
North Carolina Hazardous Waste Workshop
Introduction to Chemists, Initial Soil Sampling Plans (ISSP's) and Hazardous Waste Generator Closure Guidance
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Autumn Romanski
Compliance Branch Eastern Unit
Environmental Chemist
Hazardous Waste Section
Division of Waste Management
Autumn.Romanski@ncdenr.gov
919-280-1510
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WHY?
WHAT?
WHO
WHEN?
WHERE?
Let's get started with the topics that I will cover today:
• Who are the Hazardous Waste Section Chemists and how to contact them?
• When do you need to contact a Hazardous Waste Section Chemist?
• Why is it important to know about sampling plans, the Hazardous Waste Section Chemist, and Where to find Guidance Documents?
• How do you close a Hazardous Waste Central Accumulation Area, Hazardous Waste Unit, and/or a facility under the Hazardous Waste Generator Improvement Rules (March 2018)

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Who are the Hazardous Waste Section Chemists and how do I contact them?

Autumn Romanski, Eastern Environmental Chemist
Autumn.Romanski@ncdenr.gov
(919) 280-1510

Richard Concepción, Western Environmental Chemist
Richard.Concepcion@ncdenr.gov
(828) 578-6927

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A Compliance Branch Unit Map with staff emails and phone numbers by county can be downloaded from the NC DEQ web site link below:

https://www.deq.nc.gov/about/divisions/waste-management/about-waste-management/frequently-asked-questions/hazardous-waste-section-faqs

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When do you need to contact a Hazardous Waste Section Chemist?

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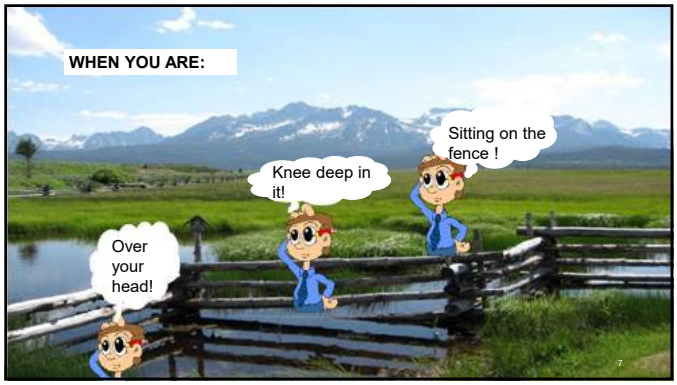

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OR, WHEN YOU HAVE:

- Received an **Immediate Action (IA-NOV)** that requests an Initial Soil Sampling Plan (ISSP)

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<u>Where</u> do you find Hazardous Waste Generator guidance on Initial Soil Sampling Plans (ISSP's)?

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ISSP Guidance

- **First**, read the Immediate Action Notice of Violation (IA-NOV) carefully for detailed information and confirm that an Initial Soil Sampling Plan (ISSP) or Comprehensive Site Soil Sampling Plan is being requested.
- **Second**, contact a qualified professional or NC Certified Environmental Consultant and a NC Certified Lab for assistance.
- **Third**, contact the Eastern or Western Chemist for guidance on the ISSP's, EPA Methods, Closure guidelines, and clean-up value reference documents.

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Guidance on Initial Soil Sampling Plans can be found at:

- https://www.deq.nc.gov/about/divisions/waste-management/hazardous-waste-section/technical-assistance-and-guidance-documents#ClosurePostClosure-2196
- https://www.deq.nc.gov/about/divisions/waste-management/hazardous-waste-section/technical-assistance-and-guidance-documents

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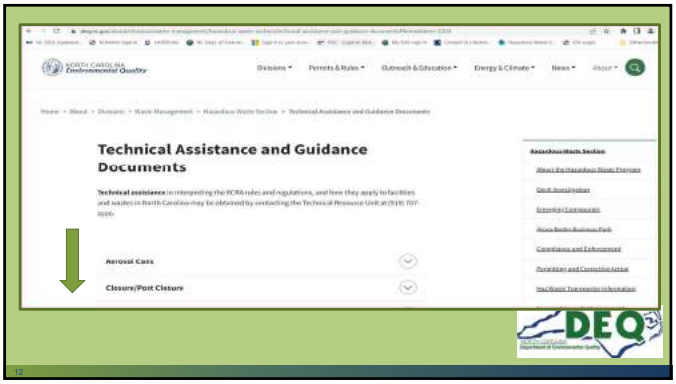

