



Hazardous Waste Generator Closure Requirement Summary

A. Introduction

The following is an outline of the requirements described in the "*North Carolina Hazardous Waste Section Generator Closure Guidelines*" (Guidance) that must be used in order to cleanup a release of hazardous waste without having to obtain a hazardous waste permit. The applicable sections of the Guidance are referenced in italics if detailed descriptions of these requirements are needed. The full guidance document is available on the Hazardous Waste Section website at this link: <https://deq.nc.gov/about/divisions/waste-management/hw/technical-assistance-education-guidance/documents#closure/post-closure>

B. Procedures

All documents and reports must be submitted to the Hazardous Waste Section Compliance Branch Chemist who covers the region in which the site is located. The Compliance Branch Chemist region and contact information is provided on the map at this website link:

https://files.nc.gov/ncdeq/Waste%20Management/DWM/HW/Compliance/Compliance_Map_by_Inspector.pdf

The procedures to be followed for a generator closure are outlined in the flowchart (Figure 1) at the end of this document.

C. Documentation

1) Initial Site Sampling Plan (ISSP)

The purpose of the initial site sampling is to identify all releases of hazardous wastes to the environment, characterize/classify the chemical nature of such releases, collect sufficient sampling data in order to compile a list of contaminants of concern, and to determine if a cleanup is necessary.

The site owner and/or operator must submit an ISSP to the Branch Chemist for approval prior to commencing any site activity other than initial emergency response actions. If the assessment is being conducted under the terms of an enforcement document, the site-specific action to be completed in order to return to compliance must also be included. Upon Compliance Branch (Branch) approval of the ISSP, the owner and/or operator must implement the plan in accordance with the approved schedule.

Content of the Initial Site Sampling Plan

The ISSP must contain the information described below, as applicable, and be presented in the following order. Sections that are not applicable to your site should be documented as "Not Applicable."

Title Page

- Site name, location, and EPA Identification Number (if the site has one)
- Site operator and any persons responsible for the site or the release including address, email address, and phone number and the current property owner(s) including address, email address, and phone number if different.
- Consultant/contractor information including name, address, email address, and phone number.

Site Description

- Site location information including site location address including county, longitude, and latitude.
- Site history, **as it related to the investigation**, including a description of the property ownership and uses, and a summary of the actual and potential sources of the contamination. Include a summary of the hazardous waste and hazardous substances management practices employed at the site (using RCRA hazardous waste codes where applicable); a description of the facility's past and current RCRA hazardous waste activities and generator category; a summary of the nature of all on-site hazardous substance releases (including one-time releases and spills); and a summary of any previous and ongoing environmental investigations at the site.
- United States Geological Survey topographic maps (1/24,000 scale) sufficient to display the topography within a one-mile radius of the site.
- A site map including scale, benchmarks, north arrow. Include, **as they relate to the investigation:** locations of property boundaries, buildings, structures, all perennial and intermittent surface water features, drainage ditches, dense vegetation, known and suspected spill or disposal areas, underground utilities, storage vessels, existing on-site wells; and identification of all adjacent property land uses.
- A description of local geologic and hydrogeologic conditions including the depth to water table (if known).

Source Characterization

- A description of the source(s) of the release including the compound(s) released, compound mobility (density); the date discovered, the estimated quantity of the release, and the cause of the release(s). Use hazardous waste codes when appropriate.
- A summary of any assessment activities conducted and corrective actions performed to date including emergency response and initial abatement activities.
- Site-specific conditions that may encourage contaminant mobility, e.g. sandy soils.

Receptor Information

- An inventory and a map of all wells, springs, and surface-water intakes and sources of potable water within 1,500 feet of the site. If the site is greater than one hundred (100) acres in size, the inventory and map must cover a one-mile radius from the center of each source area.
- An evaluation of the site and all adjacent property for the existence of any environmentally sensitive areas (*Defined in Appendix 5*).

Proposed Methods of Investigation

- Proposed methods, locations, depths of, and justification for, all sample collection points for all media (soil, water, sediment, containerized wastes, etc.). Include monitoring well locations and anticipated screened intervals (if applicable) for each known or suspected area of contamination (*Section 5 and Appendix 1 and 2*). Also, include any plans for any special assessment such as a geophysical survey. Locate all sample points on the map.
- Proposed analytical parameters and analytical methods for all samples. Describe equipment and personnel decontamination procedures. Proposed field and laboratory procedures for quality assurance/quality control (*Appendix 1 and 2 and Section 5*).

Schedule

- A proposed schedule for site activities and reporting.

Other Information

- Any other information required by the Branch or considered relevant by the remediating party.

2) Assessment and Cleanup Plan (ACP)

Once it is determined that contamination exists at the site, the owner and/or operator must prepare an ACP which includes, at a minimum, the information listed below. The ACP must be submitted to the Branch for approval. If the site is conducting the cleanup under the terms of an enforcement document, additional requirements described in the enforcement must also be included. Upon Branch approval of the ACP, the owner and/or operator must implement the plan in accordance with the approved schedule.

The purpose of the ACP investigation is to delineate the horizontal and vertical extent of contamination in each area of concern and define the proposed areas of excavation or remediation. Cleanup activities are usually conducted in an initial assessment phase (proposed in the ISSP), followed by a delineation of contamination and removal phase (proposed by the ACP). In some cases (e.g., if the releases are small and the extent of the contamination is readily defined and removed) it is permissible to combine these documents. If the ACP and ISSP are combined, all items required for both documents must be included in the ACP, and approved by the Branch, before implementation.

