COMPREHENSIVE FACILITY AUDIT GUIDANCE DOCUMENT

North Carolina Department of Environment and Natural Resources
Division of Waste Management
Solid Waste Section

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1. Disclaimer

This is a guidance document created by the Comprehensive Facility Audit Team ("CFAT") composed of Environmental Senior Specialists, Engineers, and Safety Consultants. This document is intended solely as an internal agency guidance document. It includes guidance concerning waste screening programs, personnel training, facility operations, maintenance, engineering, special waste handling, site safety, environmental monitoring, nuisance control and record-keeping. Statutory or regulatory requirements are not in any way altered by statement(s) contained herein, nor are any statement(s) contained herein intended to create or impose new or different regulatory requirements not otherwise codified. Summaries or discussions of statutes and regulations which may be contained herein are not intended to be comprehensive and the reader is advised to consult the statute or regulation as appropriate. Nothing herein is to be construed as a legal opinion, nor is it intended as a substitute for the legal advice of counsel.

This guidance document is available for use in comprehensive municipal solid waste facility audits, as well as routine inspections of municipal solid waste facilities.

2. Operations Checklist for 15A NCAC 13B .1626.

The following is a checklist for evaluating a municipal solid waste facility's compliance with the Section .1626 of the Solid Waste Management Rules. The checklist is formatted to contain a recitation of the rule, followed by italicized notes. Please note, however, that the checklist does not necessarily contain a complete recitation of each subsection of Section .1626 in its entirety and a subsection may be paraphrased. Please consult 15A North Carolina Administrative Code 13B .1626 for a complete recitation of the rule. The italicized notes are intended for clarification and guidance and are not part of the rules. Additional guidance can be found in the U.S. EPA *RCRA Subtitle D Technical Training Manual*.

MSWLF INSPECTION CHECKLIST FOR 15A N.C.A.C. 13B .1626:

<u>Section .1626</u>: The owner or operator of any MSWLF unit must maintain and operate the facility in accordance with the requirements of the rules in section .1626, the facility permit and the operations plan as described in Rule .1625.

(1) Waste Acceptance and Disposal Requirements.

(a) An MSWLF shall only accept those solid wastes which it is permitted to receive. The landfill owner or operator shall notify the Division within 24 hours of attempted disposal of any waste the landfill is not permitted to receive, including waste from outside the area the landfill is permitted to serve.

Example: the first time observation of such things as incidental limbs, aluminum cans, a tire, or a white good are considered areas of concern; enforcement action will be considered for repeated observation of banned items or a load of banned items.

Also enforcement action will be considered for waste acceptance from outside of permitted service area.

(b) The following wastes are prohibited from disposal at an MSWLF unit:

Note: Enforcement action will be considered for any disposal of the following banned wastes.

(i) Hazardous waste as defined within 15A North Carolina Administrative Code 13A, to also include hazardous waste from conditionally exempt small quantity generators.
(ii) Polychlorinated biphenyls (PCB) waste as defined in 40 CFR 761 *(e.g. >50 ppm)***.**
(iii) Liquid wastes unless they are managed in accordance with Rule .1626 (9) of this section.

(c) Spoiled foods, animal carcasses, abattoir waste, hatchery waste, and other animal waste delivered to the disposal site shall be covered immediately.

Example: the first time observation of an uncovered animal carcass is an area of concern; enforcement action will be considered for repeated observations of an uncovered animal carcass or a load of uncovered animal carcasses.

(d) Asbestos waste shall be managed in accordance with 40 CFR 61. The waste shall be covered immediately with soil in a manner that will not cause airborne conditions and must be disposed of separate and apart from other solid wastes:

(i) At the bottom of the working face; or
(ii) In an area not contiguous with other disposal areas. Separate areas shall be clearly designated so that asebestos is not exposed by future land-disturbing activities.

Regulated asbestos waste shall be covered immediately with soil and future disturbance of area prevented. Enforcement action will be considered for any contravention of .1626 (d). The requirements also include any records as provided in 40 CFR 61, including "shipment records".

(e) Wastewater treatment sludges may only be accepted for disposal in accordance with the following conditions:

(i) Utilized as a soil conditioner and incorporated into or applied onto the vegetative growth layer but, in no case greater than six inches in depth.
(ii) Co-disposal if the facility meets all design requirements contained within Rule .1624, and approved within the permit, or has been previously approved as a permit condition.

Enforcement action will be considered for any contravention of (e).

(f) Owners or operators of all MSWLF units must implement a program at the facility for detecting and preventing the disposal of hazardous and liquid wastes. This program, at a minimum, must include the following:

(i) Random inspections of incoming loads or other comparable procedures;
(ii) Records of any inspections;
(iii) Training of facility personnel to recognize hazardous and liquid wastes; and
(iv) Development of a contingency plan to properly manage any identified hazardous and liquid wastes. The plan must address identification, removal, storage and final disposition of the waste.

The owner/operator is to determine the number of inspections required for an effective waste-screening program. Enforcement action will be considered if the facility is not randomly inspecting waste loads in accordance with waste screening plan. If any of the requirements stipulated in (i) through (iv) are omitted, enforcement action will be considered. If the rule is partially addressed, and it is the first waste screening violation, it may be considered an area of concern rather than taking enforcement action. However, if the rule is partially addressed, and it is not the first waste screening violation, enforcement action will be considered. Items banned by N.C. statutes, such as tires and white goods, should also be included in the waste-screening process. Please refer to the U.S. EPA RCRA Subtitle D Technical Training Manual *for further guidance, including training requirements.*

Training required by .1626 (1) (f) (iii) should include the following documentation of training procedures:

1. *Date of training*
2. *A statement asserting that the training included:*
   A. Recognition of regulated hazardous waste, liquid waste, PCBs and banned items.
   B. Hazardous waste safety precautions as required by the hazardous waste contingency plan.
3. *Written acknowledgement of training by facility personnel.*

(g) Waste placement shall be within the areal limits of the base liner system and in a manner consistent with the effective permit.

Base liner boundaries should be clearly marked. Enforcement action will be considered for any contravention of (g). Note: This subsection has been substantially paraphrased and the original version should be consulted for the actual wording.

(2) Cover Material Requirements.

(a) Except as provided in (2)(b) of this Paragraph, the owners or operators of all MSWLF units must cover disposed solid waste with six inches of earthen material at the end of each operating day, or at more frequent intervals if necessary, to control disease vectors, fires, odors, blowing litter, and scavenging.

Enforcement action will be considered if no daily cover is in place. If daily cover is inadequate and it is a first offense it may be an area of concern, depending on the degree of inadequacy. Enforcement action will be considered for repeated violations, with no or very little improvement. Seasonal variables (e.g. prolonged period of wet weather) may be taken into consideration and must be addressed in the facility contingency plan.

(b) Alternative materials of an alternative thickness (other than at least six inches of earthen material) may be approved by the Division if the owner or operator demonstrates that the alternative material and thickness control disease vectors, fires, odors, blowing litter and scavenging without presenting a threat to human health and the environment. A MSWLF owner or operator may apply for a generic approval of an alternative cover material, which would extend to all MSWLF units. .

Alternative cover materials must meet the requirements of subsection (a) for controlling disease vectors, fires, odors, blowing litter, and scavenging. Enforcement action will be considered for the use of an unapproved alternative cover material.

(c) Areas which will not have additional wastes placed on them for 12 months or more, but where final termination of disposal operations has not occurred, shall be covered with a minimum of one foot of intermediate cover.

Enforcement action will be considered for non-compliance with subsection (c).

(3) Disease vector control.

(a) Owners or operators of all MSWLF units must prevent or control on-site populations of disease vectors using techniques appropriate for the protection of human health and the environment.

