant factual, legal, methodological and policy questions considered in preparing the draft permit to include, when applicable:

1. Type of facility or activity which is the subject of the draft permit;
2. Type and quantity of wastes to be disposed of;
3. Summary of the basis for the draft permit conditions, including references to the statutory and regulatory provisions;
4. Reasons why waivers or alternatives are/are not justified;
5. Name and telephone number of a person to contact for additional information.

It shall be the duty of the Field Office to prepare the fact sheet, and draft permit in final form, and to ensure that a complete package is submitted. If additional information is needed, modification

to plans, manuals, fact sheets, etc., it shall be the responsibility of the Field Office to make or have made those changes.

Incomplete submissions, revised plans, manuals, applications, draft permits will require the Field Office to re-present at the next month's committee meeting.

Field Offices may request specific times to present applications to the Committee on a first come basis. The earlier a package is received, the better the chance for getting the desired time.

_[Signature on File]_____ _02-13-1996_____
Tom Tiesler, Director Date
Division of Solid Waste Management

policy/notebook/pn064
Revision 1: February 1996

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Tracking of Permit Review Timeframes
POLICY

In order to verify that our Division is meeting timetables for issuing permits to solid waste landfills, we need your help.

As part of the permit package you now bring to permit review committee, you need to include a summary of the elapsed review time. An example follows:

Project Name ABC Landfill

Completeness Letter Sent to Applicant – First N.O.D.	01/01/01 - 01-31-01	30 Days
Revised Application Submitted – Second N.O.D.	02/15/01 - 03/01/01	14 Days
Revised Application Submitted – Date of Permit Review Committee	03/16/01 - 04/02/01	17 Days
Total Review Time		61 Days

The Central Office permitting section will be tracking elapsed time from the date of the Permit Review Committee forward.

As a reminder, there are also separate timeframes for a completeness determination of the hydrogeological report and the design and construction plans, to wit:

Hydrogeologic Report	30 days
Design and Construction Plans	45 days

_[Signature on File]_____ _03-19-2001_____
Glen Pugh Date
Division of Solid Waste Management

policy/notebook/pn065
Revision 1: March 2001

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Service Areas
POLICY

The Tennessee Supreme Court rendered a decision in the case of Sanifill, Inc. vs. Tennessee Solid Waste Disposal Control Board on October 16, 1995. At issue was the Division of Solid Waste Management's use of service area conditions in permits for solid waste disposal at Class I landfills. The Court upheld a lower court ruling that such restrictions are not within the authority of the Solid Waste Act.

Our counsel has determined that service area conditions in all landfill permits are unenforceable. The division therefore considers such conditions to be null and void. New permits or permit modifications for Class I landfills will not contain service area conditions.

This ruling does not affect the authority of a Solid Waste Region to control the flow of solid waste as found in TCA 68-211-814.

You may contact the Division's Central Office at 615-532-0780 with questions or for further information on this matter.

Division of Solid Waste Management _08-10-1998_____
Date

policy/notebook/pn096
Original: August 1998

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Remediation Guidance Levels
POLICY

Since May of 2000, the Division has been utilizing the EPA Region 9 Preliminary Remediation Goal's (PRG's) to establish no further action levels for remediation sites. When contaminants are encountered that are not in the listing, the State Remediation Program should be contacted and they will work with EPA's Toxicology Section to establish the appropriate level.

By using the PRG's, the Division establishes a level that is protective of both health and environment for the material left in place. Those levels are extremely conservative, and therefore, may be utilized without further risk assessments being performed. However, in some situations, these levels will not be obtainable and a risk assessment would be appropriate. The utilization of this criteria requires a determination that groundwater has not and cannot be adversely affected by the material left in place.

Based on the PRG Guidance, the following is a brief summary of the steps involved in determining the appropriate level that may be left in place at a site with no adverse health or environmental impact. (The levels for the parameter of concern must be verified by the consultant with the State Remediation Program prior to the completion of the site remediation.)

The State Remediation Program does not utilize action levels to determine if additional assessment/remediation is warranted at contaminated sites. Once it is established that a disposal has occurred (either intentional or unintentional), the initial investigation must determine both horizontal and vertical extents of migration of the contaminants in all affected media (including groundwater) to either background or non-detect, not to an action level. This does not include spill situations that are addressed immediately. Once the extent of migration is established, a determination can be made as to what portion of the site warrants remediation. Remediation of soil is determined by two steps: One, the total level of the parameter of concern must be less than the level established in the Risk-Based Document for Ingestion; and secondly, the highest level left in place must not be capable of adversely affecting groundwater at the site.

For example, if the risk-based level for lead in soil is 400 parts per million (this means that no adverse effects would occur if this material was ingested over a period of years) and the site verified that the highest level left in place is 100 ppm, the site has met the first criteria for remediation. However, the second step is for a leaching procedure to be run on this sample. If the leachate from this sample is below the MCL (Maximum Concentration Limit) for groundwater, then it proves that even under the worse case scenario (drinking the leachate or eating the soil) no adverse health effects would arise. However, if the leachate was above the MCL, we would require that either the soil be removed or treated to a lower contaminant level, or

that a study be completed to show that the conditions at the site would not allow the groundwater to be adversely affected (attenuation, dilution, depth to groundwater, etc.).

Of course, every site is different and there are other factors that must be considered, but as a general rule, this approach can be used to investigate and remediate a site.

The EPA Region 9 PRG's can be accessed at the following address:

www.epa.gov/region09/waste/sfund/prg/

[Signature on File]_____ 07-01-04_____
Mike Apple, Director Date
Division of Solid Waste Management

policy/notebook/pn030
Revision 4: July 2004

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Reporting Requirements of Unpermitted Disposal Sites
POLICY

Numerous inquiries from environmental consultants, attorneys and facilities regarding reporting requirements for the State of Tennessee have prompted the need for policy clarification on this issue in order to insure consistent responses from DSWM staff. The following is a brief summary of the Department's position on reporting requirements according to Mr. Joe Sanders, Office of General Counsel:

1. It is illegal in the State of Tennessee to own/operate an unpermitted disposal site. The owners of an illegal facility can be subject to penalties up to $50,000.00 per day from the date of discovery. This means that soil and/or groundwater contamination that is discovered at an unpermitted site should be reported to the State on the basis that an illegal disposal exists at the site and if not reported, the owners/operators could be subject to substantial monetary penalties and possible enforcement action by the Division.

2. CERCLA has specific reporting requirements, and the State of Tennessee maintains that a facility has an obligation to report any disposal activities to the EPA, who in turn will report it to the State of Tennessee. The toll free number for facilities to report to the EPA is 1-800-424-8802.

In summary, the Division maintains that if the owners of a facility discover the existence of illegal disposal at their site, such disposal should be reported immediately.

_[Signature on File]_____ _12-15-1997_____
Tom Tiesler, Director Date
Division of Solid Waste Management

policy/notebook/pn101
Original: December 1997

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Homeowner Generated Special Waste
POLICY

The regulations governing the management of "special waste" were designed to regulate waste posing special characteristics that was generated by facilities other than individual homeowners. Unfortunately, this is not spelled out in the regulations and when the regulations are strictly applied, such homeowner must have approval from the division and must pay a fee for any type of "special waste" (sludge, bulky waste, pesticide waste, medical waste, exempted hazardous waste, etc.), irregardless of quantity, which is disposed of in a Class I, II, III, or IV disposal facility. This means that the homeowner should have "special waste" approval of all household hazardous wastes, irregardless of quantity, and pay the $250.00 for each waste stream.

It is the intent of this policy to specifically exclude homeowners from having to obtain a "special waste" evaluation and approval from the Division prior to the disposal of their household waste generated from their place of residence. This exemption also includes the payment of the "special waste" approval fee.

_[Signature on File]_____ _03-23-1993_____
Tom Tiesler, Director Date
Division of Solid Waste Management

policy/notebook/pn014
Original: March 1993

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Special Waste Approval Signature
POLICY

Beginning October 1. 1991, all Special Waste Approvals must be signed by the Field Office Manager for the particular region in which the receiving facility is located. I realize there is some variation in approvals across the state, but as a matter of policy henceforth all Special Waste Approvals must be reviewed and signed by the Field Office Manager.

_[Signature on File]_____ _09-16-1991_____
Tom Tiesler, Director Date
Division of Solid Waste Management

policy/notebook/pn011
Original: September 1991

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Special Waste Approvals from Generators Located Outside the State of Tennessee
POLICY

The purpose of this memorandum is to clarify the Division's policy concerning the approval of special waste for disposal in Tennessee's landfills from generators who reside outside of the jurisdiction of the Department of Environment and Conservation. In keeping with the policy of the Solid Waste Management Act of 1991, in order to ensure that no hazardous waste as regulated under Tennessee Code Annotated Title 68, Chapter 46 is disposed of in a solid waste disposal facility, and further in keeping with the mandates of this same section that all solid waste streams, baled waste and special waste generators and transporters be inspected to prevent the introduction of hazardous waste into solid waste disposal facilities, the following policy must be`` initiated immediately.

Prior to consideration for approval for any special waste generated by a person who resides outside of the boundaries of the State of Tennessee, a trip must be scheduled to visit the generator of the waste in order to inspect his facilities and the waste stream in question.

Because Division personnel do not have the latitude to make routine, unannounced inspections of generators who reside out of state, it is the Division's policy that any special waste originating from outside the Division's jurisdiction shall be subject to the following sampling plan:

1. Each bale or each four cubic yard volume of special waste received at a Tennessee facility must be randomly sampled and a TCLP analysis run on the sample. (If the waste is less than four cubic yards, then the quantity received must be tested.) Further, if it is suspected that any other contaminants or other waste characteristics may exist in this waste stream, any other analysis or information specified in the special waste approval must be provided.

2. Upon the receipt of this waste at a Tennessee facility, the operator of the facility must notify the appropriate Solid Waste Management field personnel at least twenty-four (24) hours prior to the landfill's receipt of such waste so that Division personnel have an opportunity to be present when the waste sampling occurs. Division personnel must be allowed an opportunity to split samples with the facility operator and take any samples deemed appropriate.

3. Unless otherwise specified in the special waste approval, no special waste generated from outside of Tennessee's jurisdiction may be disposed of until laboratory reports are

received which indicate that the waste is not a hazardous waste and that it does not possess characteristics that prevent disposal.

4. All other special waste requirements normally associated with the approval of special wastes shall also apply to these special wastes.

The Director of the Division of Solid Waste Management may allow an alternative sampling plan if it is demonstrated to his satisfaction that the alternative plan is protective of health, safety and the environment considering all relevant circumstances.

_[Signature on File]_____	_10-08-1993_____
Tom Tiesler, Director	Date
Division of Solid Waste Management	

policy/notebook/pn013
Revision 2: October 1993

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Blanket Special Waste Approval for Disposal of Non-Regulated Asbestos Waste
POLICY

Purpose

This policy establishes the requirements for disposal of non-regulated asbestos containing materials (ACM), often called non-friable asbestos. Since certain non-friable asbestos may become friable during demolition or renovation, the Division of Air Pollution Control (DAPC) must make the determination of whether or not a given ACM is a regulated material.

Background

This section is background information only and should not be used to make a regulatory determination on ACM as that determination is made by the DAPC. The most common source of ACM received at landfills is from demolition and renovation activities. ACM can broadly be placed in two categories, friable and non-friable. Friable ACM is any material containing more than 1 percent asbestos as determined using polarized light microscopy, that when dry, can be crumbled, pulverized, or reduced to powder by hand pressure. Non-friable ACM may be Category I or Category II. Category I includes materials such as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products. Category I ACM rarely becomes friable. All other non-friable ACM are considered Category II non-friable ACM. Category II non-friable ACM is any other material that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure. An example of Category II non-friable ACM is asbestos cement.

Under the Division of Air Pollution Control regulations, regulated asbestos containing material is defined as follows:

1. Friable ACM;

2. Category I non-friable ACM that has become friable;

3. Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abraiding; or,

4. Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the

material in the course of the demolition or renovation operations regulated by rule 1200-3-11-.02.

Blanket Special Waste Approval

Non-friable ACM that has been determined to be non-regulated ACM by the DAPC may be disposed at either a Class I, Class III, or Class IV landfill under a blanket special waste approval. The blanket special waste approval does not require a written approval subject to the following conditions:

1. The generator/transporter must notify the landfill that non-regulated ACM is being delivered and the generator must be able to document that the waste is non-regulated ACM;

2. Non-friable ACM must be handled in a manner that does not create visible emissions; and

3. The non-friable ACM should be covered and compacted with one foot of other waste or soil as soon as possible, but at least by the end of the day.

_[Signature on File]_____ _09/15/04_____
Mike Apple, Director Date
Division of Solid Waste Management

Special Waste Approval SOP
Original: September 2004

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Friable Asbestos Waste Disposal
POLICY

I am issuing this policy to promote a consistent application of regulations and policy dealing with asbestos disposal. For a few years we have been issuing a blanket certification letter of approval for asbestos disposal at certain landfills which qualify. This blanket certification is possible because the asbestos waste characteristics vary very little although disposal occurs very frequently. The blanket approval reduces paperwork and reduces staff time involved, and I want to continue that procedure.

Since the NESHAP manifest is required anyway, I want to state that the NESHAP manifest or an equivalent manifest is an adequate shipping and receiving record. The DSWM shipping and receiving logs and the 10 day notice forms with shipments are no longer necessary.

Your special waste approval letter for "blanket approval" must incorporate at least the following requirements:

1. The landfill must have a policy which requires the generator to provide them with advance notice of each shipment. The mechanism for this notice should be left up to the landfill and the generator.

2. Each shipment must be accompanied by the NESHAP manifest or an equivalent manifest. The manifest records must be available to DSWM staff for inspection. These manifests will be accepted by the DSWM in lieu of other shipping and receiving records.

3. All eleven Procedures for Disposal of Asbestos Waste, from the 1993 memorandum of agreement with APC must be incorporated directly. A copy of this agreement is attached for your use. [Note: See Policy 87 in this manual.]

4. Any special provisions for asbestos disposal which have been developed or deemed necessary for that specific landfill site.

_[Signature on File]_____ _06-01-1995_____
Tom Tiesler, Director Date
Division of Solid Waste Management

policy/notebook/pn043
Revision 2: June 1995

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Municipal Solid Waste Sampling Frequency
POLICY

The May 2, 1994 U.S. Supreme Court Decision on the City of Chicago v. Environmental Defense Fund dictated that the U.S. Environmental Protection Agency (EPA) remove the ash exemption which municipal WTE units had previously been under. The decision of the court was that the waste streams from municipal WTE facilities were "subject to regulation under Subtitle C". Therefore, municipal WTE ash became subject to the hazardous waste determination requirements under the provision of 40 CFR Part 261.

The DSWM is rescinding its earlier policy in which it had (by its April 7, 1995 memo) adopted the May 20, 1994 draft "Sampling and Analysis of Municipal Refuse Incineration Ash" published by EPA, which states in the introduction that the "sampling and testing described represents the minimum the Agency considers as being appropriate." This document was finalized by EPA in June 1995, and is EPA publication number EPA 530-R-95-036. This final guidance provides the states with flexibility to determine appropriate sampling frequency. With this flexibility the DSWM is establishing its new policy.