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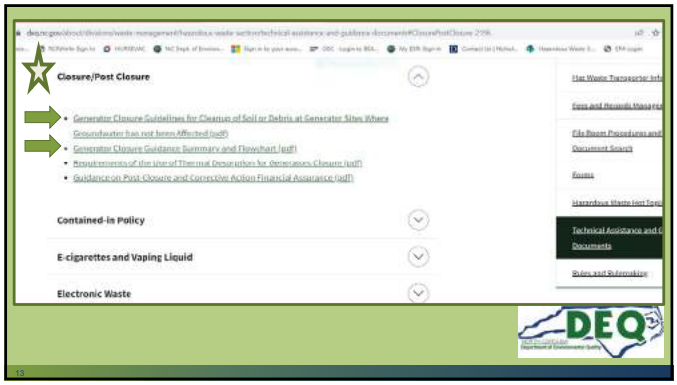

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Soil Remediation Goals/Clean-up Values Reference Document(s) can be found at:

https://www.deq.nc.gov/about/divisions/waste-management/hazardous-waste-section/technical-assistance-and-guidance-documents#Remediation-2204

https://www.deq.nc.gov/about/divisions/waste-management/hazardous-waste-section/technical-assistance-and-guidance-documents

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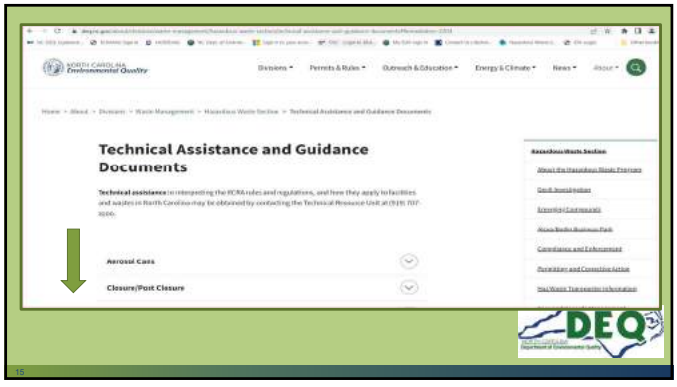