(b) For purposes of this Item, "disease vectors" means any rodents, flies, mosquitoes, or other animals, including insects, capable of transmitting disease to humans.

Enforcement action will be considered if non-compliance with subsection (3)(a) is more than a daily cover issue.

(4) Explosive Gases Control.

(a) Owners or operators of all MSWLF units must ensure that:

(i) The concentration of methane gas generated by the facility does not exceed 25 percent of the lower explosive limits for methane in facility structures (excluding gas control or recovery system components);

Enforcement action will be considered for a violation of subsection (4) (a) (i). If methane is detected in concentrations less than 25%, then a comment may be made on the audit report. The comment should set deadlines for gas reduction methods to be in place.

(ii) The concentration of methane gas does not exceed the lower explosive limit for methane at the facility property boundary;

Enforcement action will be considered for a violation of subsection (4) (a) (ii). If landfill gas wells are not on the facility property line and exceedances exist, the facility operator should install gas monitoring wells at the facility property line immediately.

(b) Owners or operators of all MSWLF units must implement a routine methane monitoring program to ensure that the standards of (4)(a) are met.

Note: Subparts (i) and (ii) of subsection (4) (b) have been omitted and the codified version of the Rule should be consulted to view the subsection in its entirety. Under (4) (b) (ii), the minimum monitoring frequency is quarterly. The first omission of one event is an area of concern. Enforcement action will be considered for repeat violations or omissions of more than one event.

(c) If methane gas levels that exceed the limits specified in (4)(a) are detected, the owner or operator must follow steps outlined in 15A North Carolina Administrative Code 13B .1626(4)(c)(i),(ii), (iii), and (iv).

Please consult the codified rule to view Subparts (i), (ii), (iii), and (iv). Enforcement action will be considered for violations of (4) (c).

(5) Air Criteria.

(a) Owners or operators of all MSWLFs must ensure that the units do not violate any applicable requirements developed under a State Implementation Plan (SIP) approved or promulgated by the U.S. EPA Administrator pursuant to Section 110 of the Clean Air Act, as amended.

Consult the Division of Air Quality if violations are suspected or noted.

(b) Open burning of solid waste, except for the infrequent burning of land-clearing debris generated onsite or debris from emergency clean-up operations, is prohibited at all MSWLF units. Any such infrequent burning must be approved by the Division.

Enforcement action will be considered for noncompliance with subsection (5)(b).

(c) Equipment shall be on-site to control accidental fires or arrangements shall be made with the local fire protection agency to immediately provide fire-fighting services when needed.

Non-compliance is an area of concern for a first time occurrence.

(d) Fires that occur at an MSWLF require verbal notice to the Division within 24 hours and written notification shall be submitted within 15 days. .

Enforcement action will be considered for non-compliance.

(6) Access and Safety Requirements.

(a) The MSWLF shall be adequately secured by means of gates, chains, berms, fences and other security measures approved by the Division to prevent unauthorized entry.

Non-compliance is an area of concern for a first time occurrence. Enforcement action will be considered for repeated violations, resulting from ineffective security measures.

(b) An attendant shall be on duty at the site at all times it is open for public use to ensure compliance with operational requirements.

A certified operator (i.e. a person who has passed an approved operator training course) must be onsite at all times. Enforcement action will be considered for non-compliance.

(c) The access road to the site shall be of all-weather construction and maintained in good condition.

Non-compliance is an area of concern. Enforcement action will be considered for repeated violations.

(d) Dust control measures shall be implemented when necessary.

Non-compliance is an area of concern. Because of the obvious safety hazards for onsite workers and the public enforcement action will be considered for repeated offenses. Other examples of things that may rise to the level of necessitating enforcement action might include reduced visibility, neighbor complaints, or the lack of working dust control equipment at the facility.

(e) Signs providing information on dumping procedures, the hours which the site is open for public use, the permit number and other pertinent information specified in the permit conditions shall be posted at the site entrance.

Signs lacking the required information is an area of concern. Enforcement action will be considered for absence of a sign.

(f) Signs shall be posted stating that no hazardous or liquid waste can be received.

Enforcement action will be considered for non-compliance.

(g) Traffic signs or markers shall be provided as necessary to promote an orderly traffic pattern to and from the discharge area and to maintain efficient operating conditions.

Non-compliance is an area of concern. Enforcement action will be considered for repeated offenses.

(h) The removal of solid waste from an MSWLF is prohibited unless the owner or operator approves and the removal is not performed on the working face.

Enforcement action will be considered for non-compliance which consists of allowing scavenging or material recovery from working face by the public.

(i) Barrels and drums shall not be disposed of unless they are empty and perforated sufficiently to ensure that no liquid or hazardous waste is contained therein, except fiber drums containing asbestos.

Enforcement action will be considered for non-compliance. Both ends have to be removed or perforated.

(7) Erosion and Sedimentation Control Requirements.

(a) Adequate sediment control measures (structures or devices) shall be utilized to prevent silt from leaving the MSWLF facility.

Non-compliance is an area of concern. Lack of on-going maintenance of erosion control devices is an area of concern. Enforcement action will be considered for repeated offenses. Enforcement action will be considered if sediment goes beyond the permitted boundary or into an onsite surface water body that is not an approved erosion and sediment control device.

(b) Adequate sediment control measures (structures or devices) shall be utilized to prevent excessive onsite erosion.

Enforcement action will be considered for non-compliance.

(c) Provisions for a vegetative ground cover sufficient to restrain erosion must be accomplished within 30 working days or 120 calendar days upon completion of any phase of MSWLF development.

It is expected that a vegetative cover will be established as quickly as possible on any bare areas to prevent erosion of cover and/or cap materials. Enforcement action will be considered for non-compliance.

(8) Drainage Control and Water Protection Requirements.

(a) Surface water shall be diverted from the operational area.

It is beneficial to the operator to divert surface water from operational area to minimize the amount of leachate to be treated. Enforcement action will be considered for non-compliance.

(b) Surface water shall not be impounded over or in waste.

Non-compliance is an area of concern unless related to or causing another problem (e.g. leachate breaking out, vectors). In such cases, enforcement action will be considered. It is beneficial to the operator to divert surface water from operational area to minimize the amount of leachate to be treated. Enforcement action will be considered for failure to address issues creating impounded water.

(c) Solid waste shall not be disposed of in water.

Enforcement action will be considered for non-compliance.

(d) Leachate shall be contained onsite or properly treated prior to discharge. An NPDES permit may be required prior to the discharge of leachate to surface waters.

Enforcement action will be considered for non-compliance if leachate leaves a lined area or leachate collection system.

(e) MSWLF units shall not cause a discharge into waters of the United States.

Please note that subsection (e) has been paraphrased; subparts (i) and (ii) of subsection (8)(e) have not been restated. Please consult the codified rule to view Subparts (i) and (ii). Enforcement action will be considered for non-compliance under (8) (e) (i) or (e) (ii).

(9) Liquid Restrictions.

(a) Bulk or non-containerized liquid waste may not be placed in MSWLF units unless:

(i) The waste is household waste other than septic waste and waste oil; or

(ii) The waste is leachate or gas condensate derived from the MSWLF unit, whether it is a new or existing MSWLF unit or lateral expansion. The unit must be designed with a composite liner and leachate collection system as described within Rule .1624 of this Section.

Enforcement action will be considered for non-compliance with (9) (a).

(b) Containers holding liquid wastes may not be placed in the MSWLF unit unless:
(i) The container is a small container similar in size to that normally found in household waste;
(ii) The container is designed to hold liquids for use other than storage; or
(iii) The waste is household waste.