In order to delineate the extent of contamination, samples must be collected and analyzed to the method detection limit (MDL) or naturally occurring background levels (metals only). The site must be remediated to the cleanup levels given in the *Soil Cleanup Goal (SCG) Table* linked here: <https://deq.nc.gov/waste-management/dwm/hw/guidance-document-table-documents/compliance-branch-soil-cleanup-goal-table/download?attachment> or site-specific natural background levels for metals (*Sections 4.2 and 5.4.B*) for each constituent of concern. The Branch will determine cleanup levels for any contaminants not listed in the tables.

Content of the Assessment and Cleanup Plan

ACPs must be organized in sections corresponding to the following and must include at least the following.

Introduction

- Synopsis of purpose and objectives of the ISSP.

Site Description

- A summary description and map(s) of the site location and setting.
- A summary of the site geologic and hydrologic conditions, including a description of soils and unsaturated zone characteristics (and if known, a description of the groundwater flow gradient, direction, and estimated rate of migration).

Receptor Information

- Discuss any human or sensitive environmental populations or areas that may be impacted by the conditions at the site.

Initial Investigation Results

- A narrative description of the initial investigation activities, including a discussion of any variances from the approved ISSP.
- A map, drawn to scale, showing all existing soil, surface water and sediment sample locations and, if applicable, monitoring well locations in relation to areas of contamination.
- A description of all laboratory quality control and quality assurance procedures followed during the investigation.
- Tabulation of analytical results for all sampling (soil, water, containerized wastes, etc.), including sampling dates and soil-sampling depths, and copies of all laboratory reports (*Appendix 3C*).
- Soil, groundwater, surface water and sediment contaminant delineation maps and cross-sections, including scale and sampling points with contaminant concentrations.
- A description of the procedures used and the results of any special assessments conducted.
- If groundwater monitoring was conducted include, at a minimum:

- The boring logs and water levels from the borings/wells.
- The location of borings/wells on the site map. These wells must include a minimum of one up gradient and two down gradient wells.
- A water table elevation contour map with groundwater flow patterns depicted, if applicable.
- The construction design for each of the wells including depth and screened interval.
- The sample collection and analysis procedures used in sampling of groundwater quality monitoring wells.
- Results of the groundwater quality samples.

Proposed Investigation Activities

- A narrative description of the activities to be conducted to define the extent of contamination.
- A map, drawn to scale, showing all proposed soil, surface water and sediment sample locations and monitoring well locations in relation to areas of contamination.
- If applicable, a description of proposed groundwater monitoring well locations, design, and installation procedures, including drilling methods and well construction techniques and materials.
- A description of proposed laboratory quality control and quality assurance procedures to be followed during the investigation. (*Appendix 1 and 3C*)

Excavation/Remediation Information

- A description of the estimated depth and volume of areas to be excavated.
- A description of the proposed disposal options for excavated soils/sediment. Include both hazardous and non-hazardous waste options as applicable. Include the destination facility information including name, address, phone number and EPA ID number, if applicable. (*Section 7*)
- A description of procedures to be used to manage excavated soils, drill cuttings, and purge water and decontaminated water. (*Section 6 and 7*)
- A description of any obstacles to excavation that may exist.
- A discussion of any other remediation that may be necessary (such as for sediment, or surface water contamination that has been identified). (*Section 5.3*)

Other Information

- Include any other information required by the Branch or considered relevant by the remediating party. Attach copies of site photographs to clarify or document site activities.

3) Closure Report

Within thirty (30) days of the completion of cleanup activities, or as specified by an enforcement document, a Closure Report must be submitted to the Branch which demonstrates that the site has been cleaned up in accordance with approved procedure and in compliance with any enforcement document.

Content of the Closure Report

The Closure Report must include at least the following information.

Summary of Investigation Activities

- Description of site conditions and identified areas of contamination.
- Maps showing site location, surrounding areas, sample locations, and areas/extent of contamination.
- Sample results if not provided in previous submission. (*Appendix 3C*)
- Groundwater sample results if applicable. (*Appendix 3C*)
- Identify any sample results in excess of cleanup levels. (*Section 4*)

Remediation Activities

- A description of remediation (removal) activities and any causes for deviations from the approved plan(s).
- Cleanup levels used for each contaminant of concern. (*Section 4*)
- Map(s) showing areas of contamination, excavated areas, and any remaining contamination.
- Volume and disposition of excavated soil and other wastes (contaminated water, wastes in containers, etc.) removed from the site. The name and address for all disposal/treatment facilities used.
- Laboratory data used to determine disposal options for excavated soils and other wastes removed from the site (contaminated waters, wastes in containers, etc.). (*Appendix 3C*)
- Copies of disposal permits needed (e.g., land application permits) if applicable, and copies of manifests for hazardous waste shipped and bills of lading for non-hazardous wastes shipped off site.

Results of Confirmation Sampling

- Post excavation soil sampling results for all areas of contamination. (*Section 8 and Appendix 3C*) Identify any sample results in excess of cleanup levels.
- Map(s) depicting locations and results of post-excavation samples.

Conclusion

- A statement that the applicable/approved cleanup standards have been met;
OR
- Statements that contamination exists at the site beyond the scope of a generator closure and a description of the existing conditions that will require further investigation and/or remediation.

Upon approval of a completed closure report with the remediation accomplishing the cleanup goals, the Branch will issue a letter of "No Further Action." If the cleanup fails to meet the cleanup criteria, the site will be referred to the appropriate agency for further action.

Figure 1 – Flow Chart Showing the Procedures for Hazardous Waste Generator Closures

Notations in italics refer to sections of the North Carolina Hazardous Waste Section Generator Closure Guidance document.