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Lead Waste
Remediation
North Carolina Hazardous Waste Section Guidelines for Establishing Remediation Goals at RCRA Hazardous Waste Sites, December 2013 (pdf)
NCDEQ Hazardous Waste Section Compliance Branch Soil Cleanup Goal Table (pdf)
NCDEQ Hazardous Waste Section Compliance Branch Soil Cleanup Goal Table (Excel Spreadsheet)
NCDEQ IHSB Preliminary Soil Remediation Goals (PSRGs) Table
Establishing Groundwater Protection Standards in RCRA Permits per 264.92 and 264.94 (pdf)
DWM Residential Vapor Intrusion Screening Levels (pdf)
DWM Non-residential Vapor Instrusion Screening Levels (pdf)
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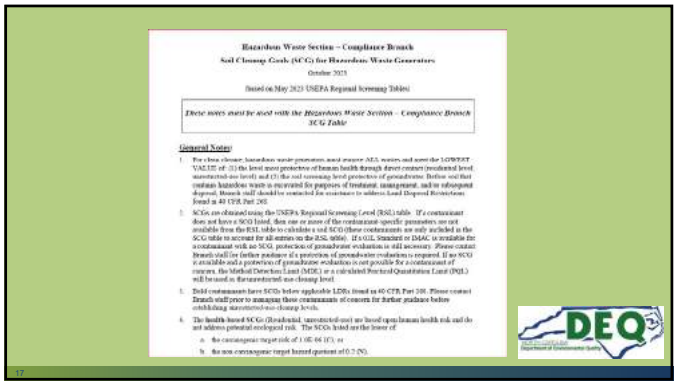
Hazardous Waste Section – Compliance Branch
Soil Cleanup Goals (SCG) for Hazardous Waste Generators
October 2023
Based on May 2023 USEPA Regional Screening Tables
These notes must be used with the Hazardous Waste Section – Compliance Branch SCG Table
General Notes:
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Lead Waste
Remediation
USE the Hazardous Waste Section SCG Table
North Carolina Hazardous Waste Section Guidelines for Establishing Remediation Goals at RCRA Hazardous Waste Sites, December 2013 (pdf)
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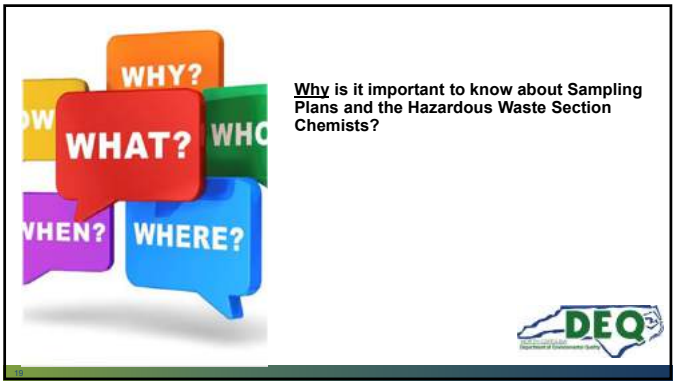

<u>Why</u> is it important to know about Sampling Plans and the Hazardous Waste Section Chemists?

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<u>Time is of the Essence</u>

A Notice of Violation (NOV) will require a waste determination and an appropriate waste disposal plan, **within 30 days** of receipt of the notice.

An **Initial Soil Sampling Plan (ISSP)** will be required**, within 60-90 days** of receipt of the notice, **"**when evidence of a hazardous waste release to soil is documented". The ISSP **must be approved by the Chemist** before conducting soil remediation.

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- You will need time to consult with an Environmental Professional to determine your **Data Quality Objective** and to develop and submit a **Defensible Sampling Plan**.
- Environmental consultants registered with NC can be found at: **https://deq.nc.gov/about/divisions/waste-management/superfund-section/inactive-hazardous-sites-program/registered-environmental-consultant-program**
- NC Certified Laboratories In-state can be found for download at: **https://deq.nc.gov/about/divisions/water-resources/water-resources-science-and-data/water-sciences-home-page/chemistry-laboratory/laboratory-certification-branch/certified-laboratory-listings**

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Initial Soil Sampling Plans (ISSP's)

Initial Soil Sampling Plans are required when a waste determination is complete that identifies the waste, as hazardous waste, and when there is evidence that this hazardous waste was released to the underlying soil.

The Notice of Violation will require that you develop and submit an Initial Soil Sampling Plan.

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Questions to consider and discuss with an Environmental Professional include:

What:

- Clean-up goals for contaminate concentrations of concern?
- Quantity of sample will be collected ?
- Quantity of sample will be needed for the lab analysis?
- Size of the Area to be sampled?
- Vertical and horizontal extent of contamination, if known?
- Defensible number of samples, to be confident clean-up goals are met, or a proper waste identification is made?
- Container strategy for sampling, storage, transport, and disposal is appropriate for the weight/volume of waste to be discarded.