Enforcement action will be considered for non-compliance with (9) (b).

(10) Recordkeeping Requirements.

(a) The owner or operator of an MSWLF unit must record and retain at the facility, or an alternative location near the facility approved by the Division, in an operating record the following information as it becomes available: *[Refer also to county policies for publicly owned facilities.]*

(i) Inspection records, waste determination records, and training procedures required in Item (1) of this Rule;

(ii) Amounts by weight of solid waste received at the facility to include source of generation;

(iii) Gas monitoring results and any remediation plans required by Item (4) of this Rule;

(iv) Any demonstration, certification, finding, monitoring, testing, or analytical data required by Rules .1630 through .1637 of this Section;

(v) Any monitoring, testing, or analytical data as required by Rule .1627 of this Section; and

(vi) Any cost estimates and financial assurance documentation required by Rule .1628 of this Section.

Incomplete onsite recordkeeping is an area of concern. Enforcement action will be considered for repeated non-compliance or absence of onsite records that are required in (i) – (vi).

(b) All information contained in the operating record must be furnished upon request to the Division or be made available at all reasonable times for inspection by the Division.

Enforcement action will be considered for non-compliance.

(c) The owner or operator must maintain a copy of the operation plan required by Rule .1625 of this Section at the facility.

Enforcement action will be considered for non-compliance.

Other documents that should be available for review are records required by 40 CFR 61 [asbestos rules – see also .1626 (1) (d)], the contingency plan required in .1626 (1) (f) (iv), scrap tire certification forms and records of all monitoring information required by the facility permit (.1604 (2) (K) (ii).

(11) Spreading and Compacting Requirements.

(a) MSWLF units shall restrict solid waste into the smallest area feasible.

Meeting the requirements is beneficial to the operator (e.g. minimizes the amount of cover material needed if the working face is small). Therefore, large active areas will be considered an area of concern, unless non-compliance is related to or causing another problem (e.g. persistent wind blown waste, vector control).

(b) Solid waste shall be compacted as densely as practical into cells.

Normally, non-compliance is not a problem because the operator realizes the benefit of conserving expensive landfill space and reducing excessive void space for the generation of leachate and gas. The lack of compaction is an area of concern because of the other operational requirements it will affect (e.g. uniform cover thickness and grade, standing water).

(c) Appropriate methods such as fencing and diking shall be provided within the area to confine solid waste subject to be blown by the wind. At the conclusion of each day of operation, all windblown material resulting from the operation shall be collected and returned to the area by the owner or operator.

If the methods do not confine solid waste to the active cell or there is has been no attempt to control and collect blowing paper, enforcement action will be considered. Weather conditions will be taken into consideration.

(12) Leachate Management Plan.

The owner or operator of an MSWLF unit designed with a leachate collection system must establish and maintain a leachate management plan which, at a minimum, includes the following:

(a) Periodic maintenance of the leachate collection system;

At a minimum, annual inspections by the facility are recommended. An example of a situation that would be a candidate for enforcement action includes circumstances where a problem occurs that could have been prevented by conducting annual or more frequent inspections, and/or the facility has no records of routine inspections/maintenance. Other required leachate system inspection reports include above and under ground leachate storage tank inspections [.1680 (c)(5) and (d) (5) respectively]. Enforcement action will be taken if a leachate release occurs outside the lined cell.

(b) Maintaining records for the amounts of leachate generated;

Enforcement action will be considered for non-compliance if records are not being generated or kept.

(c) Semi-annual leachate quality sampling;

Enforcement action will be considered for non-compliance.

(d) Approval for final leachate disposal; and

Enforcement action will be considered for non-compliance.

(e) A contingency plan for extreme operational conditions.

Enforcement action will be considered for non-compliance.

3. Additional Guidance on Section .1626.

3.1. Waste Screening Practices

The following section explains waste screening and acceptance practices.

3.1.1. General Guidelines

An inspection should inquire into whether the facility has trained all appropriate facility personnel to recognize liquid, hazardous, and PCB waste, in addition to banned items, as well as whether the facility has updated its personnel training concerning hazardous waste detection and recognition periodically (recommended minimum is annually).

Determine whether the facility thoroughly screens at least one percent of the waste stream, concentrating on loads of waste from industrial and commercial generators. The approved operations plan for the facility contains a description of the construction and location of the screening area. Document your findings on a written inspection form. An example form is included in the attachment section.

If hazardous waste is detected, use the steps outlined in the facility's contingency plan.

Pay particular attention to sludges coming to the landfill for disposal. Sludges may contain hazardous substances and need to be analyzed by an appropriate laboratory. Material found to be within appropriate limits may be accepted for disposal. Data from the analysis should be kept by the facility in the waste determination file.

Unlike the Federal EPA Subtitle D regulations, the North Carolina Solid Waste Management rules [15A North Carolina Administrative Code 13B .1626(1)(b)(i)] prohibit the disposal of hazardous waste from conditionally exempt small quantity generators in North Carolina MSW landfills, but does not preclude the acceptance of household hazardous waste.

In addition to the guidelines above, it is recommended during your inspection that you: 1) ask questions of the generator or hauler at the gate concerning the content(s) and source(s) of a load; and 2) visit industrial facilities in the operational area of the facility to gain knowledge regarding waste generation patterns and disposal practices.

3.1.2. Banned and Excluded Items in MSWLF

Excluded Items	Applicable Regulation
Hazardous waste	15A NCAC 13B .1626(1)(b)(i) (see attached Hazardous Waste Management Guideline)
PCB waste	15A NCAC 13B .1626(1)(b)(ii)
Liquid waste	15A NCAC 13B .1626(1)(b)(iii)
Used oil	GS 130A-309.10(f)(2) 15A NCAC 13B .1604 (b) (2) (N) (ii)
Yard trash	GS 130A-309.10(f)(3) 15A NCAC 13B .1604(b)(2)(N)(iii)
White goods	GS 130A-309.10(f)(4) 15A NCAC 13B .1604(b)(2)(N)(i)
Antifreeze (ethylene glycol)	GS 130A-309.10 (f) (5)
Aluminum cans	GS 130A-309.10 (f) (6)
Lead acid batteries	GS 130A-309.70 (a) 15A NCAC 13B .1604 (b) (2) (N) (ii)
Whole scrap tires	GS 130A-309.58 (b) 15A NCAC 13B .1604 (b)(2)(N)(ii) and 1104(a)
Beverage containers (effective January 1, 2008)	GS 130A-309.10 (f) (9) G.S. 18B-1006.1
Motor vehicle oil filters (effective October 1, 2009)	GS 130A-309.10 (f) (10)
Certain recyclable rigid plastic containers (effective October 1, 2009)	GS 130A-309.10 (f) (11)
Wooden pallets (effective October 1, 2009)	GS 130A-309.10 (f) (12)
Oyster shells	GS 130A-309.10 (f) (13)

3.1.3. Wastes excluded from MSWLFs Through Waste Determination and Rules

1. **Petroleum contaminated soils and absorbents** such as booms containing oil. One exception to this is waste generated in the cleanup of incidental spills of petroleum products at service stations, garages and auto dealerships. An "incidental spill" is defined as a spill for which no more than (1, 2 or 3) gallons of absorbent material is used to clean up the oil. Wastes from large spills or larger quantity generators must use disposal options other than MSW landfills, even if the absorbent claims to aid in the biodegradation of the petroleum product.