The DSWM is setting as its policy a sampling frequency / protocol which is believed to be protective of both human health and the environment without placing undue financial burdens on the regulated facilities. Tennessee is requiring an annual sampling to be performed per the June 1995 EPA final guidance document, "Sampling and Analysis of Municipal Refuse Incineration Ash".

In the event that the analytical results obtained from any sampling event fail the TCLP for the exhibition of any of the characteristics of a hazardous waste, then the sampling event frequency will revert to a minimum of quarterly sampling until the analytical levels are acceptable. Retesting is also recommended when the generator suspects the leachability of ash may have changed significantly.

The ash generated at municipal WTE facilities will be subject to regulation under the Tennessee Solid Waste Management Rules and Regulations if that ash passes the TCLP. The ash generated at municipal WTE facilities will be subject to regulation under the Tennessee Hazardous Waste Management Rules and Regulations if that ash fails the TCLP. Additionally, if the fly ash and the bottom ash are managed as separate waste streams, the above protocol will apply to each waste stream.

The Tennessee Division of Solid Waste Management may revise this policy in response to changes in the EPA guidance document for municipal waste combustion ash, or in response to other significant developments related to municipal WTE ash and its management.

_[Signature on File]_____ _09-16-1996_____
Tom Tiesler, Director Date
Division of Solid Waste Management

policy/notebook/pn097
Revision 1: September 1996

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Concrete Washout Waste Disposal
POLICY

The Division of Water Pollution Control requires permits for industrial storm water discharge. This has resulted in concrete plants installing ponds for storm water retention and settling of solids.

The Division of Solid Waste Management does not regulate storm water ponds or concrete washout sites operated by ready-mix concrete plants in Tennessee. However, settled solids, once removed from the pond or basin would be considered a solid waste.

If the material is uncontaminated (e.g. petroleum contamination) and has no free liquids, it could be disposed of in a demolition landfill (Class IV facility) or used as fill material.

_[Signature on File]_____ _09-07-2001_____
Mike Apple, Director Date
Division of Solid Waste Management

policy/notebook/pn045
Revision 1: September 2001

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Emergency Debris Disposal
(Staging Area Approval and Waste Disposal)
POLICY

Background

Occasionally the Division of Solid Waste Management (DSWM) must respond to the aftermath of natural disasters (tornadoes, floods, etc.) that leave large amounts of debris in their wake. What was once a house, office complex, warehouse, or other structure has been reduced to rubble. We are then asked to determine how to properly dispose of this waste. This policy is to help guide staff in responding to that question.

Staging Area Site Approval

Emergency cleanup that involves FEMA will often require selection and approval by SWM of a debris staging area in order for FEMA funding to be available to local government. The following procedures are typical. These steps may be taken at any time as part of an emergency preparedness plan by local government or immediately after a disaster.

1. Meet with county or municipal officials and contact the Division's Emergency Services Coordinator on possible sites.
2. Visit site(s) to determine suitability for temporary storage and/or processing of solid waste.
3. Determine potential issues/impacts based on site location, i.e. groundwater protection, wetlands, burning of debris, etc.
4. Prepare approval letter to the county or municipal official for the site which may include, but not be limited to, the following items:
    a. Site name and location;
    b. Site owner's name and address;
    c. Site latitude and longitude;
    d. Responsible party (county/municipality and contact);
    e. Contact telephone number and address;
    f. Waste to be managed as appropriate:
        i. Household waste/garbage;
        ii. Landscaping or land clearing waste;
        iii. Construction/demolition debris;
        iv. White goods;
        v. Electronic wastes;
        vi. Household hazardous waste; and
    g. Estimated site closure date for removal of all collected waste.

5. Set a follow-up visit after site closure and prepare a closure letter.

Disposal

Natural disaster debris may include a variety of waste items that would individually have very different disposal criteria. Because of this fact, the disposal of emergency debris is not easily categorized into "neat" disposal scenarios. This policy will address several possible scenarios for emergency debris disposal that may be utilized (separately or in combination) in the aftermath of a natural disaster. These are:

1. Burning of Waste;
2. On-Site Disposal of debris; and
3. Off-Site Disposal.

Burning of Waste

The Division of Air Pollution Control (APC) guidance procedures allow open burning of certain storm debris (mostly wood debris) at both on-site and off-site (i.e. centralized) locations. Open burning guidelines encourage the separation and segregation of all materials that cannot be identified as "wood" or "wood waste" related debris generated by the disaster and subsequent cleanup activities. The guidance is designed to prevent the intentional open burning of otherwise prohibited materials such as "tires, asphalt singles, vinyl siding, garbage and similar materials." There may be municipal or county fire department requirements to be met as well as the State Forestry burning regulations and requirements. The DSWM has sometimes been asked to evaluate the burn site for possible impacts related to ground water. The APC 'Open Burning Process Guidance' is found online at:
http://www.tn.gov/environment/permits/flowcharts/air_OpenBurningGuidelines/index.shtml.

On-Site Disposal

DSWM rules 0400-11-01-.02(1)(b)3(v) and (vi) allow for the disposal of landscaping and land clearing wastes as well as construction/demolition wastes on the site of generation provided that the fill area is less than one acre in size.

It is the policy of DSWM to include building debris generated by natural disasters within the definition of "construction/demolition waste" (at rule 0400-11-01-.01(2). There may be certain items found in this debris that are not normally found in construction/demolition waste. Therefore, every effort should be made to segregate and exclude certain waste streams. Items such as white goods (refrigerators, freezers, etc.), CRT's (computer monitors, TV's, etc) and brown goods (other electronics), must be separated out and disposed of at an appropriate disposal facility or recycled. Please note that such on-site disposal areas require review and approval from the Director and should also comply with applicable regulations for open dump closure at 0400-11-01-.04(8)(g).

Off Site Disposal

If at all possible, emergency debris waste should be directed to a permitted landfill. Sometimes, because of the volume of waste, the use of a permitted landfill is not a viable disposal option. In this case, an authorized representative of the proposed disposal area may submit a written request to the DSWM Director for permission to receive and dispose of the debris. Site disposal areas should also comply with applicable regulations for open dump closure at 0400-11-01-.04(8)(g).

Permitting

There have been occasions when permits have been issued following the establishment of an off-site emergency debris disposal facility. In these instances, the decision to issue a permit was determined by the size of the disposal area and the length of time the disposal activities took place. The decision to permit these disposal sites was made prior to the actual disposal action.

_[Signature on File]_____	_January 24, 2013_
Patrick J. Flood, PE, Director	Date
Division of Solid Waste Management	

pn117: Revision 1

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Disposal of Demolition Debris Generated as a Result of the Cleanup of Clandestine Methamphetamine Labs
POLICY

Purpose

This policy establishes the requirements for disposal only of demolition debris generated as a result of cleanup actions of clandestine methamphetamine labs (CML). The chemicals used in the illegal manufacturing of these drugs are sent to authorized RCRA Hazardous Waste facilities by the cleanup contractor and are not addressed under this policy.

Background

CML cleanups may involve the demolition of buildings used as living spaces or out buildings, as well as, the disposal of contaminated equipment and furnishings. The debris generated from these cleanups may include such items as carpeting, wallboard, wood, curtains, furniture, fixtures, clothing, and white goods that have been contaminated with volatile organic compounds (VOC), lead, mercury, iodine, phosphorous, acids and caustics. Sharps (e.g. hypodermic needles) may also be present in carpets, bedding and furniture. Limited amounts of asbestos containing material (ACM) and lead based paint debris may be present in some disposals.

Blanket Special Waste Approval

Given the nature of the contaminated material, the Division hereby grants a blanket special waste approval for demolition debris from CML cleanups to be disposed of at municipal solid waste Class I facilities with the following conditions:

1. The disposal facility must be notified prior to disposal that the debris was generated from the cleanup of a CML; and
2. All asbestos containing material, lead-based paint debris, and medical waste must be disposed according to DSWM policy guidelines.

Site Specific Special Waste Approval

Certain large CML cleanups that require TDEC oversight and/or involve the sampling and excavation of contaminated soil may require an individual special waste approval.

_(Signature on File)_____ __03/30/05__
Mike Apple, Director Date
Division of Solid Waste Management

policy/notebook/pn121
Original: March 2005

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Furniture Waste
POLICY

As discussed at the Field Office Managers meeting on January 27, 1999, and in order to provide continuity throughout the State, the following guidance should be followed for the disposal of furniture waste in Class III and Class IV landfills.

It is within the latitude, under Rule 0400-11-01-.01(3)(c) and (d), to interpret furniture waste falling within the scope of "wastes of similar characteristics" and, therefore, eligible for consideration for disposal in Class III and Class IV landfills. Each office should, however, evaluate the capability and appropriateness of each landfill for which the waste is intended. If it will not pose a management problem for the landfill, the Field Office Manager may approve, by letter, the furniture waste being disposed of in the Class III/ Class IV landfill.

It must be noted that the above approval must be restricted to furniture waste generated by households or institutions, not furniture waste or furniture type waste generated by a manufacturing process. It must also be noted that this approval cannot be extended to white goods or electronic goods (TVs, microwaves, computers, etc.). Also, an examination of the landfill's permit should be undertaken to determine if the disposal of this waste would violate any existing permit restrictions.

Concerns about the manageability of the waste such as spreading, compaction, and covering should be addressed in your approval letter. Unless there are circumstances which warrant exception, you should require a cover frequency of, at least, every 14 days.

_[Signature on File]_____ _02/09/1999_____
Tom Tiesler, Director Date
Division of Solid Waste Management

policy/notebook/pn109
Original: February 1999

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Grease Trap Waste
POLICY

I attended a meeting on August 31, 1994 with the following Department of Environment and Conservation personnel:

Kent Taylor	Groundwater Protection
Roger LeMaster	Water Pollution
Jim Haynes	Bureau
Ken Bunting	Bureau

A summary of our discussion follows:

Due to recent EPA regulatory changes (Section 503 of the Clean Water Act), grease trap wastes may no longer be co-disposed with septage.

In an effort to provide generators (primarily restaurants) with consistent information on disposal options, the Department has designated the Division of Ground Water Protection as the lead agency for responding to questions.

In addition, the following hierarchy of management options was established:

1. Recycling (e.g. Griffin Industries) or Processing (e.g. GreenTree Processing, Laidlaw)
2. Disposal at Wastewater Treatment Facility
3. Disposal at Class I landfill (Special Waste Approval)
4. On-Site Treatment (Enzymes and Superbugs)

You are being provided this information to prepare for possible requests for Special Waste Approval. The grease trap waste would of course have to be dewatered. Special handling procedures would likely be necessary.

If anyone has experience dealing with a similar waste stream, give me a call as it may become necessary to develop Special Waste Approval guidelines.

_[Signature on File]_____ _09-01-1994_____
Glen Pugh Date
Division of Solid Waste Management
policy/notebook/pn040
Original: September 1994

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Landfill Disposal of Medical Wastes
POLICY

The following policy is to clarify the Division's guidance on the disposal of medical waste. It reflects changes made to the *Solid Waste Processing and Disposal Regulations* that became effective July 2000. This policy also replaces policies 15 and 16 in the *Solid Waste Program Policy and Guidance Manual*.

REGULATORY DEFINITION

Rule 0400-11-01-.01(2) defines medical waste as follows:

"Medical Wastes" means the following solid wastes:

A. Wastes generated by hospitalized patients who are isolated to protect others from communicable diseases (see the U. S. Centers for Disease Control Guidelines for Isolation Precautions in Hospitals, July, 1983 for definition of diseases requiring such isolation).

B. Cultures and stocks of infectious agents, including specimen cultures from medical and pathological laboratories, cultures and stocks of infectious agents from research and industrial laboratories, wastes from the production of iological, discarded live and attenuated vaccines, and culture dishes and devices used to transfer, inoculate, and mix cultures.

C. Waste human blood and blood products such as serum, plasma, and other blood components.

D. Pathological wastes (i. e., tissues, organs, body parts, and body fluids) that are removed during surgery and autopsy.

E. All discarded sharps (e.g., hypodermic needles, syringes, iologi pipettes, broken glass, scalpel blades) used in patient care or which have come into contact with infectious agents during use in medical, research, or industrial laboratories.

F. Contaminated carcasses, body parts, and bedding of animals that were intentionally exposed to pathogens in research in the production of iological, or in the invivo testing of pharmaceuticals.

G. The following wastes from patients known to be infected with bloodborne disease:

Contaminated wastes from surgery and autopsy (e.g., soiled dressings, sponges, drapes, lavage tubes, drainage sets, underpads, surgical gloves).

Wastes from medical, pathological, pharmaceutical, or other research, commercial, or industrial laboratories that were in contact with infectious agents (e.g., specimen containers, slides and cover slips, disposable gloves, lab coats, aprons).

Wastes that were in contact with the blood of patients undergoing hemodialysis, including contaminated disposal equipment and supplies such as tubing, filters, disposable sheets, towels, gloves, aprons, and lab coats.

Discard equipment and parts that were used in patient care, medical and industrial laboratories, research, and in the production and testing of certain pharmaceuticals and that may be contaminated with infectious agents.

WASTE RESTRICTIONS

Rule 0400-11-01-.04(2)(k)4 provides for the following waste restrictions. As described below, certain categories of medical waste may not be disposed of in sanitary landfills or may be disposed of only after the waste has been treated or packaged in certain ways.

(i) Sharps must be securely packaged in puncture-proof containers prior to landfilling.

(ii) Cultures and stocks of infectious agents and associated iological must not be landfilled unless and until they have been treated (e.g., autoclaved, incinerated) to render them non-infectious.

(iii) Human blood and blood products and other body fluids may not be landfilled. This restriction applies to bulk liquids or wastes containing substantive amounts of free liquids, but does not apply to simply blood – contaminated materials such as emptied blood bags, bandages, or “dirty” linens.

(iv) Recognizable human organs and body parts may not be landfilled.

SPECIAL WASTE APPROVAL PROCESS

Medical waste, by definition at rule 0400-11-01-.01(2), is a “special waste” and must be managed as follows:

Untreated Medical Waste

Untreated medical waste requires special waste approval as set forth at rule 0400-11-01-.01(4). The Division believes that medical wastes can be landfilled without identifiable risk to public health or the environment if certain precautions are taken. In order to assure that this occurs, the practices listed below must be strictly followed.

Operating Restrictions – Medical wastes must be managed at the landfill in accordance with the following provisions:

1. Medical wastes must be transported to the landfill separately from other solid wastes and in securely tied plastic bags or other leak-proof containers. Sharps must be packaged in medical waste containers designed to prevent puncture. Cardboard boxes, garbage bags, and plastic beverage containers are not acceptable for this purpose.

2. The landfill operator must obtain advance notice prior to receiving a shipment of medical waste, or a routine delivery schedule must be established, such that the operator will have time to prepare to receive the waste.

3. The landfill operator must confine unloading and disposal operations to a specific area, separate from the normal working face.