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Abandoned Drum Containers - Unknown Origin and Unknown Waste Content

Group 1

Group 2

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Group 3
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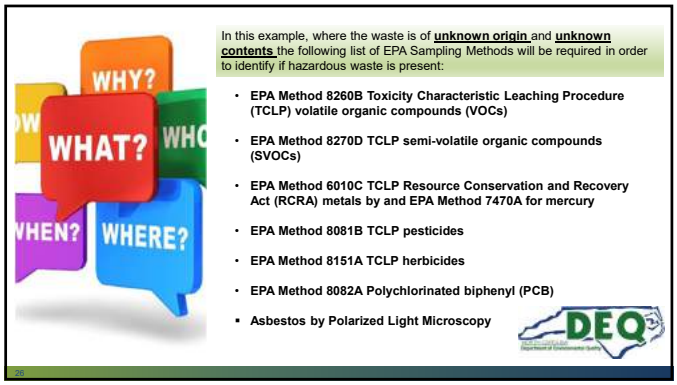
WHY?
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In this example, where the waste is of unknown origin and unknown contents the following list of EPA Sampling Methods will be required in order to identify if hazardous waste is present:
EPA Method 8260B Toxicity Characteristic Leaching Procedure (TCLP) volatile organic compounds (VOCs)
EPA Method 8270D TCLP semi-volatile organic compounds (SVOCs)
EPA Method 6010C TCLP Resource Conservation and Recovery Act (RCRA) metals by and EPA Method 7470A for mercury
EPA Method 8081B TCLP pesticides
EPA Method 8151A TCLP herbicides
EPA Method 8082A Polychlorinated biphenyl (PCB)
Asbestos by Polarized Light Microscopy
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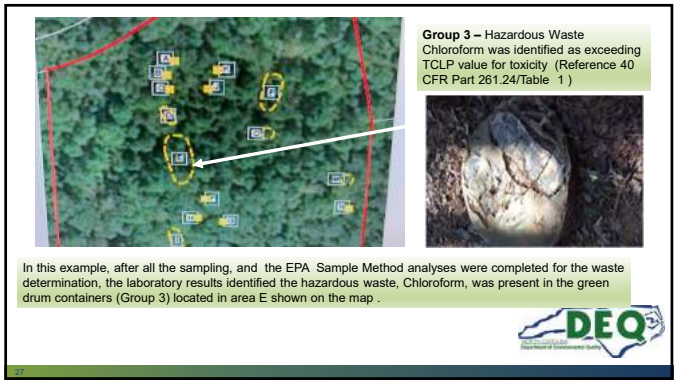
Group 3 – Hazardous Waste Chloroform was identified as exceeding TCLP value for toxicity (Reference 40 CFR Part 261.24/Table 1)
In this example, after all the sampling, and the EPA Sample Method analyses were completed for the waste determination, the laboratory results identified the hazardous waste, Chloroform, was present in the green drum containers (Group 3) located in area E shown on the map .
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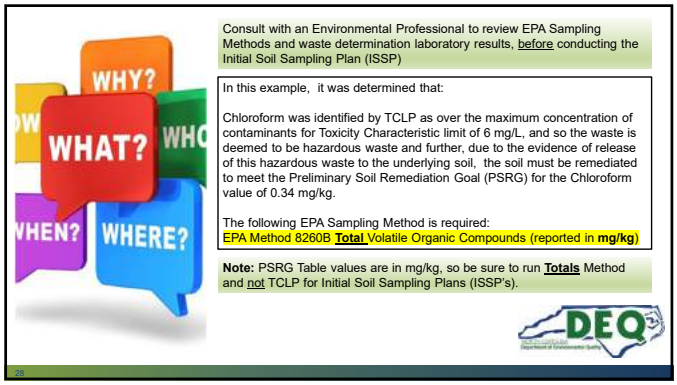
WHY?
WHAT?
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Consult with an Environmental Professional to review EPA Sampling Methods and waste determination laboratory results, before conducting the Initial Soil Sampling Plan (ISSP)
In this example, it was determined that:
Chloroform was identified by TCLP as over the maximum concentration of contaminants for Toxicity Characteristic limit of 6 mg/L, and so the waste is deemed to be hazardous waste and further, due to the evidence of release of this hazardous waste to the underlying soil, the soil must be remediated to meet the Preliminary Soil Remediation Goal (PSRG) for the Chloroform value of 0.34 mg/kg.
The following EPA Sampling Method is required:
EPA Method 8260B Total Volatile Organic Compounds (reported in mg/kg)
Note: PSRG Table values are in mg/kg, so be sure to run Totals Method and not TCLP for Initial Soil Sampling Plans (ISSP's).
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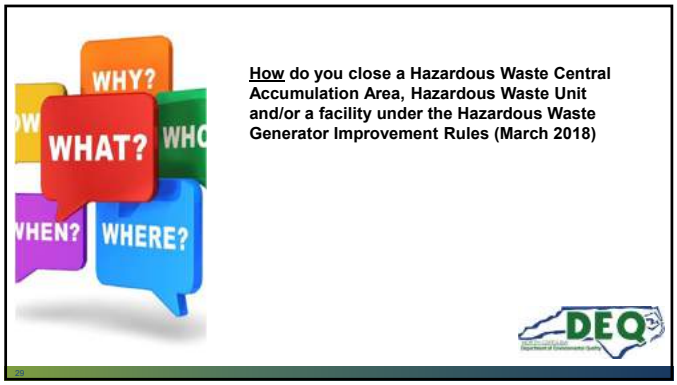
WHY?
WHAT?
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How do you close a Hazardous Waste Central Accumulation Area, Hazardous Waste Unit and/or a facility under the Hazardous Waste Generator Improvement Rules (March 2018)
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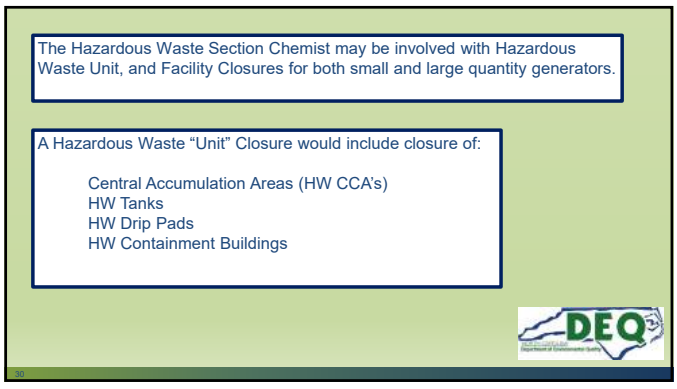
The Hazardous Waste Section Chemist may be involved with Hazardous Waste Unit, and Facility Closures for both small and large quantity generators.
A Hazardous Waste "Unit" Closure would include closure of:
Central Accumulation Areas (HW CCA's)
HW Tanks
HW Drip Pads
HW Containment Buildings
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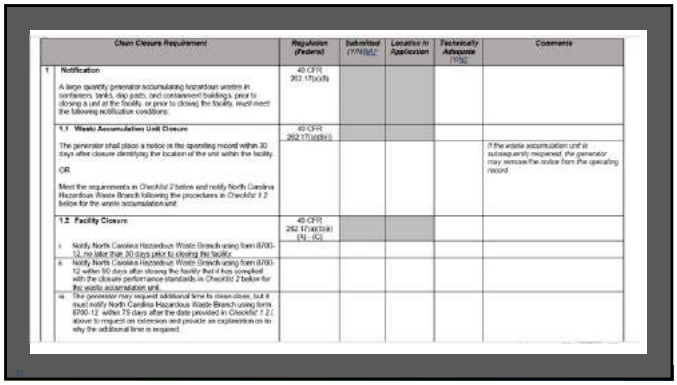