2. **Free liquids as defined in EPA SW 846, Method 9095** paint filter test. If any portion of a 100 ml or 100 g representative sample passes through a mesh

number 60 (fine meshed) paint filter within 5 minutes, then the material is deemed to contain free liquids. Wastes containing free liquids are excluded from disposal in MSWLF. However, assuming the chemistry allows disposal, a waste that has only the paint filter test obstacle can be treated to be acceptable. The liquid can be removed by mechanical means and properly disposed of, or the waste can be mixed with a dry material and have the liquid adsorbed/absolved (solidified) prior to transport to the landfill. The paint filter test is particularly applicable to sludges. Sludges that contain free liquids cannot be disposed in a MSWLF.

3. **Polychlorinated Biphenyl (PCB) waste** of 50 ppm or greater are excluded. .1626 (1) (b) (ii) and (40 CFR 761).

4. **Lacquer dusts containing nitro cellulose**, such as that generated in furniture finishing, due to the autoignition (spontaneous combustion) property of this type of waste. Overspray waste generated in furniture finishing can become a listed hazardous waste. This occurs if "F" listed solvents are used in cleaning out the spray guns and the clean-up solvents are sprayed onto the overspray waste. Listed hazardous wastes can not be disposed of in MSWLFs.

3.1.4. Gasoline Tanks Removed from Automobiles

Some automobile gasoline tanks were constructed from steel coated with a lead-tin alloy composed of 85-97 percent lead and 3-15 percent tin. This process is called terne coating. This terne coated steel has been used to fabricate some (usually large sized) automotive oil filters. The terne coated filters exhibited TCLP leachability for lead well in excess of the 5.0 ppm EPA hazardous threshold and were designated as characteristically hazardous by EPA.

Non-terne coated metal gas tanks can be landfilled if the operator concurs, but only if the tanks do not contain any explosive vapors or free liquids, and if the generator demonstrates to the satisfaction of the operator that the tanks are not hazardous by TCLP testing. If the operator concurs, non-terne coated gas tanks can be disposed of in landfills, provided that they do not contain any free liquids. Gas tanks that are accepted must be perforated or otherwise rendered incapable of retaining liquids. An infrastructure for recycling gas tanks exists. Inquiries regarding recycling of gas tanks can be directed to either the Institute for Scrap Recycling Industries at 202-737-1770, www.isri.org, or the Carolina Auto Recyclers at . 1-866-622-7762 or 1-919-581-0799, www.carolinaautorecyclers.com, e-mail address: infor@carolinaautorrecyclers.com.

3.1.5. Car Wash Sediment

The Solid Waste Section processed waste determinations for car wash sediments (sludges) for over five years in the early 1990's. These waste determinations

required, at minimum, TCLP data on metals, pH and testing to pass the paint filter test. Since no problems were encountered with any samples in terms of pH or leachable metals, the Section stopped performing waste determinations on these wastes. Landfills can refuse to accept these wastes if they choose. If accepted, the waste must not contain free liquids and must be de-watered before it is acceptable for landfill disposal.

3.1..6 Lights Containing Mercury (LCMs)

Fluorescent light tubes may contain mercury. Commercially generated quantities of fluorescent light tubes must be tested and verified as non-hazardous before they can be disposed of in a MSWLF in North Carolina.

3.1.7. Lighting Ballasts

Fluorescent lighting fixtures contain ballast used to stabilize the fixture's operation. Ballast that contains PCBs are not marked on the outside to indicate the presence of PCBs. Unmarked ballast should be analyzed to determine if PCBs are present. The regulatory limit of <50 ppm would have to be determined prior to disposal in a MSWLF in North Carolina. Ballasts that do not contain PCBs are clearly marked with the statement "No PCBs" and can be landfilled in a MSWLF without analysis.

3.1.8. Asbestos Waste

Friable asbestos waste (when dry can be crumbled, pulverized, or reduced to a powder by hand pressure) should be delivered to an MSWLF in properly labeled, leak-tight containers accompanied by waste shipment records. These forms identify the generator, transporter, disposal facility, and the amount of friable asbestos to be disposed. 40 C.F.R. 61, the National Emission Standards for Hazardous Air Pollutants (NESHAP), regulates friable asbestos. In North Carolina, this Act is administered by the Health Hazards Control Branch. When an MSWLF receives friable asbestos, it shall be covered with soil immediately in a manner that will not cause airborne conditions. It should be placed at the bottom of the working face or in an area not contiguous with other disposal areas. Separate areas shall be clearly designated so that asbestos is not exposed by future land disturbing activities.

Caution: An MSWLF could receive friable asbestos waste from homeowners and non-friable asbestos waste (each not regulated by NESHAP) which, if not handled properly, can pose a threat to facility operators as well as the general public. This waste should be disposed of in a manner that prevents any airborne emissions of the waste.

Examples of potential asbestos waste: built-up roofing, asphalt shingles, transit boards or panels.

For further guidance, please contact the Health Hazards Control Unit , within the Division of Public Health within the Department of Health and Human Services, at www.epi.state.nc.us/epi/asbestos/healthaz.html.

3.1.9. Used Oil Filters

Disposal of used oil in NC landfills is prohibited unless approved by the Division of Waste Management. All petroleum wastes contain benzene. If 0.5 mg/L or greater leaches out in the TCLP test, the waste is hazardous and must be handled as such. Hazardous wastes cannot be placed in any North Carolina landfill.

Laboratory results have shown that used oil filters that have been drained for 24 hours pass the TCLP. These can therefore be landfilled in North Carolina MSWLFs. Oil filters that have antilock valves must be punctured in order for them to drain properly. All terne coated oil filters are hazardous due to >5.00 ppm leachable lead and cannot be landfilled. The generator(s) must handle them as they handle any other hazardous waste.

Generators of large quantity of used oil filters are requested to crush filters or use other means (e.g. pressurized air) to remove as much oil as possible before sending them to a sanitary landfill.

Recycling is preferred. An updated list of the recycling Markets Directory can be found at the Division of Pollution Prevention and Environmental Assistance's webpage, www.p2pays.org.

3.2. Explosive Gas Guidance (Methane Monitoring)

3.2.1. Introduction

North Carolina Solid Waste Management Rule 15A NCAC 13B .1626 (4) regulates methane gas. The goal is to ensure that methane gas levels do not exceed the lower explosive limit at the facility property boundary or 25 percent of the lower explosive limit in facility structures. If the concentration exceeds the specified limits, steps must be taken to protect the public health and a remediation plan must be implemented. To help make certain these performance standards are met, it is necessary to have a technical monitoring procedure.

3.2.2. Background

Organic matter in landfills begins to decompose almost immediately after being placed in a disposal site. Putrescible wastes, such as food products and sewage sludges, begin to break down by biological processes very rapidly. Paper, cardboard or cellulose based materials are more slow to decompose. Decomposition typically goes through several stages that depend on various

factors such as pH, temperature, and moisture content. The final stage of decomposition produces methane.

Methane is not toxic, but it is explosive at concentrations between 5 and 15 percent when sufficient oxygen is present. Landfill gas typically has a methane concentration of 40 to 55 percent volume in air. Methane is odorless and slightly lighter than air. It will accumulate in confined spaces and if ignited, may explode or cause fire, either of which has the potential to cause harm or injury.

Methane moves from place to place by diffusion and pressure gradient. It takes the path of least resistance and small seams of porous soil can transmit large quantities. Underground, off-site migration is common. Movement depends on soil type and moisture. Migration distances of 1,500 feet have been observed. Barometric pressure also influences movement. Falling barometric pressure can cause more methane to be released from a landfill and into surrounding areas. Conversely, rising barometric pressure can reduce the amount of methane released from a landfill. Therefore, recording the barometric pressure while gather methane readings at a facility can be very useful in predicting the true absence/or presence of methane and when dangerous releases are more likely to occur.