4. Soil or an approved cover material must be placed on the medical waste prior to compaction.

5. Before the end of the operating day, there must be at least one foot of compacted soil or other approved cover material placed over all medical waste received that day.

It should also be noted that a special waste approval does not obligate the landfill operator to accept medical waste for disposal. The operator may refuse to accept such waste or impose additional conditions on the medical waste generator.

Treated (Rendered Non-Infectious) Medical Waste

Treated medical waste **will not require individual special waste approval**. The Division recommends that all medical wastes be incinerated, steam sterilized, or otherwise rendered non-infectious prior to disposal in Class I disposal facilities. It shall be the practice of the Division to consider treated (rendered non-infectious) medical waste as an approved special waste if the following conditions are met:

1. The waste is rendered non-infectious by sterilization techniques prior to disposal;

2. A written description of the treated medical waste must be provided to the disposal facility;

3. A written and signed verification must be provided to the disposal facility that the waste has been rendered non-infectious; and

4. All waste restrictions at rule 0400-11-01-.04(2)(k)4 are met. Sharps must be packaged in medical waste containers designed to prevent puncture. Cardboard boxes, garbage bags, and plastic beverage containers are not acceptable for this purpose.

If there is a change in either the medical waste description or the process that renders the medical waste non-infectious, a new waste description and verification must be submitted. These conditions may either be met by the medical waste generator or a commercial processing facility.

_[Signature on File]_____ _09-13-2000_____
Mike Apple, Director Date
Division of Solid Waste Management

policy/notebook/pn016
Revision 1: September 2000

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Household Paint Management Requirements

POLICY

Background

Tennessee's Household Hazardous Waste (HHW) Collection Program is sponsored by the Division of Solid Waste Management (DSWM). Unused paint constitutes approximately 50 – 60 % of the HHW received during collection events sponsored by the DSWM. Tennessee is authorized under TCA 68-211-829 to provide, through grants or services, for the collection of household hazardous waste if there are available funds to do so.

In order to provide a more consistent and year-round option for the management of this waste stream, the DSWM is encouraging local governments to manage waste paint. This document describes those practices local governments should take.

Collection

If at all possible, municipalities or counties should collect waste paint at facilities already permitted to handle solid waste. This could be convenience centers, transfer stations, solid waste processing facilities, or landfills. If this option is chosen, the permittee should request a modification to the existing permit to reflect the new activity. This modification will be considered a minor change and not subject to a fee.

If collection points at existing permitted facilities are not possible, an alternative collection point may be selected. These alternative sites may include recycling facilities or municipal maintenance shops. No permit will be required by this Division for these sites, however, all applicable laws and regulations must be considered in the site determination process. The DSWM office at the local Environmental Field Office should be aware of these locations.

Paint Handling and Processing

Household paint received at any municipal facility may be either donated for use or blended at the facility for reuse without a permit from this Division.

Household latex paint that is not reused may be solidified for disposal. This operation may be performed at an existing, permitted solid waste facility, such as a convenience center, transfer station, solid waste processing facility or landfill. If solidification is to be performed at a location that is not currently permitted, a separate permit-by-rule application must be submitted to SWM with the appropriate fee.

Household oil-based paint that is not reused may be placed in lined cubic yard boxes (supplied by the state's contractor) until picked up by the contractor for disposal.

Latex Paint Disposal

Solidified latex paint may be disposed of in a Class I Landfill without special waste approval if the following conditions are met:

- The paint is solely latex paint that is collected from households at municipal, i.e. city or county government, operated facilities.

- The paint is solidified with mulch, sawdust, or wood chips as described in the Solid Waste Assistance *Household Paint Management Guidance* document.

- The total volume shipped in one day is 40 cubic yards or less;

Solidified latex paint may only be disposed in a Class III or Class IV facility with written approval from the SWM field office. Any approval for disposal must include, at a minimum, the above conditions for disposal at a Class I facility.

[Signature on File]	[9-7-10]
Mike Apple, Director	Date
Division of Solid Waste Management	

policy/notebook/pn125
Revision 1: September 2010

Tennessee Department of Environment and Conservation
Division of Solid Waste Management
Solid Waste Assistance Program

Household Paint Management Guidance
September 2006

Background

The National Paint and Coatings Association (NPCA) estimate that there are 3 cans of leftover paint in every household in America. Managing this leftover paint can be a challenge for many counties and municipalities. Currently landfills and transfer stations in Tennessee will not accept individual paint cans that contain liquid paint. Paint in liquid form has the potential to leach out of landfills and septic systems into groundwater. The Division of Solid Waste Management (SWM) sponsors a safe alternative for disposal of paint through the Household Hazardous Waste (HHW) collection program. Currently paint constitutes 50-60 % of all materials collected at HHW events. In addition, latex paint is non-hazardous. Disposal is costly when processed through the Household Hazardous Waste Program. SWM has put together some options for county solid waste authorities to make it more convenient for citizens to dispose of their household paint in an environmentally safe manner. This document presents guidelines for paint pre-collection, exchange, consolidation, solidification and basic consumer tips for keeping paint out of the waste stream altogether. Through better management of paint, funds will be available to host events in more counties.

Pre-Collection

A paint pre-collection program is a county service to provide an environmentally safe method of disposing old paint (latex and oil-based) by collecting it at a secure site on a year-round basis. The county must check with the local SWM field office for any possible permit modification before starting the pre-collection process. The County must also notify the HHW program at the SWM Central office to discuss the program and plan for any disposal needs. If approved, paint pre-collection may take place at a sheltered convenience center, transfer station, recycling center, landfill building, or mobile collection center. For the safety of county workers, citizens, and state contractors, the following guidelines are put forth by SWM for counties that choose to pre-collect paint.

> There must be enough employees on-site to assist with paint collection/exchange during operation hours.
>
> Only collect household paints in quarts and in 1, 2, and 5-gallon containers. Collection should only be done in the original containers.

Do not collect aerosols, varnishes, thinners, stains, industrial coatings or any other household hazardous waste. These substances are hazardous and should only be handled by a certified hazardous waste handler under the right conditions.

Paint donors must sign-in listing their name, address, and number of cans of paint donated, certifying that the paint donated is not from a business or contractor. Pre-collection participants may also be included for HHW event participation numbers.

Paint may not be collected from any painting contractors or businesses. This paint is considered regulated waste, which falls outside the scope of the HHW collection program.

One week before the HHW collection event or when the county has collected a full load, the county must coordinate how the contractor will pick up the pre-collected oil-based paint.

Once paint is collected it must be separated according to type (latex or solvent based). The easiest way to identify the paint type is to read the label. The terms alkyd or oil-based refer to solvent based paint while water-based paint or water clean up refers to latex. Paint should be kept out of the elements and away from any heat sources. Paint should be left in original containers and neatly stacked in a storage container lined with plastic to avoid spills. Cubic yard boxes lined with plastic are recommended for storage purposes. These are available to your county from the HHW contractor.

Paint Exchanges and Reuse

Many times paint that is brought in to a pre-collection program is fairly new and still useful. In addition modern latex paint is not considered hazardous and can be safely reused. Consumers and other entities should use leftover paint in order to lower disposal costs. The easiest and least expensive method of reusing paint is through paint exchanges. Exchanging of leftover paint involves picking out the paint that is reusable and giving it in original containers to citizens or worthwhile organizations. In an effort to divert paint from the waste stream altogether, this section identifies some guidelines for making good paint available for reuse.

Find a Steady Market

The success of a paint exchange program depends largely on finding a market for leftover paint. It is important to advertise about the availability of post-consumer paint to county citizens and local non-profit organizations. It would be very worthwhile to create contacts with groups/organizations that would be regular customers of the paint. The following is a list of community organizations that may be a market for leftover paint.

Theater Groups, Fix-Up Projects, Anti-Graffiti Programs
Churches

Non-Profit Organizations (Boy/Girl Scouts, YW/YMCA, Salvation Army, Goodwill, Habitat for Humanity, 4-H Clubs)
Multi-family Housing Associations
Local, State and Federal Government Buildings and Maintenance Departments
Contractors
Parks, Schools, Colleges, and Universities
Military Bases, Prisons,
Property Management Companies, Fire Departments
Fairgrounds, Athletic Fields, Golf Courses, and Stadiums

Collecting and Sorting

Once a market has been found for leftover paint then the process of collection for reuse can take place. There are two separation schemes involved with the collection of paint for reuse. The first is to separate paint into usable or unusable. Leftover paint should carefully be inspected to determine if it is still usable. Paint is considered reusable if:

1. At least one-third of a gallon remains in the original container;
2. The label is still intact; and
3. The paint has not been frozen or contaminated.

Unusable latex paint should be solidified and thrown away. Unusable oil-based paint or any paint where the label is painted over or missing should be placed in lined cubic yard boxes provided by the HHW contractor. To schedule a pick up for oil-based paint contact the HHW Coordinator. Reusable paint (oil-based and latex) can be left in the original can and given away for reuse to homeowners or any of the organizations listed above. People will sometimes put other household waste in paint cans such as oil or waste cleaners. These substances can be hard to detect. Therefore, it is important to recommend that all paint given away be used on exterior surfaces. Picking out useable paint for reuse may dramatically decrease the amount of leftover paint entering the waste stream.

Paint Consolidation

Paint consolidation generally produces a relatively low-grade 100-percent recycled paint. Consolidated paint is suitable for non-critical projects such as graffiti abatement, barns, tree houses, garages, or a primer for larger paint jobs. Consolidation should be attempted only when a market has been found that will agree to take a large amount of paint. The paint would have to be separated into latex and solvent–based according to the label. Only the latex paint is considered applicable for consolidation. According to the NPCA latex paints are not hazardous and can be reused. Consolidation of solvent-based paint is not recommended because of complexities and incompatibilities. However, some counties have had success in consolidation of oil-based paint. For more information please contact the HHW Coordinator.

Consolidation requires a minimal amount of equipment and is relatively inexpensive. In order to make the paint more appealing for end users it is advised to separate colors into dark, light, and white. Colors that are alike should then be poured through a filter or a screen and into 5-gallon buckets. Care should be taken when mixing red paint with other colors due to its dominant nature. The paint should be stirred to obtain consistency and tested to ensure that the consolidated latex is not contaminated. If testing is not performed the consolidated paint should be labeled "For Outdoor Use Only". Facilities with adequate ventilation can be the site of paint collection and consolidation provided that the paint is kept out of the elements and away from heat sources. Empty paint cans are made of high quality steel. They should be recycled if they are empty and the paint residue is dry.

Paint Solidification

Paint solidification generally produces a large volume of paint related waste that ends up being land filled. The paint would have to be separated into latex and solvent-based according to the label. Only the latex paint is considered applicable for solidification. Containers filled with an absorbent material, such as shredded mulch, sawdust, or wood chips, may be used to accelerate the solidification process. Latex paint is not hazardous and can therefore be safely land filled once solidified. Solidification of solvent-based paint is not recommended because of complexities and incompatibilities. Often empty and dry paint cans may be recycled with scrap metal.

Summary

By conducting paint pre-collection, exchange, consolidation, and solidification municipalities can decrease the amount of paint for disposal by 25% or more. The program can only be successful through adequate advertising and community participation. Once reusable paint is collected it should be made available for citizens and non-profit organizations. Paint exchanges and consolidation can be a great service to county citizens however they do require a small amount of effort and participation. The Division of SWM is constantly seeking programs to promote waste reduction. These programs should be successful if they are well managed and advertised.

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Management and Disposal of Lead-Based Paint Debris
POLICY

The EPA is currently involved in writing regulations for lead-based paint (LBP) debris which would allow for the disposal of LBP debris in construction and demolition (C & D) landfills. EPA analysis results found disposal in C & D landfills to be protective of human health and the environment. Until these regulations become final rules, the Division of Solid Waste Management proposes the following guidelines for the management and disposal of LBP debris. This policy may change as EPA develops current regulatory changes for LBP debris disposal.

LBP debris is any component, fixture, or portion of a residence or other building coated wholly or partly with LBP. LBP debris can also be any solid material coated wholly or partly with LBP resulting from a demolition. If the paint is adhered to the debris surface, we do not require that the paint be sanded, scraped, blasted, or otherwise mechanically removed to be tested for lead. The debris may go to a Class I, II (depending permit conditions), III, or IV disposal facility. If the volume of waste makes it bulky or difficult to manage, the generator should get special waste approval.

If the LBP has been sanded or chipped off, a determination should be made for hazardous lead concentrations. LBP dust and chips should be handled properly prior to disposal to avoid health risks to the public.

LBP removal performed in the home can be treated and disposed of as solid waste under the household hazardous waste exclusion.

_[Signature on File]_____ _09-01-2000_____
Mike Apple, Director Date
Division of Solid Waste Management

policy/notebook/pn115
Original: September 2000

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

PCB Bulk Product Wastes
POLICY

Recent revisions to the federal TSCA regs make provisions for the disposal of certain non-liquid PCB bulk product wastes (a definition is included here as attachment 1) in Subtitle D solid waste landfills under specific conditions.

The appropriate portion of the TSCA regs, 40 CFR 761.62, breaks out PCB bulk product wastes into 2 separate groups. The first such group includes specifically listed materials plus non-listed materials which (when sampled in accordance with the protocols set forth at 40 CFR Part 761 Subpart 0) will leach PCBs at less than 10 micrograms per liter of water. The second group of PCB bulk product wastes includes all other materials meeting the definition of PCB bulk product wastes.

(A) Specifically described PCB bulk products, and generic PCB bulk products which will leach PCBs at less than 10 micrograms per liter:

According to TSCA, the following non-liquid PCB bulk product wastes can be placed into a non-hazardous waste landfill:

(1) Demolition wastes from buildings and other man-made structures which were manufactured, coated or serviced with PCB containing materials *(excluding demolition debris from buildings or man-made structures which have been contaminated by PCB spills which have not been adequately "cleaned up"),*

(2) Fluorescent light *ballasts,*

(3) Automobile and household appliance shredder fluff (provided that any PCB transformers have been removed prior to the shredding),

(4) Plastics, such as wire or cable insulation, casings from radios, televisions or computers, and furniture laminates,

(5) Preformed or molded rubber parts and components

(6) Applied dried paints, varnishes, waxes or similar coatings and sealants,

(7) Caulking,

(8) Galbestos, and

(9) Additional PCB bulk product wastes may be disposed of in a non-hazardous solid waste landfill if that waste is sampled in accordance with 40 CFR Part 761 Subpart 0 and it can be shown that the waste leaches PCBs at <10 micrograms per liter of water (using the TCLP protocol).

Any person disposing off-site of PCB bulk product waste regulated under the previous paragraph of this section at a waste management facility not having a commercial PCB storage or disposal approval must: 1) must apply for and receive written approval from the disposal facility for shipment of PCB bulk product wastes to that disposal facility, and 2) provide written notice of intention to ship PCB bulk product wastes to that facility a minimum of 15 days in advance of the first shipment from the same disposal waste stream. The written notice shall state that the PCB bulk product waste may include components containing PCBs at >= 50 ppm based on analysis of the waste in the shipment or application of general knowledge of the waste stream (or similar material) which is known to contain PCBs at those levels, and that the PCB bulk product waste is known or presumed to- leach <1 0 micrograms per liter PCBs (using the TCLP protocol).