	Clean Closure Requirement	Regulation (Federal)	Submitted (Y/N/NA)	Location in Application	Technically Adequate (Y/N)	Comments
1	**Notification** A large quantity generator accumulating hazardous wastes in containers, tanks, drip pads, and containment buildings, prior to closing a unit at the facility, or prior to closing the facility, must meet the following notification conditions:	40 CFR 262.17(a)(8)				
	1.1 Waste Accumulation Unit Closure	40 CFR 262.17(a)(8)(i)				
	The generator shall place a notice in the operating record within 30 days after closure identifying the location of the unit within the facility. OR Meet the requirements in *Checklist 2* below and notify North Carolina Hazardous Waste Branch following the procedures in *Checklist 1.2* below for the waste accumulation unit					*If the waste accumulation unit is subsequently reopened, the generator may remove the notice from the operating record.*
	1.2 Facility Closure	40 CFR 262.17(a)(8)(ii) (A) - (C)				
i.	Notify North Carolina Hazardous Waste Branch using form 8700-12, no later than 30 days prior to closing the facility;					
ii.	Notify North Carolina Hazardous Waste Branch using form 8700-12 within 90 days after closing the facility that it has complied with the closure performance standards in *Checklist 2* below for the waste accumulation unit					
iii.	The generator may request additional time to clean close, but it must notify North Carolina Hazardous Waste Branch using form 8700-12 within 75 days after the date provided in *Checklist 1.2.i* above to request an extension and provide an explanation as to why the additional time is required.					