3.2.3. Instrumentation

Portable field instruments used to measure methane come in many shapes and sizes. Instruments differ in operational principles and may have certain limitations, depending on the circumstances. For example, some instruments may give false readings when methane concentrations are greater than the lower explosive limit and oxygen levels are low. It is very important that the operator understands the principles of operation and follows the manufacturer's instructions. This includes calibrating the instrument as directed. Measurements from non-calibrated or inaccurately calibrated instruments are not reliable.

3.2.4. Landfill Gas Monitoring Well Construction

All methane monitoring wells should be fitted with a cap that has a stopcock type valve that can be opened or closed to control flow. The valve should have a barb connection that will fit the gas meter's inlet probe tube. The valve should be closed between monitoring events. If the well caps do not have stopcocks, they should be installed.

3.2.5. Monitoring Procedure

The Solid Waste Section's approach to measuring methane concentrations in monitoring wells is conservative. Any accumulation of methane in a well is the result of methane migration. The possibility exists that, just as methane can migrate and accumulate in monitoring wells, it can do the same in buildings and

structures. Because subsurface gas pressures are considered to be at a maximum during the afternoon, measurements should be taken in the afternoon. The following procedure is recommended for sampling methane gas monitoring wells:

1. Calibrate the combustible gas meter according to the manufacturer's instructions.

2. Attach the gas analyzer probe tubing to the monitoring well stopcock on the well cap.

3. Open the valve and record the reading.

4. Record the methane gas concentration.

5. Turn the valve to the off position and disconnect the probe tubing.

6. Purge the probe and recheck to determine rate of flow and to clear the probe to zero for the next reading.

7. Proceed to the next well and repeat steps 2 through 5.

3.3. Air Criteria (Fire Control)

In North Carolina, the operator of a lined, subtitle D facility must provide equipment to control accidental fires or document arrangements made with a local fire protection agency to immediately provide fire-fighting services when needed, pursuant to 15A NCAC 13B .1626 (5) (c). Fires that occur at a MSWLF require verbal notice to the Division, preferably to the nearest Regional Office, within 24 hours of the fire. Written notification within 15 days, pursuant to 15A NCAC 13B .1626 (5) (d) is also required.

Rapid, aggressive, control of accidental landfill fires is crucial to prevent uncontrolled, problem fires. Of course, hot ashes and cinders should not be accepted at a landfill. The waste screening program should address identification and rejection of loads containing hot ashes and cinders. Required safety equipment, such as fire extinguishers, should be inspected as needed to maintain equipment in good working order. Personnel training on the proper use of equipment should be provided. Finally, the clear instruction on use of fire fighting equipment should be provided to facility staff. Records should be kept on all inspections and training concerning the safe and proper use of all fire fighting equipment.

3.4. Record Keeping

During a comprehensive facility audit, the records listed below in Sections 3.4.1 through 3.4.6 will be requested for inspection. See 15A N.C.A.C. 13B .1626(10).

3.4.1. Operating record

1. Outline of waste screening program for detecting and preventing disposal of hazardous waste, liquid waste, PCB waste and banned items. Refer to waste screening section for banned items.

2. Records of screening inspections.

3. Outline of training of each facility personnel to recognize liquid waste, hazardous waste, PCB waste, and banned items. This training is required by .1626(1)(f)(iii). The operating record should include the following documentation of training:

   a) Date(s) of training
   b) A statement asserting that the training includes:
      1) Recognition of regulated hazardous waste, liquid waste, PCB waste and banned items.
      2) Hazardous waste safety precautions as required by the hazardous waste contingency plan.
   c) Written acknowledgment of training by all facility personnel.

4. Waste determination records.

5. Amounts by weight of solid waste received at the facility, including the source of generation.

6. Gas monitoring results and any remediation plans required. See the environmental monitoring section for suggested methane monitoring protocol.

7. Any monitoring, testing or analytical data as required by 15A N.C.A.C. 13B .1627 closure and post-closure requirements for MSWLF facilities.

8. Any cost estimates and financial assurance documentation required by 15A N.C.A.C. 13B .1628. See appendix for further information.

9. Any documentation that a site located within 5,000 feet of an airport that is used by only piston-powered aircraft or within 10,000 feet of a runway that is used by turbine powered aircraft does not pose a bird hazard to aircraft as required by 15A N.C.A.C. 13B .1622(1)(C).

3.4.2. General Monitoring Records

1. Records of all monitoring information - active life and post-closure.
2. Records of monitoring information shall include the following:
   (a) Date, place, and time of sampling or measurements.

(b) Individuals who performed the samplings.
(c) Analyses date.
(d) Individual who performed the analyses.
(e) Analytical techniques and methods used.
(f) Analytical results. See 15A N.C.A.C. 13B .1604 (b) 2 (K) (i) and (ii)

3.4.3. Records - Explosive Gases

1. Methane gas levels exceeding regulatory limits and description of steps taken to protect human health. [15A N.C.A.C. 13B .1626 (4) (c) (ii)]
2. Copy of remediation plan. [15A N.C.A.C. 13B .1626 (4) (c) (iii)]
3. Gas monitoring results and remediation plans. [15A N.C.A.C. 13B .1626(10) (a) (iii)]

3.4.4. Records - Groundwater Monitoring

1. Documentation from the Division of the approval for the design, installation, development, and decommission of any monitoring well or piezometer. [15A N.C.A.C. .1631 (b) (1)]

2. A copy of the approved monitoring plan, including information on the number, spacing, location, and design of the monitoring wells. [15A N.C.A.C. 13B .1631 (b) (1)]

3. A copy of the approved groundwater sampling and analysis plan, including procedures and techniques for: sample collection, sample preservation and shipment, analytical procedures, chain of custody (COC), and QA/QC. [15A N.C.A.C. 13B .1632(a)]

4. For each sampling event, a report that includes all information from each sampling event, including: field observations, field data, laboratory data, statistical analysis, sampling methodologies, QA/QC data, groundwater flow directions and rates for each monitoring well, and for each monitoring well, any constituents that exceed groundwater standards or show a statistically significant increase over background levels. [15A N.C.A.C. 13B .1632 (j)]

5. A notice indicating which constituents have shown statistically significant changes from background levels. [15A N.C.A.C. 13B .1633(c)(1)]

6. A report documenting any demonstration that statistically significant increases resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality, or that a source other than the landfill caused the contamination. [15A N.C.A.C. 13B .1633(c)(3)]

7. A notice identifying the Appendix II constituents detected. [15A N.C.A.C. 13B .1634(d)(1)]

8. A report from each sampling event. [15A N.C.A.C. 13B .1634 (d) (2)]

9. A notice if one or more Appendix II constituents are detected at statistically significant levels above the approved groundwater protection standards in any sampling event. [15A N.C.A.C. 13B .1634 (g)]

10. A report documenting any demonstration that statistically significant increases resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality or that a source other than the landfill caused the contamination. [15A N.C.A.C. 13B .1634 (g) (2)]

11. Any permit modification necessary to document the selection of a remedy based on the results of the corrective measures assessment. [15A N.C.A.C. .1636 (a)]

12. Any report justifying alternative (corrective) measures. [15A N.C.A.C. 13B .1637 (c) (4)]

13. A report documenting that the (corrective action) remedy has been completed. [15A N.C.A.C. 13B .1637 (f)]

3.4.5. OTHER REQUIRED RECORDS

1. Hazardous waste contingency plan to properly manage any identified hazardous and liquid wastes. The plan must address identification, removal, storage and final disposition of the waste.

2. Records required by 40 CFR 61 (asbestos rules).

3. Scrap tire certification forms (scrap tire collection, processing and disposal sites). [N.C.G.S. §130A-309.58(f)]. Records of annual fire safety survey should also be kept at the facility.