(B) Other PCB bulk products not included in Section A above

Any person may dispose of PCB bulk product waste other than those described in the preceding section (such as paper or felt gaskets contaminated by liquid PCBs) in a facility that is permitted by this Division to manage municipal solid waste subject to 40 CFR Part 258 (Tennessee equivalent: Rule Chapter 0400-11-01), or facilities permitted, licensed or registered to manage non-municipal nonhazardous waste subject to 40 CFR 257.5 -.30 [which contain standards applicable to owners/operators of any non-municipal non-hazardous waste disposal unit that receives Conditionally Exempt Small Quantity Generator (CESQG) hazardous wastes], *provided that:*

(1) The PCB bulk product waste is segregated from organic liquids disposed of in the landfill unit, and

(2) Leachate is collected from the landfill unit and monitored for PCBs.

Any release of PCBs from the landfill (including, but not limited to leachate) must be cleaned up in accordance with 40 CFR 761.61 (included here as attachment 3).

Any person disposing off-site of PCB bulk product waste regulated under the requirements of this section at a waste management facility not having a commercial PCB storage or disposal approval must: 1) must apply for and receive written approval from the disposal facility for shipment of PCB bulk product wastes to that disposal facility, and 2) provide written notice of intention to ship PCB bulk product wastes to that facility a minimum of 15 days in advance of the first

shipment from the same disposal waste stream (as well as with each shipment thereafter). The written notice shall state that the PCB bulk product waste may include components containing PCBs at >= 50 ppm based on analysis of the waste in the shipment or application of general knowledge of the waste stream (or similar material) which is known to contain PCBs at those levels, and that the PCB bulk product waste is known or presumed to leach <10 micrograms per liter PCBs (using-the TCLP protocol).

Recordkeeping requirements (applicable to wastes described under both Sections A and B above):

Any person disposing of PCB bulk product waste must maintain a written record of all sampling and analysis of PCBs or notifications made for 3 years from the date of the waste's generation, and must make these records available to the Division/EPA upon request.

Net Impact on Tennessee's Special Waste Approval Process:

In consideration of the above, the Division of Solid Waste Management will consider the disposal of materials meeting the definition of "PCB bulk product waste" and which satisfy the criteria described in Sections A and B of this document. This policy does not constitute a blanket, state-wide approval for PCB bulk product wastes: these materials are still fully subject to the Special Waste Approvals process on a case-by-case basis.

In evaluating a special waste request for PCB bulk product waste, DSWM representatives in the Environmental Assistance Centers should insure that appropriate waste handling and disposal techniques are incorporated into the special waste approval. For example, PCB bulk product waste should be managed in a manner which will not generate dust during handling/transport, and should be covered immediately to minimize the potential for surface water contamination.

Attachment 1:

40 CFR 761.3 of the Toxic Substance Control Act Regulations – Definitions:

PCB bulk product waste means waste derived from manufactured products containing PCBs in a non-liquid state, at any concentration at the time of designation for disposal was >= 50 ppm PCBs. PCB bulk product waste does not include PCBs or PCB Items regulated for disposal under Sec. 671.60(a) through (c) Sec. 762.61, Sec. 761.63, or Sec. 761.64. PCB bulk product waste includes, but is not limited to:

(1) Non-liquid bulk wastes or debris from the demolition of buildings and other man-made structures manufactured, coated, or serviced with PCBs. PCB bulk product waste does *not* include debris from the demolition of buildings or other man-made structures that is contaminated by spills from regulated PCBs which

have not been disposed of, decontaminated, or otherwise cleaned up in accordance with subpart D of this part.

(2) PCB containing wastes from the shredding of automobiles, household appliances, or industrial appliances.

(3) Plastics (such as plastic insulation from wire or cable; radio, television and computer casings; vehicle parts; or furniture laminates),- preformed or molded rubber parts and components; applied dried paints, varnishes, waxes or other similar coatings or sealants-, caulking; adhesives; paper; Galbestos; sound deadening or other types of insulation; and felt or fabric products such as gaskets.

(4) Fluorescent light ballasts containing PCBs in the potting material.

PCB Item means any PCB Article Container, PCB Container, PCB Equipment, or or anything that deliberately or unintentionally contains or has as a part of it any PCB or PCBs.

_[Signature on File]_____ _06-07-1999_____
Mike Apple, Director Date
Division of Solid Waste Management

policy/notebook/pn111
Original: June 1999

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

PCB Contaminated Soil
POLICY

The purpose of this policy is to establish criteria for disposal of PCB contaminated soil and debris into Class I landfills.

The following is a guideline for the level of PCB cleanup in soil. These numbers are from the Division's State Remediation Section guidance document to establish no further action levels.

Land Use	PCB Action Levels (PPM)	
	(without cover)	(with 1 ft of cover)
Residential	1	10
Industrial	10	25

PCB contaminated soil with greater than 50 ppm has to be managed in accordance with the Toxic Substance Control Act (TOSCA) regulations.

In consideration of the above, the Division of Solid Waste Management will consider the disposal of PCB contaminated soil in a Class I sanitary landfill with a composite liner system, if the level of PCBs are less than 50 ppm.

In evaluating a special waste request for PCB contaminated material the Field Office should insure that appropriate waste handling and disposal techniques are incorporated into the special waste approval. For example, contaminated soil should have a high enough moisture content not to generate dust during handling and should be covered immediately to minimize the potential for surface water contamination via runoff.

_[Signature on File]_____ _02-13-1996_____
Tom Tiesler, Director Date
Division of Solid Waste Management

policy/notebook/pn025
Revision 1: February 1996

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

PCB Containing Ballasts and Transformers
POLICY

PCB-Containing Ballasts and Transformers

The disposal of PCB-containing dielectric fluid and electric equipment containing such fluid authorized for use and regulated under 40 CFR Part 761, are exempt from regulation under Tennessee Rule 0400-12-01-.02(l)(h) and 40 CFR 261.8, when such wastes are hazardous only because they fail the test for the Toxicity Characteristic. To qualify for this exemption, the generator or owner or operator must be able to demonstrate that generation, accumulation, transportation, and destruction/disposal of the PCB containing wastes are **fully** controlled/regulated by TSCA. The Tennessee Solid Waste Program (non-hazardous) does not permit the disposal of PCBs of 50 ppm or greater in a Subtitle D Sanitary Landfill (excluding PCB bulk product wastes). PCBs of 50 ppm or greater are regulated under TSCA by the Environmental Protection Agency (EPA). PCBs of less than 50 ppm are not regulated under TSCA, except under special circumstances (i.e. dilution, used oil).

In Tennessee, for the latest information regarding certain types of PCB disposal in Subtitle D landfills, please contact the Tennessee Department of Environment and Conservation, Division of Solid Waste Management, L & C Tower, 5th Floor, 401 Church Street, Nashville, TN 37243-1535, at (615) 532-0780.

For additional information or assistance from EPA Region 4, please contact the United States Environmental Protection Agency, Region 4, Atlanta Federal Center, 61 Forsyth Street, SW, Atlanta, GA 30303-3104, at (404) 562-8512 or the TSCA Hotline at (202) 554-1404 or TSCA Hotline (tsca-hotline@epamail.epa.gov).

[Signature on File]_____ 7-11-11_____
Mike Apple, Director Date
Division of Solid Waste Management

policy/notebook/pn113
Revision 1: February 2011

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Analytical Methods for Use at Petroleum Contaminated Sites
POLICY

For investigations involving petroleum contaminated sites, the two primary types of analyses performed are BTEX (Benzene, Toluene, Ethylbenzene and Xylene) and TPH (total petroleum hydrocarbons). The following is an explanation of each test method and when each method shall be applicable to a contaminated site. Please see the attached table, Analytical Methods for Quantifying Petroleum Hydrocarbons, which will list acceptable analytical methods.

BTEX

This is a specific method for aromatic gasoline components, and one of the most important analytical methods for gasoline contaminated soils and groundwater since the aromatics are the most toxic contaminants. When analyzing for Total BTEX, the lab shall use Test Methods for Evaluating Solid Waste, commonly known as SW-846. The purge and trap procedures for the soil samples in Method 5030 shall be followed. The actual constituent analysis using gas chromatography with a photoionization detector shall follow Method 8020. The level of Total BTEX reported as the sum of Benzene, Toluene, Ortho-Xylene, Meta-Xylene, and Para-Xylene found in the sample as well as the concentration of the individual compounds must be reported. The practical quantitation limit for any individual constituent using this method is 0.002 ppm for low level soil samples. All results shall be reported in parts per million.

TPH (TOTAL PETROLEUM HYDROCARBONS)

The analysis for TPH involves two different methods, each dependent upon the type of hydrocarbon involved. A review of the type of petroleum stored at the site shall be performed to determine which analytical method or methods should be used for TPH analysis. The State Remediation Section, in order to assure consistent analytical methods, requires that samples from facilities with petroleum contamination be analyzed for TPH by the State of Tennessee's GRO (gasoline range organics) and/or EPH (extractable petroleum hydrocarbons) method. This method must be used by facilities when analyzing for petroleum contamination. (A copy of the complete methodology of the State of Tennessee's GRO analysis may be found in the Division of Underground Storage Tank's, August 1996 Reference Handbook. A description of the EPH method is available at http://www.state.tn.us/environment/ust/oil.htm.

1. GRO (Gasoline Range Organics Method)

   Used for analysis of hydrocarbon mixtures such as gasoline or other low boiling (volatile) hydrocarbons typically containing fewer than 12 carbons.

2. EPH (Extractable Petroleum Hydrocarbons by GC/FID)

This method is used for analysis of samples for kerosene, diesel fuel, heating oil, motor oil, used oil, or any other hydrocarbon which traditionally contains alkanes with 12 or more carbons.
In those situations where the type of hydrocarbon stored is unknown, or both gasoline and diesel products were stored, the samples must be analyzed using both the GRO and EPH Methods with the results summed to determine the TPH level.

LEAD AND OTHER ADDITIVES

Using compounds such as tetramethyllead (TML) and tetraethyllead (TEL), lead was added to some gasolines to improve the octane number thus achieving maximum power output in an engine. Other hazardous compounds, including ethylene dichloride (EDC) and ethylene dibromide (EDB) were added as lead scavengers to prevent buildup of lead oxide deposits. Although leaded gasolines were phased out of most markets by 1989, if it is known or suspected that the contamination includes leaded gasoline, soil samples should be analyzed for EDC and EDB and possibly TEL. The State Laboratory can analyze for EDC and EDB under the same test method as for BTEX (Method 8260/5030), whereas analysis for TEL will require testing under Method 8240/5030.

Oxygenated compounds such as methanol, ethanol or methyl tertiarybutyl ether (MTBE) are sometimes added to gasoline as octane boosters to reduce carbon monoxide exhaust emissions. MTBE is volatile and very soluble in water and is useful through soil gas surveys as the first indication of a gasoline plume. Analysis for MTBE at the State Laboratory is done under Method 8260/5030.

ANALYTICAL METHODS FOR QUANTIFYING PETROLEUM HYDROCARBONS

ANALYSIS	METHOD (Soil and Groundwater)	WHEN APPROPRIATE
BTEX	8260 / 5030* 8020 / 5030	Gasoline contaminated sites Gasoline contaminated sites Gasoline contaminated sites
TPH	State of TN's Method for GRO State of TN's Method for EPH	Gasoline contaminated sites Diesel contaminated sites Gas and diesel contaminated sites Heavy oils (motor / used)
EDB, EDC	8260 / 5030* 504 (Drinking Water Standard)*	Gasoline (leaded) contaminated sites Gasoline (leaded) contaminated sites
TEL, TML	8240 / 5030 ASTM D3237	Gasoline (leaded) contaminated sites Gasoline (leaded) contaminated sites
MTBE	8260 / 5030*	Gasoline contaminated sites

* Designates test methods used by the State of Tennessee Environmental Laboratory

_[Signature on File]_____ _12-01-1998_____
Tom Tiesler, Director Date
Division of Solid Waste Management

policy/notebook/pn108
Original: December 1998

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Environmental Cleanup Guidelines for Transportation Related Petroleum Spills

POLICY

THESE GUIDELINES ARE FOR ENVIRONMENTAL CLEANUP AND ARE NOT EMERGENCY RESPONSE GUIDELINES.

These guidelines have been prepared by the Tennessee Department of Environment and Conservation, Division of Solid Waste Management (DSWM), for the environmental cleanup of petroleum spills, including gasoline, diesel fuel, motor oil and transmission fluid, as the result of traffic accidents.

Petroleum spilled at a traffic accident is a hazardous material and the regulatory requirements for emergency responses to the release of hazardous materials, including who is in control and directs activities at these spill sites, is found in the Federal Regulations at 29 CFR 1910.120 as adopted pursuant to T.C.A. §50-3-201 by the Tennessee Department of Labor and Workforce Development. 29 CFR 1910.120 is interpreted and enforced by the Tennessee Division of Occupational Health and Safety (referred to as TOSHA- phone number 1-800-249-8510). The DSWM personnel are not emergency responders. The situation can vary greatly from spill to spill and the Local Incident Commander normally makes the final determination on what activities can be done at the incident scene. Other safety factors, including but not limited to, highway stability, traffic flow, and public utilities, also are taken into consideration. The Tennessee Department of Transportation (TDOT) (or equivalent county/city highway authority if not on an interstate or state route), other impacted property owners, public utilities, or other public agencies may prohibit or limit excavation activities.

The DSWM has established two categories for the environmental cleanup of petroleum spills as the result of traffic accidents. The first environmental cleanup guidelines are for traffic accident spills contaminating environmental media with less than twenty five (25) gallons of petroleum. The second environmental cleanup guidelines are for traffic accident spills contaminating environmental media with more than twenty five (25) gallons of petroleum. Contaminating environmental media is defined in this guidance as petroleum that spills directly onto and/or migrates from paved surfaces into gravel, soils, and/or water. Spills in Tennessee are to be reported to the Tennessee Emergency Management Agency (TEMA) (1-800-262-3300) which then notifies other state agencies such as the DSWM. *(Note: Spills that cause sheen on the surface waters require notification of TEMA for the Division of Water Pollution Control.)*

Traffic Accident Spills Contaminating Environmental Media With Less Than Twenty Five (25) Gallons of Petroleum

The situation can vary greatly from spill to spill. 29 CFR 1910.120 establishes the person who is in control at hazardous material spills and directs any actions that emergency responders take to stop the migration and for the cleanup of spilled petroleum. The owner and/or operator of the vehicle from which petroleum was spilled is responsible for the cleanup of the petroleum spilled from their vehicle. Notification of TEMA for the DSWM is not necessary for traffic accident spills that contaminate environmental media with less than twenty five (25) gallons of petroleum provided that the following can be safely conducted in accordance with 29 CFR 1910.120 *(Note: Read the bolded second paragraph of this document before conducting any environmental cleanup.)*:

1. Absorb all liquid petroleum with an absorbent material as soon as safely possible (i.e. white petroleum absorbents, diatomaceous earth, clay, etc.) *(Note: Absorbent material must be placed in compatible containers and closed or managed with contaminated gravel and/or soil excavated at the site.)*; and,

2. Within twenty four (24) hours, if there is any visible petroleum contaminated gravel and/or soil and excavation can be done safely and is authorized by TDOT (or equivalent county/city highway authority if not on an interstate or state route), any other impacted property owners, and public utilities (if present), then excavate visible petroleum contaminated gravel and/or soil. The excavation of contaminated gravel and/or soil may be limited or not authorized due to structural issues, underground utilities, or other concerns. Excavation is normally the response but if it is not appropriate, then contact the local DSWM Environmental Field Office. *(Notes: Excavated petroleum contaminated gravel and/or soil must be placed in compatible containers and covered or directly into an appropriate transport vehicle. The contaminated gravel and/or soil may also be placed on plastic and covered with plastic, but this usually does not occur because the amount of contaminated gravel and/or soil, if any, is small and disposal or treatment is required in a short time frame.)*

Within two (2) weeks, the petroleum contaminated absorbent materials, gravel, and/or soil are to be disposed of in a Class I Landfill permitted in Tennessee, or a similar facility in another state, provided that permission is received from the Landfill. If the contaminated absorbent materials, gravel and/or soil are disposed of in a Tennessee Class I Landfill (with the landfill's permission) and the total amount is less than five (5) cubic yards per accident, then special waste approval is not necessary. Another acceptable option is for the petroleum contaminated absorbent materials, gravel, and/or soil to be treated at a permitted facility that is authorized to treat such petroleum contaminated materials.