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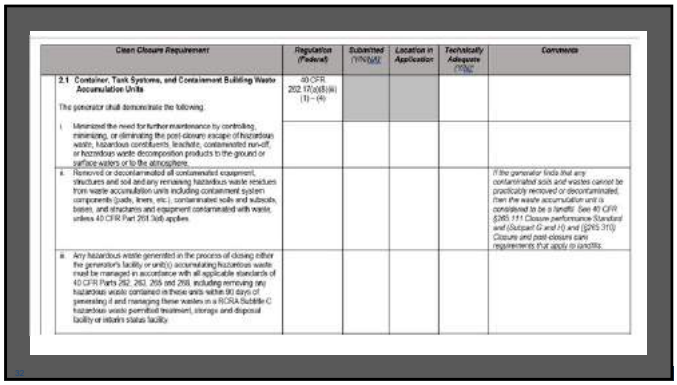

	Clean Closure Requirement	Regulation (Federal)	Submitted (Y/N/NA)	Location in Application	Technically Adequate (Y/N)	Comments
	2.1 Container, Tank Systems, and Containment Building Waste Accumulation Units The generator shall demonstrate the following:	40 CFR 262.17(a)(8)(iii) (1) – (4)				
i.	Minimized the need for further maintenance by controlling, minimizing, or eliminating the post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated run-off, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere;					
ii.	Removed or decontaminated all contaminated equipment, structures and soil and any remaining hazardous waste residues from waste accumulation units including containment system components (pads, liners, etc.), contaminated soils and subsoils, bases, and structures and equipment contaminated with waste, unless 40 CFR Part 268.3(d) applies;					*If the generator finds that any contaminated soils and wastes cannot be practicably removed or decontaminated, then the waste accumulation unit is considered to be a landfill. See 40 CFR §265.111 Closure performance Standard and Subpart G and H) and (§265.310) Closure and post-closure care requirements that apply to landfills.*
iii.	Any hazardous waste generated in the process of closing either the generator's facility or unit(s) accumulating hazardous waste must be managed in accordance with all applicable standards of 40 CFR Parts 262, 263, 265 and 268, including removing any hazardous waste contained in these units within 90 days of generating it and managing these wastes in a RCRA Subtitle C hazardous waste permitted treatment, storage and disposal facility or interim status facility.					

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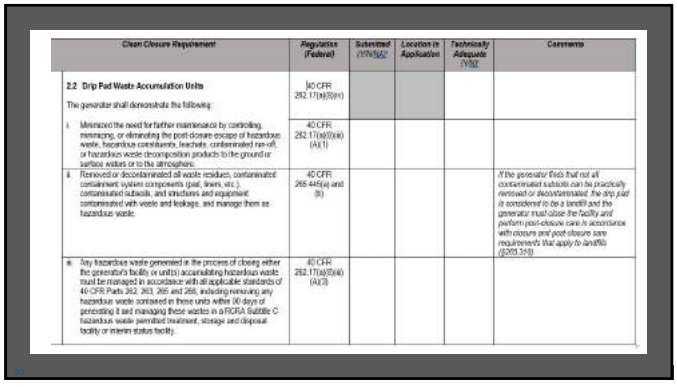