4. Operations plan

5. Inspection reports of above ground leachate storage tanks (if applicable) [15A N.C.A.C. 13B .1680(c)(5)]

6. Inspection reports of underground leachate storage tanks (if applicable) [15A N.C.A.C. 13B .1680(d)(5)]

7. Inspection reports of leachate collection systems.

8. Records of all monitoring information required by the Permit. [15A N.C.A.C. 13B .1604(2)(K)(ii)]

8. White Goods Management Plan. [N.C.G.S. § 130A-309.81(c)]

3.4.6. Tire Collection, Processing and Disposal Records

1. A fire safety survey shall be conducted annually by local fire protection authorities or other persons as approved by the Division. [15A N.C.A.C. 13B .1107(2)(f)]

2. Emergency preparedness manual. The manual shall be updated at least once a year, upon changes in operations at the site, or as required by the Department. [15A N.C.A.C. 13B .1107(2)(i)]. The manual shall contain the following elements:

   (i) A list of names and numbers of persons to be contacted in the event of a fire, flood or other emergency;

   (ii) A list of the emergency response equipment at the scrap tire collection site, its location, and how it should be used in the event of a fire or other emergency;

   (iii) A description of the procedures that should be followed in the event of a fire, including procedures to contain and dispose of the oily material generated by the combustion of large numbers of tires; and

   (iv) A listing of all hazardous materials stored on-site, their locations and information regarding precautions that should be taken with these materials.

3. A copy of the permit (unless site is deemed permitted, such as county owned MSWLF) with required attachments, records of the quantity of scrap tires and processed tires received at the site, stored at the site and shipped from the site, including destination (name and address of facility) and all certification forms applicable to any tires received, stored or shipped from the site.

4. Completed scrap tire certification forms [N.C.G.S. § 130A-309.58(f)].

The following guidance addresses completed scrap tire certification forms. Certifications should be checked for completeness. Free disposal may be denied if certifications are incomplete. Part I must have an original signature by the generator. The generator must sign and certify that the tires were generated in NC. Scrap tire haulers must arrive at the site with Part I already completed because haulers can not sign on behalf of the generator. (The only exception is when a company hauls its own tires and is both hauler and generator.)

The number of tires noted in Part I should match the number of tires that actually arrive at the facility. If the hauler shows up with more tires than the number disposed by generator, the hauler may be illegally disposing of extra tires under the generator's name.

Part II must contain the scrap tire hauler's identification number, unless it is an individual with five or fewer tires. [N.C.G.S. §130A-309.59(b); 130A-309.58(g)] Tire retailers are exempt if they haul their own tires. [N.C.G.S. § 130A-309.59(a)] Tire retailers provide their state sales tax (merchant) number instead. [N.C.G.S. § 130A-309.59(a)] Independent haulers, automobile repair shops, trucking companies, fleet vehicle shops, junk yards and school bus shops all need a hauling identification number. A scrap tire hauler number can be obtained by contacting the Division of Waste Management, Solid Waste Section, and requesting a scrap tire hauler application form.

If operators suspect that certifications are being falsified, then a county may inquire into the credibility of a certification and may refuse a certification at any time. It is a criminal violation of N.C.G.S. §130A-26.2 for a person to falsify a scrap tire certification.

3.4.7. Financial Assurance Documentation

MSWLF Facility must provide documentation of financial assurance for closure, post-closure, and any corrective actions. See 15A NCAC 13B .1628. The following checklist contains the different types of financial assurance instruments.

FINANCIAL ASSURANCE CHECKLIST

Cost Estimate for Closure [.1628(b)(1)]

Financial Assurance for Closure (one of the following)
- Trust Fund [.1628(e)(1)(A)]
- Surety Bond [.1628(e)(1)(B)]
- Letter of Credit [.1628(e)(1)(C)]
- Insurance [.1628(e)(1)(D)]
- Local Government Financial Test [.1628(e)(1)(F)]
- Capital Reserve Fund [.1628(e)(1)(I)]

Cost Estimate for Post Closure Care [.1628(c)(1)]

Financial Assurance for Post-Closure Care (one of the following)

- Trust Fund [.1628(e)(1)(A)]
- Surety Bond [.1628(e)(1)(B)]
- Letter of Credit [.1628(e)(1)(C)]

- Insurance [.1628(e)(1)(D)]
- Local Government Financial Test [.1628(e)(1)(F)]
- Capital Reserve Fund [.1628(e)(1)(I)]

4. Special Waste Handling

4.1. White Goods

According to N.C.G.S. §130A-309.81(c), each county shall establish written procedures for management of white goods. These procedures must explain the collection and disposal of white goods and explain the protocol used for the removal of chlorofluorocarbon (CFC) refrigerants from the white goods. The white goods management plan should contain:

1. Location of white goods collection areas.

2. Handling procedures for white goods. It is suggested that a separate area be provided for the collection of CFC-containing white goods. Refrigerators, freezers, air conditioners, and ice-makers are some examples of white goods containing CFC-refrigerants. These types of appliances need to be placed in separate area where they can be readily accessed for removal of CFC refrigerants. It is recommended that these CFC-containing white goods not be moved with earth moving equipment, such as front end loaders, track hoes or knuckle booms, until the CFC have been removed from the unit by a properly trained and certified person. Handling of CFC-containing white goods with heavy machinery before CFC removal can cause an inadvertent release of CFC into the atmosphere. Once the CFC-refrigerant has been removed, it is suggested that the units be marked so that equipment operators can be readily identify units that can handled with heavy equipment.

   Chlorofluorocarbon refrigerant removal, as required by N.C.G.S. §130A-309.81(a), should be documented in order to demonstrate compliance.

4.2. Scrap Tires

(This inspection form is for use by Section personnel and does not contain each rule in its entirety. Reference 15A North Carolina Administrative Code 13B.1107 for complete information)

SCRAP TIRE COLLECTION SITE OPERATIONAL REQUIREMENTS

Scrap tire collection sites must meet the following operational requirements:

1. Scrap tires stored indoors must meet the conditions in "The Standard for Storage of Rubber Tires", NFPA 231D-1986 edition.

2. Scrap or processed tires stored outdoors must comply with the following technical and operational standards:

(a) Tire piles no greater than 200 feet in length, 50 feet in width and 15 feet in height.

(b) A 50-foot wide fire lane around the perimeter of each scrap tire pile. Access to the fire lane for emergency vehicles shall be unobstructed and passable at all times.

(c) Mosquitoes and rodents controlled so as to protect the public health and welfare. Whole and sliced scrap tires, and other scrap tires capable of holding water shall be covered upon receipt with a water shedding material. Or they can be disposed of, processed or removed from the site within ten days of receipt. Sliced scrap tires that are stacked concave-side down are not required to be covered.

(d) A sign posted at the entrance of the site stating the operating hours. An attendant shall be present when the site is open for receipt of tires.

(e) No operations involving the use of open flames, blow torches or highly flammable substances shall be conducted within 50 feet of a scrap tire pile.

(f) A fire safety survey shall be conducted annually by local fire protection authorities or other persons as approved by the Division.

(g) Communication equipment shall be maintained at the site to assure that the site operator can contact local fire protection authorities in case of a fire.

(h) The storage area(s) within the scrap tire collection site shall be kept free of grass, underbrush, and other potentially flammable vegetation at all times.

(i) Division notified in event of fire or other emergency.

(j) No more than 60,000 scrap tires can be stored at a scrap tire collection site at anytime.

3. Processed tire storage must meet the requirements of indoor or outdoor storage in this guidance.

4.3. Used Oil

MSWLF units that provide used oil collection should take actions to prevent spillage and provide a containment area.