Traffic Accident Spills Contaminating Environmental Media With More Than Twenty Five (25) Gallons of Petroleum

The situation can vary greatly from spill to spill. 29 CFR 1910.120 establishes the person who is in control at hazardous material spills and directs any actions that emergency responders take to stop the migration and for the cleanup of spilled petroleum. The owner and/or operator of the vehicle from which petroleum was spilled is responsible for the cleanup of the petroleum spilled from their vehicle. TEMA must be notified for the DSWM and a report is required for all traffic accident spills that contaminate environmental media with more than twenty five (25) gallons of petroleum. DSWM staff are not emergency response personnel and the TEMA notification is to make the DSWM aware of the spill. The following should be conducted if authorized under 29 CFR 1910.120 *(Note: Read the bolded second paragraph of this document before conducting any environmental cleanup.)*:

1. Absorb liquid petroleum with an absorbent material (i.e. petroleum white absorbents, diatomaceous earth, clay, etc.) and/or collect liquid petroleum *(Notes: Absorbent material must be placed in compatible containers and closed or managed with contaminated gravel and/or soil excavated at the site. Collected liquid petroleum must be stored safely and securely in leak proof closed compatible containers.)*;

2. As soon as safely possible and if authorized by TDOT (or equivalent county/city highway authority if not on an interstate or state route), any other impacted property owners, and public utilities (if present), excavate the visible petroleum contaminated gravel and/or soil. The excavation of contaminated gravel and/or soil may be limited or not authorized due to structural issues, underground utilities, or other concerns. Excavation is normally the response but if it is not appropriate, then contact the local DSWM Environmental Field Office who routinely refers the spill site to the DSWM State Remediation Program and it will no longer be managed under these guidelines. DSWM State Remediation Program may require additional cleanup, installation of a monitoring well(s) and/or risk assessment. *(Notes: It is advisable to screen the excavation site for hot spots with a monitor such as a photo ionization device to assist in determining if the contamination has been removed prior to collecting samples. Excavated petroleum contaminated gravel and/or soil must be placed in compatible containers and covered or*

directly into an appropriate transport vehicle. The contaminated gravel and/or soil may also be placed on plastic and covered with plastic.);

3. Confirmation samples are required to verify that any contamination that may remain is below the applicable no further action levels. Confirmation sampling consists of taking three grab samples, two from the side walls and one from the bottom of the excavation for each 200 square feet of excavation area. For releases to ditches, grab samples should be taken every 20 linear feet and analyzed separately. Samples must be collected in a manner to prevent cross contamination and stored at 4°C while being transported to the laboratory. Chain of custody forms shall be completed for all samples. Samples for gasoline and diesel spills shall be analyzed for benzene, toluene, ethylbenzene, total xylenes, methyl-tert-butyl-ether, and naphthalene. Samples for diesel spills must also be analyzed for extractable petroleum hydrocarbons. Samples for used motor oil and/or transmission fluid shall be analyzed for naphthalene and extractable petroleum hydrocarbons (EPH). Acceptable no further action levels (NFALs) for gravel and/or soil are:

CHEMICALS OF CONCERN	**RESIDENTIAL SOIL NFALs* (mg/kg)**	**COMMERCIAL/ INDUSTRIAL SOIL NFALs* (mg/kg)**	**ANALYTICAL METHODS**
Benzene	0.0729	3.8	8260B (EPA Publication SW-846)
Toluene	6.78	62.2	8260B (EPA Publication SW-846)
Ethylbenzene	143	1310	8260B (EPA Publication SW-846)
Total Xylenes	9.6	88	8260B (EPA Publication SW-846)
Methyl-tert-butyl-ether (MtBE)	39.6	364	8260B (EPA Publication SW-846)
Naphthalene	135	403	8260B (EPA Publication SW-846)
Extractable Petroleum Hydrocarbons	500	500	Tennessee Extractable Petroleum Hydrocarbons

** Commercial/Industrial soil NFALs apply to: 1. TDOT right of way property on the interstates; 2. TDOT or local government right of ways that the adjoining properties at the spill location are zoned for commercial or industrial purposes and there is no reason to conclude that the property is/or would ever be used for residences; and, 3. Other properties that are zoned for commercial or industrial purposes and there is no reason to conclude that the property is/or would ever be used for residences. Otherwise, the residential soil NFALs apply. The DSWM reserves the right to require soil NFALs on site specific conditions.*

If the confirmation samples document any contamination remaining in the gravel and/or soil is above the applicable NFALs and additional excavation is authorized by TDOT (or equivalent county/city highway authority if not on an interstate or state route), any other impacted property owners, and public utilities (if present), then additional gravel and/or soil must be excavated until confirmation sampling verifies that all remaining gravel and/or soil is below the applicable NFALs. If the applicable NFALs cannot be reached, then contact the local DSWM Environmental Field Office within one working day of the date after that determination was made. Spill sites with contamination above the NFALs are routinely referred to the DSWM State Remediation Program and are no longer managed under these guidelines. DSWM State Remediation Program may require additional cleanup, installation of monitoring well(s) and/or risk assessment.

Within fifty (50) days of all traffic accident spills contaminating environmental media with more than twenty five (25) gallons of petroleum, all free liquids must be sent for recycling or treatment at authorized facilities and all contaminated absorbent materials, gravel and/or soil must be disposed of or treated at authorized facilities. Collected liquid petroleum sent to be recovered and recycled at authorized facilities would not be a hazardous waste per Rule 0400-12-01-.02(1)(b)3. If the collected liquid petroleum is not going to be recovered, then a hazardous

waste determination is required and, if hazardous, it must be managed as a hazardous waste and proper notification forms submitted to the DSWM in accordance with Rule 0400-12-01. All contaminated absorbent materials, gravel and/or soil must be disposed of in a Class I Landfill permitted in Tennessee, or a similar facility in another state. The petroleum contaminated absorbent materials, gravel, and/or soil may also be treated at a permitted facility that is authorized to treat such petroleum contaminated materials. Special waste approval is required for disposal of these contaminated absorbent materials, gravel and/or soil in a Class I Landfill permitted in Tennessee. Absorbent materials, gravel, and/or soil contaminated **only with transmission fluid, used motor oil, and/or diesel** do not require sampling for special waste approval provided that other materials with hazardous constituents are not present. De minimus amounts of motor coolant, battery acid and windshield washer fluid spilled from the vehicles is allowable for landfill disposal, but not if carried as cargo. The generator must state on the special waste application that the absorbent materials, gravel, and/or soil is only contaminated with transmission fluid, used oil, and/or diesel and is not contaminated with other materials with hazardous constituents. Absorbent materials, gravel, and/or soil contaminated with **gasoline** must be representatively sampled and the sample(s) analyzed for benzene (Method 8260B, EPA Publication SW-846). One grab sample should be taken for every 20 cubic yards of material. Up to 5 of these grab samples may be composited together for analysis to characterize up to 100 cubic yards of contaminated material. All samples should be taken from areas of greatest visual contamination. If the total amount of benzene in any sample is equal to or exceeds 10 mg/kg, then that sample(s) must be subjected to the Toxicity Characteristic Leaching Procedure (TCLP) (Method 1311, EPA Publication SW-846) and the extract analyzed to determine the concentration of benzene. If the concentration of benzene in the TCLP extract is equal to or exceeds 0.5 mg/l, then the waste is a hazardous waste and cannot be disposed of as a special waste and must be managed as a hazardous waste and proper notification forms submitted to the DSWM in accordance with Rule 0400-12-01.

Within seventy five (75) days of all traffic accident spills contaminating environmental media with more than twenty five (25) gallons of petroleum, the owner of the vehicle from which the petroleum was spilled shall submit a report to the DSWM Environmental Field Office where the spill occurred and contain the following *(Note: A list of the Environmental Field Offices and the counties in their area are provided at the end of this document.)*:

1. Name, Address, and Phone Number of the owner of the vehicle from which the petroleum was spilled;
2. Name, Address, and Phone Number of any emergency response contractor(s);
3. Name, Address, and Phone Number of the insurance company(s);
4. Agency Name, Officer's Name and Contact Information for the primary law enforcement officer who investigated the accident;
5. The date and location of the spill by interstate/highway/street number/name and mile maker/address (e.g. 5. The petroleum spill resulting from a February 24, 2010 traffic accident occurred on ABC Drive, XYC City, TN at 123 ABC Drive.);
6. The zoning of the properties adjacent to the right of way at the spill location and any other impacted property(s), name of the zoning authority, the name and phone number of the person contacted with the zoning authority, and if zoned as commercial/industrial, then include a statement regarding the potential for the property(s) to be used for residences. (e.g. 6. The only property impacted was the right of way on ABC Drive, XYC City, TN immediately adjacent to 123 ABC Drive that is zoned for industrial use. This information was obtained from Jane Doe with XYZ City Zoning Authority (Phone #: 615-555-5555). Jane Doe of the XYZ City Zoning Authority confirmed that there were no plans to change the zoning.) *(Note: If the only property impacted by the spill is the right of way on an US Interstate then that is all that needs to be stated in the report.)*;
7. List the type and estimated quantity of all liquid material spilled (e.g. 7. It is estimated that 100 gallons of diesel was spilled from a saddle tank of a truck.);
8. List the type and estimated quantity of all materials recovered in the liquid phase and document the final disposition of all liquids (e.g. 8. 50 gallons of diesel was collected in a vacuum truck and sent to XYZ Company for reclamation. Documentation is in Appendix A of this report.);
9. The name and phone number of the official with the TDOT, county/city authority, any other property owner and/or public utility that granted or denied authorization to excavate contaminated gravel and/or

soil (e.g. 9. Permission was granted to excavate contaminated soil by Joe Doe of XYZ City Public Works Department (Phone #: 615-555-4444).);

10. State which NFALs apply and whether or not the confirmation sampling documents that any remaining contamination is below the NFALs (e.g. 10. Since the zoning is commercial the commercial/industrial soil NFALs apply. The confirmation sampling documents that the remaining contamination is below the commercial/industrial soil NFALs);
11. State the surface areal extent of the gravel and/or soil in square feet that was contaminated by the spill and provide a sketch of the spill area showing the edge of the paved/concrete surface of the interstate/highway/street, the property line(s), the dimensions of the excavation areas, and the location of all sampling points *(Notes: Sampling points must be provided with individual identifiers that correspond to the analytical results on the laboratory report sheets. If additional excavation was necessary after the initial excavation/confirmation sampling event, then additional sketches shall be provided for each excavation/confirmation sampling event. If the surface area impacted by the spill is greater than 800 square feet, then the sketch shall be to scale.)* (e.g. 11. 420 square feet of surface area of the gravel and soil was contaminated by the diesel spill and the site sketch is in Appendix B of this report.);
12. A copy of the laboratory report sheets with the analytical results for all samples collected and all chain of custody forms (e.g. 12. Copies of the laboratory report sheets and the chain of custody forms are in Appendix C of this report.);
13. List the estimated amount of petroleum contaminated absorbent material, gravel and soil excavated and its disposition (e.g. 13. 15 cubic yards of petroleum contaminated absorbent material, gravel and soil was disposed of in ABC Class I Landfill under DSWM Special Waste Approval dated 02/18/10. Copies of the Special Waste Approval letter and the landfill ticket are in Appendix D of this report.);
14. If all contaminated gravel and soil could not be excavated, provide the date the local DSWM Environmental Field Office was contacted;
15. If waters of the State (surface and/or ground water) were impacted, describe the impact and describe the cleanup actions;
16. Name, contact information, and agency/company of the person signing the report; and,
17. The report shall be certified with the signature of the owner of vehicle from which the petroleum was spilled or their authorized representative with this statement: "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information."

The Division of Solid Waste Management has Environmental Field Offices at the following locations across the state (http://state.tn.us/environment/efo/):

Environmental Field Office	Counties Served
Chattanooga Environmental Field Office State Office Building, Suite 550 540 McCallie Avenue Chattanooga, TN 37402-2013 423-634-5745	Bledsoe, Bradley, Grundy, Hamilton, Marion, McMinn, Meigs, Polk, Rhea, Sequatchie
Columbia Environmental Field Office 1421 Hampshire Pike Columbia, TN 38401 931-380-3371	Bedford, Coffee, Franklin, Giles, Hickman, Lawrence, Lewis. Lincoln. Marshall, Maury, Moore, Perry, Wayne
Cookeville Environmental Field Office 1221 South Willow Avenue	Cannon, Clay, Cumberland, DeKalb, Fentress, Jackson, Macon, Overton, Pickett, Putnam, Smith,

Cookeville, TN 38501 931-432-4015	Van Buren, Warren, White
Jackson Environmental Field Office 1625 Hollywood Drive Jackson, TN 38305-2222 731-512-1300	Benton, Carroll, Decatur, Dyer, Hardin, Haywood, Lake Lauderdale, Obion, Weakley, Chester, Crockett, Gibson, Hardeman, Henderson, Henry, Madison, McNairy
Johnson City Environmental Field Office 2305 Silverdale Road Johnson City, TN 37601-2162 423-854-5400	Carter, Greene, Hancock, Hawkins, Johnson, Sullivan, Unicoi, Washington
Knoxville Environmental Field Office 3711 Middlebrook Pike Knoxville, TN 37921-5602 865-594-6035	Anderson, Blount, Campbell, Claiborne, Cocke, Grainger, Hamblen, Jefferson, Knox, Loudon, Monroe, Morgan, Roane, Scott, Sevier, Union
Memphis Environmental Field Office 8383 Wolf Lake Drive Bartlett, TN 38133-4119 901-371-3000	Fayette, Shelby, Tipton
Nashville Environmental Field Office 711 R. S. Gass Blvd. Nashville, TN 37243-1550 615-687-7000	Cheatham, Davidson, Dickson, Houston, Humphreys, Montgomery, Robertson, Rutherford, Stewart, Sumner, Trousdale, Williamson, Wilson

(Signature on File)_____ 4-23-10_____

Mike Apple, Director **Date**

policy/notebook/pn130
Original: April 2010

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Ground Water Classification Procedure at Petroleum Contaminated Sites
POLICY

GROUNDWATER CLASSIFICATION PROCEDURE

These steps must be followed IN SEQUENCE to determine if the ground water at a site should be classified as either a "drinking water supply" or a "non drinking water supply". If at any point during the classification procedure the aquifer or water supply is classified as a drinking water supply, then no further steps shall be completed.