	Clean Closure Requirement	Regulation (Federal)	Submitted (Y/N/NA)	Location in Application	Technically Adequate (Y/N)	Comments
	2.2 Drip Pad Waste Accumulation Units The generator shall demonstrate the following:	40 CFR 262.17(a)(8)(iv)				
i.	Minimized the need for further maintenance by controlling, minimizing, or eliminating the post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated run-off, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere;	40 CFR 262.17(a)(8)(iv) (A)(1)				
ii.	Removed or decontaminated all waste residues, contaminated containment system components (pad, liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leakage, and manage them as hazardous waste;	40 CFR 265.445(a) and (b)				*If the generator finds that not all contaminated subsoils can be practically removed or decontaminated, the drip pad is considered to be a landfill and the generator must close the facility and perform post-closure care in accordance with closure and post-closure care requirements that apply to landfills (§265.310).*
iii.	Any hazardous waste generated in the process of closing either the generator's facility or unit(s) accumulating hazardous waste must be managed in accordance with all applicable standards of 40 CFR Parts 262, 263, 265 and 268, including removing any hazardous waste contained in these units within 90 days of generating it and managing these wastes in a RCRA Subtitle C hazardous waste permitted treatment, storage and disposal facility or interim status facility.	40 CFR 262.17(a)(8)(iii) (A)(3)				

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The Large Quantity Generator Closure requirements can be found at 40 CFR 262.17 (a) (8) (i) and

In the Hazardous Waste Generator Compliance Manual, the compliance manual is located at the DEQ web site link below:

https://deq.nc.gov/about/divisions/waste-management/hazardous-waste-section/technical-assistance-and-guidance-documents#HazardousWasteGenerator-2355

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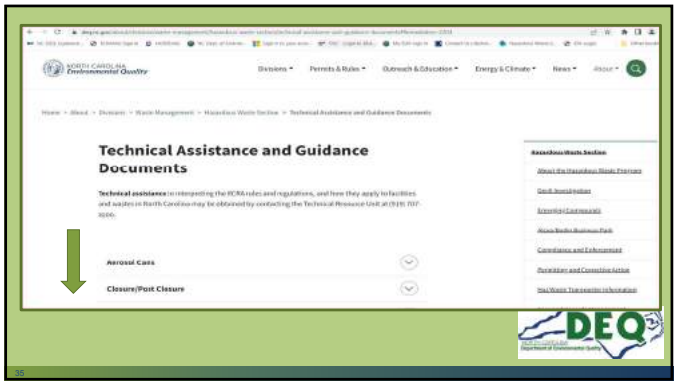

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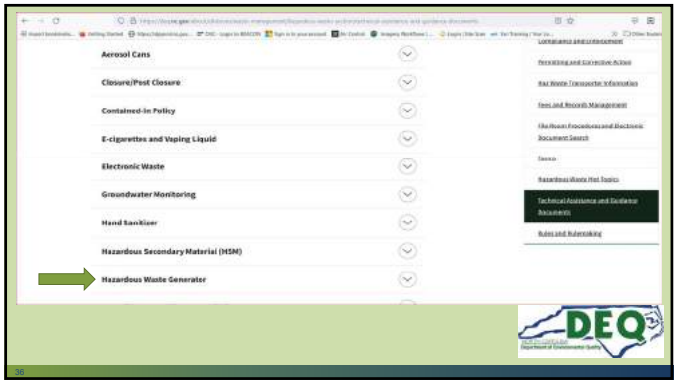

