



Closure and Corrective Action Fact Sheet

Maine's Hazardous Waste Closure and Corrective Action Program

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Closure

Closure applies to hazardous waste handlers in a variety of ways depending on the particular activities conducted at the facility under consideration. All closures have the same general performance standards or goals but the procedures differ substantially.

- A. Hazardous Waste **Generator** closure applies to any facility that has operated as a hazardous waste generator since February 10, 1985.
- B. **Universal Waste** (a subset of hazardous waste) closure applies to any facility that has operated as a universal waste central accumulation or consolidation facility.
- C. **Abbreviated License** closure applies to any facility that has operated under an abbreviated license or a hazardous waste license-by-rule.
- D. **Interim License** closure applies to any facility that has operated under an interim license.
- E. **TSD License** closure applies to any facility that has operated as a fully licensed hazardous waste **Treatment, Storage or Disposal** facility.
- F. **All closures** that cannot be "clean closed".

A. Any **Generator** who plans to cease generation of hazardous waste (or move or vacate a property or change of installation ownership) must notify the DEP 45 days prior to closure. This notification should include the expected last date of hazardous waste generation at the site. At the point in time that a facility ceases operation and will no longer be generating hazardous waste, the site must undergo certified closure in accordance with the Hazardous Waste Management Rules, to insure that all wastes were handled in an appropriate manner. As part of the written notice prior to closure, the generator shall provide the Department with a detailed summary of all past or present releases of hazardous waste or constituents from tanks or containers used to accumulate hazardous waste. Based upon this summary, the frequency and nature of releases, whether the releases were addressed under a Department authorized remediation plan, and other available information, the Department may require the generator to prepare a closure plan for Department review and approval prior to the initiation of closure operations. The Department will notify the generator within 30 days of a properly filed closure notice if a closure plan will be required to be filed with the Department. The generator closure plan contents and closure performance are similar to those for the Interim license closure except that a generator closure is not usually required to provide financial assurance or file with the Registry of Deeds.

Closure procedure requires:

- Cleaning the site of any hazardous waste or residues and disposing at a facility licensed to handle the waste.
- Decontaminating the remaining containers, tanks, liners, bases, materials, equipment, structures, and soil containing or contaminated with hazardous waste residues and disposal of this material at a facility licensed to handle the waste.
- Submitting to the Department, within 10 days of completion of closure, certification that closure was completed in accordance with the provisions of **Chapter 851, Section 11** of the Department's Rules. This certification shall be made by the generator and by an independent State of Maine Registered, Professional Engineer and shall be submitted within ninety (90) days from the date when wastes were no longer generated at the site.

NOTE: Partial closures are required for those units or portions of the facility that will not be used by a new owner or tenant. Partial closure applies when only part of a site is being sold, leased or otherwise removed from the control of the current generator.

B. A **Universal Waste** closure is conducted in a similar fashion as the generator closure except that the focus of the closure is directed to the types of universal waste handled at that facility. Additionally, under certain circumstances the Department may waive the requirement for certification by an independent P.E. for closure of municipal transfer stations. See **Chapter 850, Section 3 A (13) (f-g)**

C. An **Abbreviated License** closure is also conducted in a similar fashion as the generator closure except that the focus of the closure is directed to the units and portions of the facility that were directly involved or affected by the licensed activities that are the subject of the closure. See **Chapter 856, Section 11 C (3)**.

D. An **Interim License** closure is required for a facility that has or should have obtained an interim license from the Department and is not planning to obtain a full facility TSD license for those activities requiring the license. The requirements and standards differ from the Generator standards.

Closure Performance Standard for Interimly Licensed sites

In accordance with 06-096 CMR **Chapter 855, Section 9(A)(15)** of the Hazardous Waste Management Rules (July 20, 2004) and 40 CFR 265.111-265.115 as revised on September 2, 1988, the owner or operator of a hazardous waste facility must close the facility in a manner that:

- Minimizes the need for further maintenance; and
- Controls, minimizes, or eliminates, to the extent necessary to protect human health and the environment, post closure escape of hazardous waste, hazardous waste constituents, leachate, contaminated rainfall, or waste decomposition products to the ground or surface waters or to the atmosphere.

Closure Plan

Submit a Closure Plan to the Department. This plan will be subject to approval by the Board of Environmental Protection. Upon approval of a closure plan for an interimly licensed hazardous waste facility, the Department shall file a notice with the Registry of Deeds for the County in which the facility is located.

Contents of the Closure Plan

The closure plan must include at a minimum:

- (1) A description of how and when the facility will be closed. The description must identify the following:
 - a. How the closure performance standard will be met;
 - b. The time required to complete closure in accordance with 40 CFR 265.113;
 - c. A provision for proper disposal or decontamination of all facility equipment and structures; and
 - d. A provision for the owner or operator and an independent registered professional engineer to certify that the facility has been closed in accordance with the specifications in the approved plan;
- (2) An estimate of the maximum inventory of wastes in storage and in treatment at any time during the life of the facility;
- (3) A description of the steps needed to decontaminate facility equipment during closure; and
- (4) An estimate of the expected year of closure and a schedule for final closure including the total time required to close the facility and the time required for intervening closure activities which will allow tracking of the progress of closure.

Financial Assurance.

Sufficient financial assurance and liability insurance for completion of closure activities must be demonstrated. This demonstration must include a current closure cost estimate prepared and updated in accordance with the requirements of 40 CFR 265.142.