I. **First Step – Water Use Survey**

(1) Contact all adjacent property owners within a one-tenth (0.1) mile radius to determine the existence of any water use supplies.

(2) Perform a field survey within a one-quarter mile radius of the site to determine the existence of any water use supplies, and

(3) Perform a records search within a one-half mile radius of the site to determine the existence of any water use supplies.

If any aquifer or water source is being used by the citizens of the State, then the aquifer or water source shall be classified as a drinking water supply.

II. **Second Step –Analytical Sampling**

Determine if the impacted aquifer or water source meets the primary and secondary drinking water standards of rule 0400-45-01 by analyzing the water from a well which has not been impacted by petroleum contamination, if one exists. If an unaffected well does not exist, then the well with the lowest contamination shall be used. The sample shall be analyzed for iron and manganese only. If the analytical results indicate that the levels are below the established secondary standard for both parameters, a second sample shall be collected and analyzed for the remaining primary and secondary standards.

If the impacted aquifer or water source fails to meet any of the primary or secondary standards and is not a drinking water supply as determined in the water use survey, it may be classified as a "non-drinking water supply". However, failure of the aquifer or water source to meet the primary or secondary standards cannot be the result of petroleum

contamination, unless naturally occurring. A list of the primary and secondary drinking water standards is found in Technical Guidance Document 002, in the Division of Underground Storage Tank's August 1996 Reference Handbook. An outline of these standards is below:

Primary Standards- (Parameters to Sample)

(1) Inorganic Chemicals
(2) Organic Chemicals
(3) Turbidity
(4) Microbiological (total coliforms, fecal coliforms, E. coli).
(5) Radionuclides

Secondary Standards

(1) Various parameters listed in Technical Guidance Document 002
(2) VOCs

III. **Third Step – Pump Test**

If the ground water meets the criteria of the primary and secondary Drinking Water Standards, then the yield of the aquifer or water supply shall be determined. A suitable pump test method shall be used to determine if the impacted aquifer or water source is capable of providing a yield of at least one-half gallon per minute. The monitoring well considered to have the highest yield shall be the first well pump tested. If the yield isn't one-half gallon per minute, then it is not considered a drinking water supply and may be classified as a non-drinking water supply.

_[Signature on File]_____ _12-01-1998_____
Tom Tiesler, Director Date
Division of Solid Waste Management

policy/notebook/pn107
Original: December 1998

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Petroleum Contaminated Sites
POLICY

This memorandum is a statement of policy for petroleum contaminated sites from sources other than underground storage tanks regulated under the authority of the Tennessee Petroleum Underground Storage Tank Act, T.C.A. 68-215-101 et seq. This policy statement addresses two main areas of concern: (1) regulatory placement of petroleum contaminated sites and (2) clean-up criteria for petroleum contaminated sites. The State Remediation Section (SRS) will provide any specific guidance for these sites.

1. Procedures for Management of Petroleum Contaminated Sites

When a Field Office encounters a petroleum contaminated site that has the potential for deep soil and/or groundwater contamination, they should submit the information to the SRS. Sites with potential for deep soil and/or groundwater contamination are normally from long term or ongoing release sources. However, each site will have its own unique characteristics and in some cases further assessment may be needed in order for the Field Office to make a categorical determination. Sites submitted to the SRS will be put into the tracking system and issued one of the aforementioned regulatory mechanisms. Sites that do not require remediation orders or remediation letters are recent spills or releases that have not had time to migrate.

In order to promote consistency within our Division, the State Remediation Section has been assigned overall responsibility for petroleum contaminated sites not covered by the UST Act. The SRS has developed two categories for these petroleum contaminated sites. First, if any hazardous constituents are present (normally these will be from gasoline or waste oils), the site may be issued a Notice of Remediation or Remediation Order citing hazardous waste regulations. Second, if no hazardous constituents are present (normally this will be diesel fuels and hydraulic oils), the site will be issued a Remedial Action Notice citing solid waste regulations for the investigation and, if necessary, remediation of the site.

2. Clean-up Criteria for Petroleum Contaminated Sites

An amendment to T.C.A. 68-215-127 was signed into law May 3, 1996. This amendment was intended to provide a consistent and uniform approach to the establishment of clean-up standards for petroleum releases. Therefore, the Division's clean-up criteria will follow the promulgated levels in the Rules of the Division of Underground Storage Tank Program 0400-18-01-.06(7)(e), parts 1 and 2, which are listed in Appendices 4 and 5. The pertinent information paraphrased from parts 1. and 2. and Appendices 4 and 5 is given below.

1. Ground water contaminated by petroleum must meet the levels as listed in Appendix 4 for drinking water supplies and non-drinking water supplies. It must be determined if the contaminated ground water met the definition of a "drinking water supply" before the contamination occurred. Site clean-up levels will be based on the category of ground water.

2. The level of soil cleanup shall follow Appendix 5. Soil cleanup levels shall vary depending upon the permeability of the soil and whether the ground water below the site is a "drinking water supply" or "non-drinking water supply".

GROUNDWATER CLEANUP LEVELS FOR PETROLEUM CONTAMINATED SITES

PARAMETER	WATER CLASSIFICATION	CONCENTRATION LIMIT
BENZENE	DRINKING WATER	.005 PPM
	NON-DRINKING WATER	.070 PPM
TPH	DRINKING WATER	.100 PPM
	NON DRINKING WATER	1.00 PPM

SOIL CLEAN-UP LEVELS FOR PETROLEUM CONTAMINATED SITES

PARAMETER	WATER CLASSIFICATION	SOIL PERMEABILITY		
BENZENE	DRINKING WATER	$>10^{-4}$ CM/SEC	10^{-4} TO 10^{-6} CM/SEC	$<10^{-6}$ CM/SEC
		5 PPM	25 PPM	50 PPM
	NON DRINKING WATER	25 PPM	50 PPM	100 PPM

TPH	DRINKING WATER	100 PPM	250 PPM	500 PPM
	NON DRINKING WATER	250 PPM	500 PPM	1000 PPM

It is the policy of the Division to achieve these remediation levels whenever possible. However, the Division recognizes that attaining these levels may not be practical in all situations. In these cases, the facility must attempt to remediate the site, then provide sufficient information to the Division that these remediation levels are unobtainable. The Division may then request a risk assessment. The risk assessment will be reviewed for the following subject matter:

(1) Environmental impact of the contaminants to be left in place;

(2) Technical feasibility of the contaminants to be removed or reduced; and

(3) Economic feasibility of further reduction or removal of the contaminants.

_[Signature on File]_____ _02-14-1997_____
Tom Tiesler, Director Date
Division of Solid Waste Management

policy/notebook/pn023
Revision 5: February 1997

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Regulatory Status for UST Wastes, Tank Bottoms and Contents and Aboveground Petroleum Product Storage Tanks
POLICY

In response to many questions, we have explored the issue of handling requirements for UST (debris and media), wastes generated in a product tank (tank bottoms); and tank contents (contaminated commercial chemical product which was a fuel to start) when they are recycled. It is our opinion that, while these are similar, and in some cases, related wastes, they require different, handling.

Rule 0400-12-01-.02(1)(b)2, states: "Materials are wastes if they are "abandoned" by being:

(i) Disposed of; or
(ii) Burned or incinerated;

Rule 0400-12-01-.02(1)(b)3(ii)(I), states: "Except as provided in part (II), materials listed in item (III) of this subpart are wastes when they are:

I. Burned to recover energy;
II. Used to produce a fuel or are otherwise contained in fuels (in which case the fuel itself remains a waste)."

In the case of a UST corrective action, where the tanks are pumped and the entire contents returned to a refiner, distributor or fuel blender for use as a fuel, the above rule 0400-12-01-.02(1)(b)3(ii)(II) would apply. The commercial chemical product that is being removed was a fuel in the beginning. The water and/or sludge removed with the product would be contaminates, making the contents an off-specification commercial chemical product. Since this product never becomes a waste, it cannot be a hazardous waste.

In the case where an active petroleum tank that is to remain in use, has just the water an/or sludge pumped from it, but the product is left in the tank, the above rule would not apply. The water and/or sludge removed from the tank are not commercial chemical products and were never a fuel themselves, but are contaminants of the product. When these materials are removed a hazardous waste determination must be made on them. They are subject to the characteristics tests, including the D001 through D017 portion of the TCLP. Rule 0400-12-01-.02(1)(b)5(ii) reads: "The following materials are wastes, even if the recycling involves use, reuse, or return to the original process (described in items (i) (I) – (III) of this part):" Subitem (II) of this part reads: "Materials burned for energy recovery, used to produce a fuel, or contained in fuels;..." Based on these rules, if these materials (water and sludge described above) are hazardous, the generator

must notify the department of their generation; they must be packaged and shipped according to DOT and FSC standards; a Uniform hazardous Manifest must be used; they must be transported by a hazardous waste transporter, permitted to transport in Tennessee; and they must be shipped in a permitted TSD or registered hazardous waste fuel blender or burner. If shipped to a hazardous waste fuel blender or burner, the material must have a demonstrated energy value of 5,000 BTUs/pound.

The final category of wastes are media and debris. These wastes are contaminated ground water, soil, sand, etc.. Rule 0400-12-01-.02(1)(d)2 reads: "Wastes which are not a Hazardous Waste – The following wastes not hazardous wastes:

((viii) Petroleum-contaminated media and debris that fail the test for the Toxicity Characteristics of subparagraph (3)(e) of this Rule (Hazardous Waste Codes D018 through D043 only) and are subject to the corrective action regulations under 40 CFR Part 280 (as those Federal regulations exist on the effective date of this regulation)." This means that for media and debris to be excluded as a hazardous waste they must meet two tests:

1. They must pass the hazardous waste characterization tests including the D001 through D017 portions of the TCLP; and

2. They must be under the clean-up jurisdiction of the UST Program 40 CFR Part 280.

Media and debris that are not under the corrective action jurisdiction, or that fails the characteristics tests for anything other than D018 through D043 are not excluded from being a hazardous waste. They must be managed under all applicable rules of generation, notification, manifesting, transportation, reporting and treatment or disposal by a permitted TSD facility.

When UST wastes are handled on the site of generation, the UST rules apply exclusively. Debris that does not fail the test for hazardousness is still regulated by the Solid Waste Management, non-hazardous program and/or the UST program. See Department of Environment and Conservation memo of December 10, 1991, by Tom Tiesler and Chuck Head for details. For handling requirements for clean-up of non-UST releases, see Department Memo of August 26, 1992, from Tiesler.

Media (water) that fails the characterization tests, including D001 through D017 of the TCLP, must be managed as a hazardous waste, subject to all the Hazardous Waste Rules, and can only be treated by a permitted TSD facility; unless it is handled on the site of generation, or recovery, where off-site wells are being pumped to recover petroleum products that have migrated off-site, under a UST corrective action.

Some groundwaters are pumped from wells, treated and reinjected through a second well. These waters are excluded from regulation as a hazardous waste as long as the conditions of the following rule are met.

Rule 0400-12-01-.02(1)(d)2(viii), Reads: "Injected groundwater that is hazardous only because it exhibits the Toxicity Characteristic (Hazardous Waste Codes D018 through D043 only) in subparagaraph (3)(e) of this rule that is reinjected through an underground injection well pursuant to free phase hydrocarbon recovery operations undertaken at petroleum refineries, petroleum marketing terminals, petroleum bulk plants, petroleum pipelines, and petroleum transpiration spill sites until January 25, 1993. This extension applies to recovery operations in existence, or for which contracts have been issued, on or before March 25, 1991. New operations involving injection wells (beginning after March 25, 1991) will qualify for this compliance date extension (until January 25, 1993), only if operations are performed pursuant to a written state agreement issued under the Tennessee Water Quality Control Act (T.C.A. 68-3-101 et. seq.) that includes a provision to assess the groundwater and the need for further remediation once the free phase recovery is completed."

EPA released an explanation of the TCLP applicability to UST and aboveground petroleum product tanks, October 12, 1990. This document offers some interesting guidance. In regard to USTs it reads: "Contaminated unused products pumped from USTs, from which product can be recovered, is not a solid waste. Therefore, this material cannot be hazardous waste subject to the TC Rule. However, TC toxic wastewater and other residues generated by this recovery are subject to the TC Rule."

The next paragraph of this document reads: "TC toxic residual materials that have not been pumped from USTs are subject to the TC Rule."

Still another reads: "TC toxic wastewaters from aboveground petroleum storage tanks is subject to the TC Final Rule and must be managed as a hazardous waste."

In Tennessee, anyone treating hazardous wastewaters not generated on-site by the treater will be required to have Interim Status or a full RCRA TSD facility permit. Recyclers of contaminated product not excluded under the TCLP will have to register with the Division of Solid Waste Management as a Recycler, obtain an EPA I.D. Number, notify on all hazardous waste streams generated by the recycling process, file Annual Reports, pay generator fees, and manage the hazardous wastes they generate in compliance with the appropriate rules.

This regulatory interpretation will supersede all previous interpretations on this subject, unless they are referenced in this interpretation.

_[Signature on File]_____	_09-28-1992_____
Tom Tiesler, Director	Date
Division of Solid Waste Management	

policy/notebook/pn022
Original: September 1992

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Disposal of Petroleum Contaminated Soil and Debris in Class I Landfills

POLICY

The purpose of this policy is to establish the criteria which must be met in order for soil, gravel, and/or absorbent materials (soil/debris) which has been contaminated with petroleum products (e.g. gasoline, diesel, kerosene, fuel oils, new and used oils) to be approved for disposal only in a Class I (Subtitle D) landfill in Tennessee. Such contaminated soil/debris is considered a "special waste" under Tennessee Rule Chapter 0400-11-01, Solid Waste Processing and Disposal, and may only be disposed in a landfill in Tennessee under one of the following scenarios.

SPECIAL WASTE EXEMPTION – SMALL QUANTITIES

Soil/debris contaminated from a traffic accident spill that contaminates environmental media with less than twenty five (25) gallons of petroleum and the total amount of soil/debris is less than five (5) cubic yards per accident, are exempt from special waste approval if disposed of in a Tennessee Class I landfill (with the landfill's permission). (See Division Policy 130.)