4.4. Regulated Medical Waste

Untreated regulated medical waste should not be received in a MSW landfill. Refer to 15A NCAC 13B .1202 and .1203 and N.C.G.S. §130A-309.26 for regulations concerning medical waste.

5. Groundwater Monitoring Well System

The following features of the groundwater monitoring wells will be inspected for adequacy:

1. Concrete pad
2. Locks
3. Well accessibility
4. Positive drainage away from wellhead

The following records shall be kept at the facility (or another location approved by the Division) and available for review:

.1631(b)(1) Documentation from the Division of approval for the design, installation, development and decommission of any monitoring well or piezometer.

*.1631(d)(2) A copy of the approved monitoring plan, including information on the number, spacing, location, and design of the monitoring wells.

*.1632(a) A copy of the approved ground-water sampling and analysis plan, including procedures and techniques for: sample collection, sample preservation and shipment, analytical procedures, chain of custody, and quality assurance and quality control.

*.1632(j) For each sampling event, a report that includes all information from each sampling event, including: field observations, field data, laboratory data, statistical analysis, sampling methodologies, QA/QC data, ground-water flow directions and rates for each monitoring well, and for each well any constituents that exceed groundwater standards or show a statistically significant increase over background levels.

.1633(c)(1) A notice indicating which constituents have shown statistically significant changes from background levels.

.1633(c)(3) A report documenting any demonstration that statistically significant increases resulted from error in sampling, analysis, statistical evaluation, or natural variation in ground-water quality or that a source other than a MSWLF unit caused the contamination.

.1634(d)(1) A notice identifying the Appendix II constituents that have been detected.

.1634(d)(2) A report from each sampling event.

.1634(g) A notice if one or more Appendix II constituents are detected at statistically significant levels above the approved ground-water protection standards in any sampling event.

.1634(g)(2) A report documenting any demonstration that statistically significant increases resulted from error in sampling, analysis, statistical evaluation, or natural variation in ground-water quality or that a source other than a MSWLF unit caused the contamination.

.1636(a) Any permit modification necessary to document the selection of remedy based on the results of the corrective measures assessment.

.1637(c)(4) Any report justifying alternative (corrective) measures.

.1637(f) A report documenting that the (corrective action) remedy has been completed.

NOTE: The need for most of this information is based upon different stages of ground-water investigation and will not be required for all facilities. Initially, all facilities will be responsible for having an approved monitoring plan, .1631(d)(2), and approved sampling and analysis plan, .1632(a), and reports for each sampling event, .1632(j). The monitoring plan and sampling and analysis plan are not part of the Transition Plan due by April 9, 1994. The initial sampling report is due by October 9, 1994.

* Initially required

6. Engineering Aspects of Operations

6.1. Facility Plan Checklist

Follow this checklist when conducting an audit at a permitted MSWLF. The facility permit documents, particularly the facility plan and operation plan drawings, should be copied and taken on the audit. The purpose of the audit is to make a visual inspection of the facility to ensure that the plans are being followed, requisite records are being kept and to aid in identifying potential problems related to the operation of the unit and its engineered components.

The audit generally covers three main categories of inspection: approved Facility Plan, the engineered landfill unit, and leachate management.

1. Bench Marks: Are the requisite number of benchmarks in place, as identified on the drawings? YES_____ NO_____ #Required_____ #Missing_____
   Are bench marks still accessible_____ Evidence of Damage_____

2. Operation drawings: Are the permit operation drawings on site? YES____ NO_____
   Are they being used? YES____ NO_____
   COMMENTS_____
   _____
   _____

3. Access roads: Are access roads properly constructed and is there at least three feet of protection between the road crossing and the liner? YES____ NO____

4. Are ramps too steep, such that equipment could cause shear stress on the liner? YES____ NO_____

5. Are the roads in the proper location with respect to the landfill and leachate lagoon? YES____ NO_____

6. Do new roads cross leachate force mains? YES_____ NO____
   COMMENTS_____
   _____
   _____

7. Borrow Areas: Is borrow material being pulled from approved areas? YES____ NO____
   Have proposed excavation limits been exceeded? YES____ NO_____
   COMMENTS_____
   _____
   _____

8. Have roads, borrow or other infrastructure been added that is not on the approved plans? YES_____ NO_____ COMMENTS_____
_____
_____

9. Are non-approved water/sewer lines between landfill unit(s) and groundwater monitoring system? YES_____ NO_____

10. Do the excavations intercept/extend into shallow groundwater? YES_____ NO____ COMMENTS_____
_____
_____

11. Have maintenance/storage buildings, water lines, offices, drinking water wells, etc. been constructed without approval from the Solid Waste Section after the operations permit has been issued? YES____ NO____ COMMENTS_____
_____
_____

12. Are white goods/ tire collection areas noted on approved drawings? YES____ NO____ COMMENTS_____
_____
_____

13. Are they located in approved areas? YES____ NO____ COMMENTS_____
_____
_____

6.2. Landfill Unit Checklist

1. Protective Cover: Is it intact? YES____ NO____ Is there evidence of erosion? YES____ NO____ Is there evidence of repair? YES____ NO____ If so, has the facility documented the reason for failure and a determination that underlying layers have not been damaged? YES____ NO____ How was it repaired? COMMENTS_____
_____
_____

2. Edge of liner: Is the edge of liner marked? YES____ NO____ Is there evidence of waste outside the liner limits? YES____ NO____ Is the edge of waste sufficiently far back from the edge of liner to allow for completion of the cap? YES____ NO____ COMMENTS_____
_____
_____

3. Slopes: Is the landfill being constructed in accordance with the approved plans? YES____ NO___ Do slopes meet the design slopes (typically not to exceed 4:1)? YES____ NO____ Are benches installed as required? YES____NO____
COMMENTS_____
_____
_____

4. Equipment: Is there evidence of non-approved equipment on the protective cover? Restrictions (such as compactors, rubber tire loaders) YES____ NO____
COMMENTS_____
_____
_____

5. Edge of liner: If there is a runout at the end of a phase? YES____ NO____
Is the edge of liner properly protected and is storm water diverted so it does not get under the liner? YES____ NO____ COMMENTS_____
_____
_____

6.3. Leachate System and Management

1. Leachate Lines: Are the columns over leachate pipes in inactive areas silted over? YES____ NO_____ Is any protective fabric, etc. intact? YES____ NO_____ Does the facility document in the facility record that the fabric is removed prior to waste placement? YES____ NO_____ COMMENTS_____
_____
_____

2. Leachate Cleanouts: Are they intact? YES____ NO_____ Do they show sign of damage, settlement, etc? YES____ NO_____ COMMENTS _____
_____
_____

3. Have the leachate lines ever been inspected? YES____ NO_____

4. Have the leachate lines ever been cleaned? YES____ NO_____

5. Are Records Available? YES____ NO_____ COMMENTS_____
_____
_____

6. Above Ground Leachate Storage Tanks: Is an overfill prevention system present? YES____ NO_____ Is it working? YES____ NO_____
Has it been inspected weekly as required by the rules? YES____ NO_____
Have the inspections been documented? YES____ NO_____
Have the weekly exterior inspections been performed and recorded? YES____

NO_____ COMMENTS_____
_____
_____

7. For surface impoundments: Is the top liner protected? YES____ NO_____
   Is it intact? YES____ NO_____
   Is the basin full of sediment/debris? YES____ NO_____
   Is there evidence that the two-foot of freeboard has been exceeded?
   YES____ NO_____
   If the liner is not covered, is there sign of environmental stress or other damage?
   YES____ NO_____ COMMENTS_____
   _____
   _____