Clean Closure Requirements.

To provide the necessary level of assurance, the Department must require the facility owner or operator to remove all wastes and materials contaminated with waste or leachate (including ground water) and demonstrate that any hazardous constituents left on-site will not pose a substantial present or potential threat to human health or the environment.

In order to certify clean closure, the operator of the site must be able to demonstrate that the site is suitable for unrestricted use. That is:

- the site is suitable for residential, commercial or industrial use;
- there is no contamination of surfaces, soils or groundwater that exceed appropriate standards for long term use or exposure, and;
- there is low potential for vapor intrusion into living or work space.

E. The closure of a **TSD License** is done in accordance with a closure plan that has been developed as part of the license application which must be approved by the Board of Environmental Protection prior to the operation of the facility. As directed in Chapter 854 and Chapter 856 Section 10, the TSD licensee is required to provide financial assurance for operational and closure costs. In

accordance with Chapter 856, Section 10 B (13) the Department files a notice with the County Registry of Deeds which identifies the owners and operators of the facility, types of hazardous waste handled and methods of handling and indicates that a closure plan is on file with the Department.

F. **All closures:** What if clean closure cannot be achieved? In the event the Department determines that clean closure is technically infeasible, the Department may allow engineered solutions to control contaminants. This often includes long term monitoring, financial assurance mechanisms and institutional controls such as deed covenants restricting future activities and limiting uses of the site as a risk management tool. This situation may require the site to be moved into the Corrective Action program. The Department may require completion clean closure if and when structures are removed.

Corrective Action

The primary purpose of the Corrective Action Program under RCRA is to clean up releases of hazardous wastes or hazardous waste constituents that threaten human health or the environment. Corrective actions can be a result of many different circumstances. These include licenses, generator closures, abbreviated license closure, interim license closure, licensed facility closure and post closure licenses. Corrective action orders can also be a result of spills, investigations, inspections and enforcement actions. The vehicles used to bring about a corrective action can be voluntary, part of closure certification, closure plans/order, compliance orders, consent agreements, post closure licenses, regular licenses and court orders.

There are five phases to the Corrective Action Program, and each phase has a goal associated with it.

Phase 1: RCRA Facility Assessment (RFA) - This stage is comprised of a preliminary visual inspection of the site and file reviews. There may be some limited sampling of obvious spill areas. The goal of this assessment is to identify releases or potential releases of hazardous materials that may require further investigation.

Phase 2: RCRA Facility Investigation (RFI) - Once it has been determined that there has been a release of a hazardous substance by the RFA, an RFI is conducted to fully characterize the extent of the release. The goal of this phase is to fully investigate groundwater, soil, surface water and air contamination that may be present. This investigation can be conducted voluntarily by the responsible party, under a license, order, agreement, closure plan, or by a DEP letter of approval.

Phase 3: Corrective Measures Study (CMS) - Once an investigation has been completed, and the extent of contamination has been delineated, a CMS is done to determine if a cleanup is necessary. In this phase, decisions are made with regard to possible risk factors for humans and the environment. Action levels (concentrations of individual chemicals that are considered to cause a risk to human health or the environment) are used to help make decisions on cleanup. Questions are asked such as: Is there a risk from exposure to a chemical substance? What are the exposure pathways; contact? Inhalation? Ingestion? Who/what is most affected by potential exposure to the concentrations measured? Should we be concerned about the risk? Once a decision is made that a cleanup is necessary; the appropriate remedial action is selected from among several options. These actions are required of the responsible party, under a license, order, closure approval, consent agreement, or by a DEP letter of approval.

Phase 4: Corrective Measures Implementation (CMI) - Once the method of cleanup has been agreed upon, it is implemented. This phase includes building the treatment systems, maintaining the system, and monitoring for its effectiveness. This phase would also include the monitoring of any deed restrictions or other restrictions on the property, such as the need to keep the property in industrial development. During this phase, the DEP is generally reviewing monitoring documents of the treatment system and/or media monitoring at the site (usually groundwater monitoring).

Phase 5: Corrective Actions Completed/ No Further Action - Once the DEP has been able to ensure that all the contamination has been removed to levels that are safe and will continue to be safe; the remedial actions can be stopped. No further treatment or monitoring is necessary. There is usually at least one round of confirmation sampling done to insure that all the contaminants have been removed. These decisions are public noticed.

Timeframe for Corrective Action Program

The length of time it takes for a facility to undergo corrective action is completely dependent upon site specific factors such as:

- type and extent of contamination present,
- proximity and sensitivity of nearby receptors (eg., public water supply or endangered species),
- degree of willingness of responsible party to cooperate with regulatory agency,
- length of monitoring necessary to determine contamination has been fully remediated,
- availability of financial resources, equipment and technology and
- seasonal weather fluctuations.

Facilities that may undergo Corrective Action

Maine's Corrective Action Program includes several types of facilities that may be candidates for corrective actions. These include:

- Facilities that notified either EPA and/or DEP as hazardous waste TSD facilities at any point in time;
- Facilities that hold active TSD licenses;
- Facilities that did not notify as a facility but operated as one;
- Facilities where hazardous waste have been disposed; and
- Facilities where hazardous wastes have been released to the environment.

Abandoned facilities and facilities that are not able to financially perform the required investigations and/ or cleanups are candidates for referral to other programs such as the State Uncontrolled Sites program or federally funded cleanup programs.