BLANKET SPECIAL WASTE APPROVAL

Class I landfills in Tennessee, unless they are under an enforcement order prohibiting the receipt of this waste, are granted blanket approval for soil/debris contaminated **only with transmission fluid, motor oil, and/or diesel** from traffic accident spills. De minimus amounts of motor coolant, battery acid and windshield washer fluid spilled from vehicles is allowable for landfill disposal under the blanket approval, but not if carried as cargo. Two conditions of this blanket approval are:

1. The generator signs a statement that the soil/debris is contaminated **only with transmission fluid, motor oil, and/or diesel** from a traffic accident; and

2. The landfill must maintain records of all petroleum contaminated soil/debris disposed under a blanket approval, including the generator statement required in item 1 above, the amounts disposed of for each accident, and the dates of disposal, for inspection by the Division.

SPECIAL WASTE APPROVAL

All petroleum contaminated soil/debris, not covered under exemption or a Class I landfill blanket approval described in the paragraph above is required to have individual special waste approval

from the Division in order to be disposed in a Class I landfill,. To apply for special waste approval, a Special Waste Evaluation Application must be submitted to the Division together with the applicable fee. (Applicable analytical data requested in the application must also be submitted.) The following are the three categories for petroleum contaminated soil/debris not covered under the exemption or blanket approval and the special waste requirements:

1. **Soil/debris contaminated with diesel, kerosene, fuel oils, and/or unused oil.** There is no requirement for the sampling and analyses of soil/debris contaminated **only** with diesel, kerosene, fuel oils, and/or unused oil. However, the generator must state on the special waste application that the soil/debris is contaminated with diesel, kerosene, fuel oils, and/or unused oil and is not contaminated with PCBs or other material(s) with hazardous constituent(s). If the soil/debris is also contaminated with gasoline, this must be stated on the application and the analyses required in item 2 below must be performed and submitted with the application. If the soil/debris could contain PCBs, then it must be representatively sampled and the sample(s) analyzed for PCBs. If the concentration of PCBs is equal to or exceeds 50 mg/kg, then the waste cannot be disposed of as a special waste and must be managed in accordance with Toxic Substances Control Act (TSCA) and 40 CFR 761. If the soil/debris could contain other material(s) with hazardous constituent(s), then a hazardous waste determination must be made in accordance with Rule Chapter 0400-12-01, which may require sampling and analyses of representative samples of the soil/debris.

2. **Soil/debris contaminated with gasoline.** Soil/debris contaminated with gasoline must be representatively sampled and the sample(s) analyzed for benzene. If the total amount of benzene in any sample is equal to or exceeds 10 mg/kg, then the sample(s) must be subjected to the Toxicity Characteristic Leaching Procedure (TCLP) and the extract analyzed to determine the concentration of benzene. If the concentration of benzene in the TCLP extract is equal to or exceeds 0.5 mg/l, then the waste is a hazardous waste and cannot be disposed of as a special waste and must be managed as a hazardous waste in accordance with Rule Chapter 0400-12-01.

   If the generator has reason to believe the soil/debris contaminated with gasoline contained lead, a representative sample of the waste must be analyzed for lead. If the total amount of lead in any sample is equal to or exceeds 100 mg/kg, then the sample(s) must be subjected to the TCLP and the extract analyzed to determine the concentration of lead. If the concentration of lead in the TCLP extract is equal to or exceeds 5 mg/l, then the waste is a hazardous waste and cannot be disposed of as a special waste and must be managed as a hazardous waste in accordance with Rule Chapter 0400-12-01.

   The generator must state on the special waste application that the soil/debris is not contaminated with PCBs or other material(s) with hazardous constituent(s). If the

soil/debris could contain PCBs, then it must be representatively sampled and the sample(s) analyzed for PCBs. If the concentration of PCBs is equal to or exceeds 50 mg/kg, then the waste cannot be disposed of as a special waste and must be managed in accordance with TSCA and 40 CFR 761. If the soil/debris could contain other material(s) with hazardous constituent(s), then a hazardous waste determination must be made in accordance with Rule Chapter 0400-12-01, which may require sampling and analyses of representative samples of the soil/debris.

3. **Soil/debris contaminated with used oil.** If the generator knows that the used oil does not contain PCBs and/or other material(s) with hazardous constituent(s), then no analyses is necessary. However, the generator must state on the special waste application that the used oil is not contaminated with PCBs or other material(s) with hazardous constituent(s). If the used oil could contain PCBs, then the soil/debris must be representatively sampled and the sample(s) analyzed for PCBs. If the concentration of PCBs is equal to or exceeds 50 mg/kg, then the waste cannot be disposed of as a special waste and must be managed in accordance with TSCA and 40 CFR 761. If the used oil could contain other material(s) with hazardous constituent(s), then a hazardous waste determination must be made in accordance with Rule Chapter 0400-12-01 which may require sampling and analyses of representative samples of the soil/debris. *(Note: Hazardous constituents are listed in Appendix VIII of Tennessee Rule 0400-12-01-.02.)*

A description of acceptable analytical methods for the most common petroleum contaminants is as follows:

1. Benzene – The current EPA Test Methods 8020 or 8260 from EPA Publication SW-846, Test Methods or Evaluating Solid Waste, Physical/Chemical Methods or an equivalent test method preapproved by the Division.
2. TCLP – EPA Toxicity Characteristic Leaching Procedure Test Method 1311 from EPA Publication SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods.
3. Lead – The current EPA Test Methods 6010, 7420 or 7421 from EPA Publication SW-846, Test Methods or Evaluating Solid Waste, Physical/Chemical Methods or an equivalent test method preapproved by the Division.
4. PCBs – The current EPA Test Method 8082 from EPA Publication SW-846, Test Methods or Evaluating Solid Waste, Physical/Chemical Methods or an equivalent test method preapproved by the Division.

[Signature on File]_____ 10-14-10_____
Mike Apple, Director Date
Division of Solid Waste Management

policy/notebook/pn026
Revision 4: October 2010

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Permit By Rule Application For Treatment Of Petroleum Contaminated Soils
POLICY

Introduction:

The following technical guidance is to be used by DSWM personnel in evaluating permit-by-rule notification for the treatment of petroleum contaminated soil. Since permit-by-rule authorization is for an indefinite period, all proposed treatment facilities must be reviewed as if they were permanent installations.

General:

A petroleum contaminated soils treatment facility (corporation) requires a permit-by-rule whenever soil from underground storage tanks (UST) is treated "off site", including:

1. UST contaminated soil treated on a site owned by a third party.

2. UST contaminated soil brought from out-of-state to be treated in Tennessee.

   A permit-by-rule is also required whenever petroleum contaminated soils from a source other than a UST cleanup are treated off site.

   Although the Division has received notifications from a number of commercial treatment operations, a permit-by-rule can be issued for offsite treatment of soils from a single source.

Notification Requirements:

The following minimum criteria are to be included in any notification package for a soil treatment facility in addition to a full discussion of the standard conditions found in Rule 0400-11-01-.02(1):

1. Storage: Petroleum contaminated soil is to be stored:

   - on an impermeable surface,
   - contained within an eighteen (18) inch high berm,
   - covered to protect from precipitation.

2. Treatment:

Three methods are currently used to treat petroleum contaminated soils. The applicant must fully describe the proposed treatment process.

A. Thermal:

-soil is introduced into a rotary kiln for 3-4 minutes at a temperature of 400-600 degrees Fahrenheit, at which temperature contaminants are vaporized,

-the vaporized contaminants are burned in an afterburner at a temperature of 1400-1600 degrees Fahrenheit.

B. Aeration:

-soils to be decontaminated are spread over an impermeable surface,

-the soil is totally enclosed by a berm to prevent storm water run-off and run-on,

-soil is to be spread to a depth of not more than two (2) feet,

-the remediation are is to be equipped with a leachate system.

C. Bioremediation:

-This procedure uses microorganisms (bacterial & fungi) to accelerate the degradation of wastes, and especially organic compounds.

-the site layout should be identical to the aeration process except the depth of soil may be greater in that contaminated soil is often placed on top of existing soils. Some type of impermeable layer is still required.

-nutrients, oxygen, and microorganisms are introduced and allowed to percolate down into the soil. (NOTE: A permit-by-rule is not required for on-site treatment.)

3. Sampling/Testing:/Records

For incoming (non-treated) UST soils, records of analytical data must be kept by the facility and made available to Division staff during inspection.

UST soils, which treatment is reviewed and approved (by Div. of UST) and qualify for the permit exemption at Rule 0400-11-01-.02(1)(b)3(xiv), do not require special waste approval.

Incoming (non-treated) soil from non-UST or out-of-state contaminated soils require Special Waste approval including analytical data and fees.

After treatment, the soil is to be sampled by the facility operator to determine if:

-it contains less than ten (10) ppm of benzene, toluene, and xylene (BTX) and less than one hundred (100) ppm total petroleum hydrocarbons (TPH).

-sampling points will be evenly distributed throughout the entire volume of soil.

-sampling points will be retrieved from sufficient depth in the soil piles to insure the collection of fresh samples.

-field sampling results determine which samples contain the highest levels of contamination, and

-these are to be submitted for laboratory analysis in accordance with the table below:

Volume of treated soil (Cubic Yards)	Number of samples or lab analysis
0 – 60	1
60 – 240	2
240 – 480	3
480 – 720	4

NOTE: For each additional 240 cubic yards of material, take an additional sample.

-submit results of the laboratory analysis to the Division identifying the sampling points.

-based on the results the Division will make a determination concerning the ultimate disposition of the soils.

The Permit by Rule facility will keep records showing soil disposition and location.

NOTE: Treated UST soil qualifying for the permit exemption at Rule 0400-11-01-.02(1)(b)3(xiv) is exempt from any further permit requirements or special waste requirements and may be used for:

-fill material
-landfill material

_____[Signature on File]_____ _____02/12/1996___
Tom Tiesler, Director Date
Division of Solid Waste Management

policy/notebook/pn019
Revision 1: February 1996

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Petroleum Contaminated Soils at Permit By Rule Facilities
POLICY

To ensure the uniform handling of the petroleum contaminated soils, the following procedures will be followed:

1. A special waste approval is not required on soils from a UST project that is authorized in the processing facility permit. Acceptable waste streams should be described in this facility notification package and finally approved by the DSWM when satisfactory. Documentation of the source of contaminated soils is required.

2. Treated UST soils may be evaluated for the regulatory exemption for use as fill material as provided at Rule 0400-11-01-.02(1)(b)3(xiv).

3. Other contaminated soils must be specifically authorized in the permit or may be evaluated as a special waste. Contaminated soils from outside Tennessee must be evaluated as a special waste.

4. Pretreatment samples are required to characterize the waste.

5. After treatment, the soils may be considered for landfill disposal or, as appropriate, it may be evaluated for the exemption at Rule 0400-11-01-.02(1)(b)3(xiv).

_[Signature on File]_____ _02/16/1996_____
Tom Tiesler, Director Date
Division of Solid Waste Management

policy/notebook/pn024
Revision 1: February 1996

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Delisted Waste in Class I Landfills
POLICY

In order to prevent any confusion or inconsistencies by parties who either generate delisted hazardous waste or those who determine its disposal, the following policy shall be implemented effective April 15, 1999.

Beginning upon that date, this Division shall not issue a special waste approval letter for the disposal of delisted hazardous waste unless the proposed disposal site is a Class I landfill which is in compliance with Rule 0400-11-01-.04(4). Further, adequate documentation must also be submitted confirming the waste has been delisted.

By restricting this disposal to those Class I landfills, there will be greater assurance that the waste will be handled in an expeditious manner, placed within an approved, lined facility with leachate monitoring controls, and the appropriate closure/post-closure requirements will be in place.

You should contact any generators that you know are currently disposing of their waste in landfills which do not meet this condition and inform them of this policy.

The ultimate decision of whether or not to accept the waste will still, however, rest with the landfill operator.

_[Signature on File]_____ _03-18-1999_____
Tom Tiesler, Director Date
Division of Solid Waste Management

policy/notebook/pn110
Revision 1: March 1999

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

F003 Solvent Still Bottoms
POLICY

The purpose of this memorandum is to explain how F003 solvent still bottoms were regulated in the past and how they are regulated now. I will also explain what we must do to implement the new regulations. Before we get into the new procedure, a re-examination of how we got to where we are currently is in order.

EPA defines the F003 listing in 40 CFR § 261.31 as:

"The following spent non-halogenated solvents: xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; all spent solvent mixtures/blends containing, before use, only the above spent non-halogenated solvents; and all spent solvent mixture/blends containing, before use, one or more of the above non-halogenated solvents, and, a total of ten percent or more (by volume) of one or more of those solvents listed in F001, F002, F004, and F005; and the still bottoms from the recovery of these spent solvents and spent solvent mixtures."

Tennessee, in the regulations that became effective January 4, 1988, defined F003 as:

"The following spent non-halogenated solvents: xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; all spent solvent mixtures/blends containing, before use, only the above non-halogenated solvents; and still bottoms from the recovery of these spent solvents and spent solvent mixtures ***unless the still bottoms no longer exhibit the characteristic of ignitability***."

The portion of the above listing description in bold italics was not then, nor has it ever been, a part of EPA's listing description. From that point until Tennessee's regulations, with an effective date of May 3, 1993, were in place, Tennessee was less stringent on this listing than EPA. This difference was discovered during an evaluation of an application for program authorization. Tennessee at that point was required to change the listing back to its original wording. During the period between January 4, 1988, and May 3, 1993, many Special Waste Approvals were given for F003 still bottoms to go to Subtitle D landfills because the regulations indicated that to be an acceptable management practice.

All this was further complicated by the promulgation of final regulations by EPA, restricting the land disposal of certain spent solvents; F001, F002, F003, F004, and F005, with an effective date of November 7, 1986. Due to lack of national capacity for proper handling of these wastes, EPA delayed the effective date of the restrictions until November 8, 1988. During this two year period, solvent wastes could still go to a Subtitle C landfill.

Since the Tennessee listing description was made the same as EPA again on May 3, 1993, there has been too much focus on meeting the land ban treatment standards and not enough on the fact that the still bottoms are F003 listed hazardous wastes, and thus, cannot legally be sent to a Subtitle D facility. The listing attaches at the point the solvents became spent, and remains until the waste has gone through a formal delisting, regardless of whether or not the solvents exhibit any of the characteristics for which they were listed. Since Tennessee has not applied for, nor been granted authorization for, the delisting part of the program, the delisting would have to be obtained from EPA.

Thus we see that F003 still bottoms are listed hazardous wastes and they must be treated to the land ban treatment standard and must be disposed in a Subtitle C landfill.

The only exception to the above is provided in 40 CFR § 261.3(a)(1)(iii), incorporated by reference at Rule 0400-12-01-.02(1)(a), which reads:

"It is a mixture of a solid waste and a hazardous waste that is listed in Subpart D of this part solely because it exhibits one or more of the characteristics of hazardous waste identified in Subpart C of this part, unless the resultant mixture no longer exhibits any characteristic of hazardous waste identified in Subpart C of this part, or unless the solid waste is excluded from regulation under § 261.4(b)(7) and the resultant mixture no longer exhibits any characteristic of hazardous waste identified in subpart C of this part for which the hazardous waste listed in subpart D of this part was listed. (However, nonwastewater mixtures are still subject to requirements of part 268 of this chapter, even if they no longer exhibit a characteristic at the point of land disposal)."