8. Sedimentation and Erosion Control: COMMENTS _____
   _____
   _____

9. Leachate Pumps: Are they working? YES____ NO_____
   Manual or automatic? Specify_____ Are control panels OK? YES____ NO_____
   Is there a spare pump and generator on site? YES____ NO_____
   Are the flow controls set properly? YES____ NO_____
   Are records kept of amount pumped? YES____ NO_____
   COMMENTS_____
   _____
   _____

10. Leachate Head: Is there provision to measure leachate head? YES____ NO_____
    Any Records? YES____ NO_____

11. Spillage: Note area around leachate storage facility. Is there evidence of spillage, overflow, leaks etc.? YES____ NO_____
    COMMENTS_____
    _____
    _____

12. Leachate Analysis: Have leachate samples been collected and analyzed in accordance with requirements? YES _____ NO _____ COMMENTS _____
    _____
    _____

7.0 Training of Facility Operators

Each facility is required to have at least one person on site during all hours of operation that has successfully completed a solid waste landfill operator's certification course that has been approved by the Division of Waste Management. Proof of operator training must be available during inspection. [N.C.G.S. §130A-309.25]

Additionally, each facility is required to have one person that has successfully completed a solid waste manager's course that has been approved by the Division of Waste Management. Please note: a certified solid waste manager may perform the function of the onsite certified landfill operator.

Example Waste Determination Request Form

REQUEST TO DISPOSE WASTE IN SUB-TITLE D MSW LANDFILL PERMIT NO:_____

This form is supplied to assist generators of wastes or persons responsible for the disposal of wastes to characterize candidate materials to be non-hazardous as defined by 15A NCAC 13A. The goal is to only accept waste suitable for disposal at a solid waste management facility. The types of materials that will be evaluated are primarily, but not exclusively, industrial and commercial wastes and sludge and sludge from publicly owned treatment works (PTOWs).

The facility management reserves the right to request additional information or to waive some of the requirements as deemed necessary depending on the source, type or knowledge of the particular material. The facility may also require some wastes to be treated or altered to render the wastes environmentally immobile prior to disposal at a sanitary landfill. To be suitable, wastes must be non-liquid and can be properly managed according to the 15A NCAC 13B "Solid Waste Management Rules". APPROVAL TO DISPOSE OF THE WASTE SHALL BE OBTAINED FROM THE OWNER/ OPERATOR OR MANAGEMENT OF THE LANDFILL PRIOR TO DISPOSAL.

It is recommended that the information, which the facility will require to make a determination, be reviewed with the facility management before undertaking any testing or characterization. An asterisk(*) appearing in any of the following lettered or numbered categories denotes that minimum categories of information required on publicly owned treatment works sludge. The facility management has the prerogative of denying disposal of this or any other waste in the landfill even if suitability is indicated.

A.* GENERAL INFORMATION

1. Name, TELEPHONE NUMBER and mailing address of generator and/or contact person

_____

_____

2. Specific location of waste (i.e. address, SR #, county, city, etc.)

_____

_____

3. What is the waste?_____

_____

4. What volume of disposal will there be?_____Frequency?_____

5. Explain the manufacturing process or how the waste was generated. _____

_____

_____

B. INFORMATION FOR HAZARDOUS (RCRA) DETERMINATION (15A NCAC 13A .0106)

1. Is the waste listed under .0106(d) (i.e. 40 CFR 261.30 - 261.33)?_____ If yes, list the number. _____

*2. Does the waste exhibit any of the four characteristics as defined by 15A NCAC 13A .0106(c) (i.e. 40 CFR 261.20 - 261.24)? (Attach laboratory results for TCLP Toxicity, Reactivity, Ignitability and Corrosivity.)

_____

C. INFORMATION FOR LANDFILLING DETERMINATION

1. Does the waste contain any hazardous waste constituents listed in 15A NCAC 13A .0106(e), Appendix VIII (i.e., 40 CFR 261, Appendix VIII)?_____ If yes, what constituents and at what concentration? (Attach laboratory results)_____

_____

2. What other constituents are present and at what concentration? (Attach laboratory results)

_____

3. Will the handling and disposal of this waste create dust emissions that may cause a health hazard or nuisance to facility personnel?

_____

*4. Does the waste pass the "paint filter" test for free liquids (Method 9095 in S.W. 846)? (Attach laboratory results)

_____

*5. How is the waste to be delivered? (Bulk, barrels, bags, etc.)_____

_____

Following are the EPA Toxicity Characteristic Leaching Procedure (TCLP) hazardous threshold limits for the thirty-nine regulated constituents. These limits can be found in the 40 CFR 261.24 Federal Regulation. Waste chemical analyses are required using detection limits at or below the hazardous thresholds allowing determination of hazardous/non-hazardous for constituents that are detected. Corrosivity can be determined by pH measurements on slurries of deionized water

and waste when feasible. Individual pH values must be >2.0 and <12.5; average values accepted normally range from 4.0 to 10.0.

The generators are responsible for determining that their wastes are not hazardous and meet N.C. requirements to be landfilled. Analyses for herbicides, pesticides and organics must be performed whenever knowledge of the waste makes their presence a possibility. Leachable metals must always be determined.

METALS	**EPA Haz. Level (mg/L)**	**ORGANICS**	**EPA Haz. Level (mg/L)**
Arsenic	5.00	O-Cresol	200.00
Barium	100.00	M-Cresol	200.00
Cadmium	1.00	P-Cresol	200.00
Chromium	5.00	1,4 Dichlorobenzene	7.50
Lead	5.00	1,2 Dichloroethane	0.50
Mercury	0.20	1,1 Dichloroethylene	0.70
Selenium	1.00	2,4 Dinitrotoluene	0.13
Silver	5.00	Hexachlorobenzene	0.13
HERBICIDES & PESTICIDES	**EPA Haz. Level (mg/L)**	Hexachloro-1,3-Butadiene	0.50
Chlordane	0.03	Hexachloroethane	3.00
Endrin	0.02	Methyl Ethyl Ketone	200.00
Heptachlor	0.008	Nitrobenzene	2.00
Lindane	0.40	Pentachlorophenol	100.00
Methoxychlor	10.00	Pyridine	5.00
Toxaphene	0.50	Tetrachloroethylene	0.70
2,4-D	10.00	Trichloroethylene	0.50
2,4 5-TP Silvex	1.00	2,4,5-Trichlorophenol	400.00
		2,4,6-Trichlorophenol	2.00
		Vinyl Chloride	0.20
		Benzene	0.50
		Carbon Tetrachloride	0.50
		Chlorobenzene	100.00
		Chloroform	6.00

"I hereby certify that the information submitted in regard to _____ (name of waste) is true and correct to the best of my knowledge and belief."

(Print Name) _____
(Signature) _____
(Title) _____
(Date)_____

All questions concerning this "procedure" should be directed to the targeted facility operator or management. Answer specific questions in the space provided if possible, otherwise attach additional sheets. Submit completed and signed forms to the facility.

MSWLF INSPECTION CHECKLIST FOR 15A N.C.A.C. 13B .1626

☐ **(1) Waste Acceptance and Disposal Requirements.**

☐ **(2) Cover Material Requirements.**

☐ **(3) Disease vector control.**

☐ **(4) Explosive Gases Control.**

☐ **(5) Air Criteria.**

☐ **(6) Access and Safety Requirements.**

☐ **(7) Erosion and Sedimentation Control Requirements.**

☐ **(8) Drainage Control and Water Protection Requirements.**

☐ **(9) Liquid Restrictions.**

☐ **(10) Record Keeping Requirements.**

☐ **(11) Spreading and Compacting Requirements.**

☐ **(12) Leachate Management Plan.**