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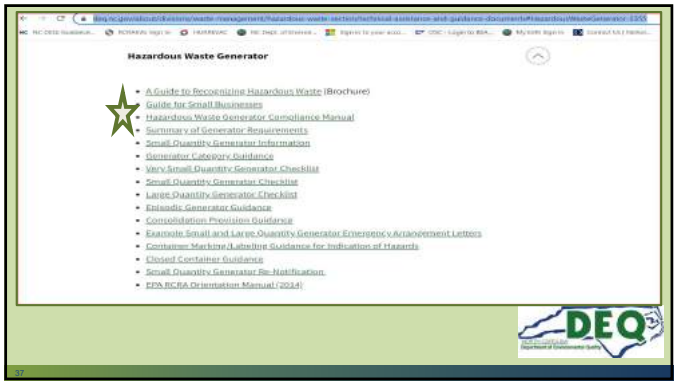
Hazardous Waste Generator
A Guide to Recognizing Hazardous Waste (Brochure)
Guide for Small Businesses
Hazardous Waste Generator Compliance Manual
Summary of Generator Requirements
Small Quantity Generator Information
Generator Category Guidance
Very Small Quantity Generator Checklist
Small Quantity Generator Checklist
Large Quantity Generator Checklist
Episodic Generator Guidance
Consolidation Provision Guidance
Example Small and Large Quantity Generator Emergency Arrangement Letters
Container Marking/Labeling Guidance for Indication of Hazards
Closed Container Guidance
Small Quantity Generator Re-Notification
EPA RCRA Orientation Manual (2014)
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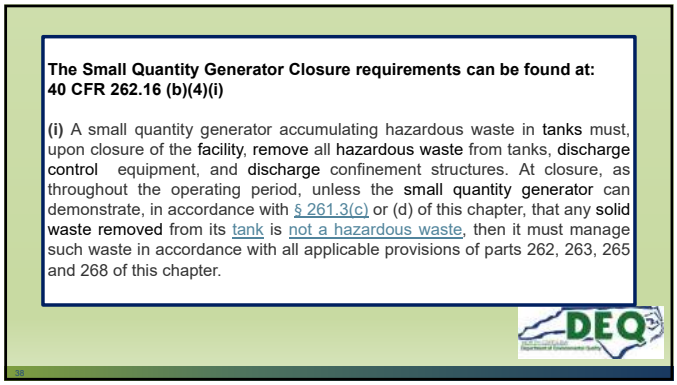
The Small Quantity Generator Closure requirements can be found at:
40 CFR 262.16 (b)(4)(i)
(i) A small quantity generator accumulating hazardous waste in tanks must, upon closure of the facility, remove all hazardous waste from tanks, discharge control equipment, and discharge confinement structures. At closure, as throughout the operating period, unless the small quantity generator can demonstrate, in accordance with § 261.3(c) or (d) of this chapter, that any solid waste removed from its tank is not a hazardous waste, then it must manage such waste in accordance with all applicable provisions of parts 262, 263, 265 and 268 of this chapter.
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WHY?
WHAT?
WHEN?
WHERE?
Why is it important to know about sampling plans, and the Hazardous Waste Section Chemist.
The Hazardous Waste Chemists will review and approve sample plans:
• When hazardous waste is released and requires clean-up
• When a Notice of Violation requires an Initial Soil Sampling Plan (ISSP) submittal
• When a hazardous waste generator closes a hazardous waste central accumulation area, hazardous waste unit, or their facility
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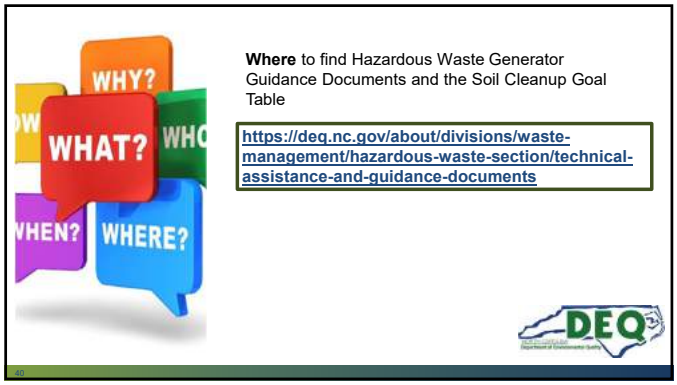
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Where to find Hazardous Waste Generator Guidance Documents and the Soil Cleanup Goal Table
https://deq.nc.gov/about/divisions/waste-management/hazardous-waste-section/technical-assistance-and-guidance-documents
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Any Questions?

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