This exception means that F003 still bottoms could be mixed with solid waste (non-hazardous) to render the mixture not characteristically hazardous. It cannot be characteristically hazardous not only for the characteristic for which it was listed, but for all the characteristics, including all the parameters of TCLP. Once the mixture meets these criteria it could then be landfilled in a Subtitle D facility provided that: 1) the mixture meets the land disposal restrictions (LDR) treatment standards, and 2) has been granted a Special Waste Approval by the appropriate Field Office. It is the responsibility of the generator to demonstrate compliance with this exception.

Based on the above we must take two actions immediately: 1) No more Special Waste Approvals will be issued for F003 still bottoms to go to any Tennessee solid waste landfill, unless the generator can successfully demonstrate he can meet the exception above, and 2) those approvals that have been issued in the past must be rescinded. Each Field Office is to research their files and forward to the Waste Activity Audit Section, in the Central Office, a list of those people who have received approvals to dispose of F003 still bottoms in landfills and the amounts they are disposing of. This list is to be provided within 30 days of the date of this memo. This will enable us to stop this practice across the entire state at one time.

A copy of this memo may be given to anyone requesting it.

_[Signature on File]_____ _10-13-1995_____

Tom Tiesler, Director Date
Division of Solid Waste Management

policy/notebook/pn098
Original: October 1995

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Solid Rubber Wheels Disposal
POLICY

The attached letters address the difficulty of landfill disposal of "solid rubber" wheels. This example should be used as guidance to evaluate such solid rubber wheels as special waste when in bulk quantity. Solid wheels that may fit this category could include:

* tow motor wheels
* lawn mower wheels
* other industrial equipment wheels

Note that these and other solid rubber wheels are not typically able to be shredded. Further it is not necessary to shred them to effectively prevent floating in the landfill.

_[Signature on File]_____ _02-07-1995_____
Doye Rowland, Program Development Date
Division of Solid Waste Management

policy/notebook/pn034
Original: February 1995

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Waste Tires and Problem Waste Collection Sites
POLICY

Tennessee Code Annotated, Section 68-211-866(b) requires that each county provide a site to receive and store waste tires, used automotive oils and fluids, and lead acid batteries, if adequate sites are not otherwise available in the County for the use of the residents of the County. Furthermore, Tennessee code annotated, Section 68-211-867(a) bans the acceptance of whole, unshredded tires for disposal after December 31, 1994.

There are several counties in Tennessee that have not provided for collecting waste tires. The January 1, 1995, ban on the landfilling of whole tires makes this an urgent matter.

The Division would like to point out that counties can comply with the waste tire requirement in several ways. The choices are:

1. Establish a waste tire collection site at a permitted Class I, II, or IV landfill facility. This site must comply with Rule 0400-11-01-.04(2)(k)3 covering the management of waste tires. A copy of the relevant part of this rule is attached for your information. (Note that after December 31, 1994, item (I) of the referenced rule is no longer valid. Whole waste tires may not be intentionally disposed of under any circumstances.)

2. Establish a permit by rule storage site at another location for waste tire collection. This site must also comply with the management provisions of Rule 0400-11-01-.04(2)(k)3. (Note that after December 31, 1994, item (I) of the referenced rule is no longer valid. Whole waste tires may not be intentionally disposed of under any circumstances.)

3. Establish a transfer station for the collection of waste tires only. This will enable you to place a hard-wall enclosed trailer that may be supplied by a private firm under contract to collect and remove the waste tires. Such a transfer station does not require a permit <u>provided</u> that:

   (a) waste tires are only received from municipal or private collection vehicles <u>and</u> placed in another transportation unit, and

   (b) there is no solid waste processing. If any processing such as compacting, baling, shredding or separation takes place, a processing permit will be required.

4. Demonstrate to the division that adequate waste tire collection sites are available in the county for use by residents. Such a demonstration would require the submission of an assurance contract similar to the enclosed sample.

Please contact your local Division of Solid Waste Management Field Office for information regarding the rules and regulations governing the above choices.

There may be facilities currently available in your county that can accept some or all of the other problem wastes listed in the statute. Tennessee Code Annotated, Section 68-211-608(b)(1) requires retailers who sell lead-acid batteries accept used-lead acid batteries as trade-in batteries. If requested, some of these retailers may not require the purchase of a new lead-acid battery before they will accept used lead-acid batteries from the public. Regarding used oil and other automotive fluids, there may also be retailers in your county that may accept these fluids from county residents. The Division of Solid Waste Assistance has a database which contains the names of many private firms that will accept these materials. Locations have been identified in ninety of Tennessee's ninety-five counties, and new locations are being added daily. Contact our office at 615-532-0091 to obtain this information. However, if none are currently available and the county has not applied for a used oil collection grant, your assistance may be required to assist us with contacting interested parties that may be willing to help concerning this matter.

In conclusion, the Division of Solid Waste Assistance continues to offer any assistance possible concerning this matter. Waste tire and used oil collection grants remain available to counties to assist with the development of these facilities. Please contact our office at 615-532-0091 to receive more information concerning this and other assistance that we may be able to provide.

_[Signature on File]_____ _11-29-1994_____
Paul Evan Davis, Director Date
Division of Solid Waste Assistance

policy/notebook/pn031
Original: November 1994

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Used Oil Filter Recycling and Disposal
POLICY

Numerous questions have arisen concerning the disposal of used oil filters now that Tennessee has adopted the Toxicity Characteristics regulations. Outlined below are the options which generators may exercise in disposing of their used oil filters in Tennessee.

OPTION 1. RECYCLE THE OIL AND THE METAL FROM THE FILTERS

Used oil filters are exempted from regulation as a hazardous waste if both the metal from the filters and the used oil from the filters are recycled. To qualify for the scrap metal recycling exemption, free flowing oil must be removed from the filters through draining and crushing or disassembly of the filter prior to shipping to a metal recycler. Under the used oil recycling exemption, the physical processing of the filters (draining, crushing, and/or transporting) is not subject to regulation under the hazardous waste regulations and may be conducted by the generator or by another party at a different location. If the filter is disassembled, the remaining material is being granted a statewide special waste approval if the filter element is mechanically compressed to remove all free flowing oil and the oil is collected for recycling. The generator then certifies that the filter element and gaskets are nonhazardous and all free flowing oil has been removed. This certification is being accepted without TCLP testing based on published studies that have indicated that filters processed in this manner consistently pass the TCLP test.

OPTION 2. DRAIN AND CRUSH THE FILTERS, RECYCLE THE OIL AND DISPOSE OF THE FILTERS AS A SPECIAL WASTE IN ANY CLASS I LANDFILL

A statewide special waste approval is being granted for all used oil filters which are certified as nonhazardous and which have been properly drained and crushed, eliminating all free flowing oil. This certification is being accepted without TCLP testing based on published studies that have found that filters processed in this manner consistently pass the TCLP test. The crushing removes approximately 88% of the oil from the filter, with only about one ounce of oil remaining in the fiber filter element. This eliminates the leakage of oil from the fiber after it has been placed in a landfill. If the filter is properly drained and crushed, then it may be disposed of in any class I Landfill (with or without a synthetic liner) that is permitted in Tennessee. The oil removed during draining and crushing must be collected and properly recycled. Under the used oil recycling exemption, the physical processing of the filters (draining, crushing and/or transporting) is not subject to regulation under the hazardous waste regulations and may be conducted by the generator or by another party at a different location.

OPTION 3. PUNCTURE AND HOT DRAIN OR COLD DRAIN & DISPOSE OF AS SPECIAL WASTE IN A SUBTITLE D LANDFILL (SYNTHETIC LINER)

A statewide special waste approval is being granted for all used oil filters which are certified as nonhazardous and which have been punctured and hot drained for a minimum of (12) hours, or cold drained for twenty-four (24) hours. This certification is being accepted without TCLP testing based on published studies that have found that filters processed in this manner consistently pass the TCLP test. Hot draining is defined as when the filter is removed and the oil is drained at engine operating temperature. Cold draining is defined as when the draining begins at a temperature when the filter and oil are at less than engine operating temperature. At least one hole must be punctured in the dome end of the filter and the dome end pointed downward while being drained. Filters must be double bagged in 3mm (garbage) plastic bags and tied at the loose end prior to disposal. The oil removed during draining must be collected and properly recycled. Under the used oil recycling exemption, the physical processing of the filters (puncturing and draining and/or transporting) is not subject to regulation under the hazardous waste regulations. This option does not require that the filters be crushed as long as they are properly drained and disposed of in a permitted Class I landfill with a full Subtitle D synthetic liner and leachate collection system. Terne plated filters are not exempt under this approval and continue to be treated as a hazardous waste.

OPTION 4. DISPOSE OF THE FILTERS AS A HAZARDOUS WASTE

If a generator chooses not to recycle, crush, or puncture and hot or cold drain, then the filters are handled as a hazardous waste. Special waste approval will not be granted for filters that are not punctured and drained or drained and crushed. Any oil that drains from the filters must be disposed of as a hazardous waste if it is not recycled.

Should anyone wish to discuss this issue further, please contact the Used Oil Program at (615) 532-0780. Thanks for your cooperation in this matter.

_[Signature on File]_____ _10-15-1998_____
Tom Tiesler, Director Date
Division of Solid Waste Management

policy/notebook/pn033
Revision 2: October 1998

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Wood Waste – Open Burning
POLICY

In accordance with T.C.A. 68-211-104(2) Tennessee Solid Waste Disposal Act "it shall be unlawful to burn solid waste except in a manner prescribed by the Department and the Tennessee Air Pollution Control Board".

T.C.A. 68-201-115(c) Tennessee Air Quality Act states:

> "The provisions of this part do not apply to emissions from any air contaminant source, as that term is defined in this part, which burns wood waste solely for the disposition of such wood waste."

Rule 1200-3-4-.02(j) of the Tennessee Air Pollution Control Regulations defines wood waste as:

> "any product which has not lost its basic character as wood such as bark, sawdust, chips and chemically untreated lumber whose 'disposition' by open burning is solely to get rid of or destroy."

Rule 1200-3-4-.04(1)(e) further states:

(1) Open burning, as listed below, may be conducted without permits, subject to specified limitations and provided that no public nuisance is or will be created by such open burning. This grant of exception shall in no way relieve the person responsible for such burning from the consequences or the damages, injuries or claims resulting from such burning.

(e) Fires disposing of "wood waste" solely for the disposition of such wood waste as provided in T.C.A. 68-201-115(c). Priming materials used to facilitate such burning shall be limited to #1 or #2 grade fuel oils.

CONCLUSION

Open burning of solely natural wood waste as defined under the Tennessee Air Pollution Control Regulations is not within the statutory or regulatory purview of the Tennessee Department of Environment and Conservation. Persons inquiring as to this matter should be referred to the Tennessee Division of Air Pollution Control and other local authorities.

[Signature on File]
Tom Tiesler, Director
Division of Solid Waste Management

06-24-1996
Date

policy/notebook/pn094
Revision 1: June 1996

Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Wood Wastes From Chromated Copper Arsenate (CCA) Treated Wood
POLICY

Chromated Copper Arsenate (CCA) has been used as a preservative in treated wood for many years as a replacement for creosote. There are certain industries in Tennessee that use CCA treated wood in their manufacturing process. As a result, some of these industries generate large quantities of wood waste such as waste lumber, end cuts, and sawdust. For example, in East Tennessee an industry uses this wood in the production of outdoor furniture and generates approximately 600 tons/year of wood wastes.

This office has received documentation indicating sawdust from CCA contaminated wood waste may release chromium and arsenic levels that would cause the waste to be considered a characteristic hazardous waste, if not for the exemption found at rule 0400-12-01-.02(1)(d)2(iv).

The Division has, therefore, concluded that wood waste from affected industries should be considered a special waste and must be disposed of in a permitted Subtitle D Class I disposal facility. The wood waste is to be incorporated immediately into the working face at the landfill and may not be stored at the landfill. CCA wood wastes may not be used outside of the working face such as for a roadbed or similar use. The Division also recommends that loads of CCA sawdust be covered during transport to the landfill. By policy, the Division is granting an industry-wide special waste approval for these industries. The requirements for waste evaluation, special waste fees, and annual recertification are hereby waived.

It should be emphasized that the special waste designation only applies to CCA treated wood wastes generated as an industrial waste (Industrial waste as defined at rule 0400-11-01-.01(2)). This policy does not apply to homeowners or commercial/retail businesses such as hardware stores and construction sites.

(Signature on File) (11-7-01)

_____ _____

Mike Apple, Director Date
Division of Solid Waste Management

policy/notebook/pn119
Original: November 2001

APPENDIX

Archived Policies

The following policies have been archived because they are either no longer used by the Division or have been incorporated into other policies.

Policy	Policy Title
pn003	DSWM Region Contact Map (Online Contacts at Department Webpage)
pn015	Medical Waste – Non-Infectious Disposal (Incorporated with Policy 16)
pn017	Executive Order 33 – Moratorium on Medical Waste Incinerators
pn018	Executive Order 32 – Moratorium on Permitting Medical Waste Processing Facilities
pn020	TDOT Guidance Request – Contact With Contaminated Construction Areas
pn027	California GC Method for TPH Attachment
pn029	Contaminated Media Remediation Levels Memo
pn032	Liquid Restrictions Policy at Disposal Facilities/Units
pn035	Solid Rubber Wheels – Special Waste Inquiry Letter
pn036	Solid Rubber Wheels – Response Letter
pn037	Fluorescent Lamp, Ballasts, and Transformers
pn038	Mercury Containing Lamps and Lighting Ballasts
pn039	Fluorescent Light Recyclers
pn041	Disposal of Food Waste in Containers – Large Quantity Disposal
pn042	Food Product Commercial Solid Waste Letter
pn044	Concrete – On-Site Settled Solids Letter (Stormwater Issue)
pn046	Disposal of Concrete Washout Material Letter
pn047	Disposal of Hardened Concrete Letter
pn048	Tire Questions Letter
pn049	Foundry Sands – Reclamation of Surface Mines
pn058	Transfer of Registration (Moved Online to Permitting Forms)
pn068	Closed Landfills – Reopening
pn071	Applicability of the “Jackson Law”
pn076	CQA Inspection Checklist Form (Now managed as a form)
pn077	Policy and Procedure for Collection of Accounts Receivable
pn078	Collection of Accounts Payable and Receipt of Fees
pn079	Receipt of Fees
pn080	Penalty and Interest Procedures
pn081	Disposal Fee For Tires
pn085	DWPC and DSWM Sewage Sludge MOU
pn088	Landfill Disposal of Mercury Containing Lamps and Batteries
pn090	Application of Health Based Levels
pn092	Disposal of Special Waste in Class III and IV Disposal Facilities
pn093	Fly Ash/Bottom Ash Variance for Class II
pn099	Expiration Date For Operator Certification (Incorporated into pn103)
pn100	Local Government Approval
pn105	Annual Special Waste Recertification & Re-evaluation in Three Years
pn112	Mercury Containing Lamps (Rescinded 01/01/2011)