

Resource Conservation and Recovery Act (RCRA) Hazardous Waste Model Permit Closure Module

This module provides guidance to EPA, state, and territorial permitting authorities. The statements in this document are intended solely as guidance. This document is not intended, nor can it be relied upon, to create any rights enforceable by any party in litigation with the United States. Permitting authorities may decide to follow the guidance provided in this document, or to act at variance with the guidance based on its analysis of the specific facts presented.

When EPA releases a new or revised model permit module, it replaces the corresponding module, including the corresponding module in the 1988 Model RCRA Permit for Hazardous Waste Management Facilities (Draft).

MODULE VII: GENERAL CLOSURE REQUIREMENTS

{Permit Writer: This permit module contains conditions covering the closure standards of 40 CFR part 264, Subpart G.

The model permit conditions in this module reference federal regulations and guidance. Permit Writers should confirm their regulatory citations and their authority's guidance for each permit condition and replace (or add to) the federal citations with state analogous regulatory citations and/or references as applicable. When jointly issuing permits, the federal Permit Writer will issue the federal portion of the permit citing the federal regulations while the state Permit Writer will cite the state analogous regulatory citation in the state's jointly issued portion of the permit.

State Permit Writers need to add or revise permit conditions for State regulatory requirements that are broader in scope, more specific, or otherwise different from the federal requirements.

Permit Writers can insert the title(s) of their regulatory authority's appropriate official(s) for or in addition to instances where the module uses "Director." When jointly issuing permits, the federal Permit Writer will cite the EPA Region's appropriate official in the federal portion of the permit and the state will cite the state's appropriate official in the state's portion of the permit.}

VII.A. CLOSURE PERFORMANCE STANDARD

{Permit Writer: Per 40 CFR 264.110(c), the closure requirements of Subpart G can be replaced with similar, site-specific requirements developed through the corrective action process under the following conditions: (1) the regulated unit is situated among solid waste management units (SWMUs) or areas of concern, a release has occurred, and both the regulated unit and the SWMUs (or areas of concern) are likely to have contributed to the release; and (2) when EPA determines it is not necessary to apply the closure requirements because the alternative requirements developed through the corrective action process will protect human health and the environment and will satisfy the closure performance standard. The new requirements would be specified in a permit directly or incorporated into the permit by reference to an enforceable document for the permitted facility. Refer to Environmental Fact Sheet: Post-Closure Permit Amendment Addresses Corrective Action, EPA530-F-98-031, available at: <https://www.epa.gov/system/files/documents/2022-05/pstcl-fs.pdf>.}

The Permittee must close the hazardous waste management unit(s) (HWMUs) (i.e., partial closure) and Facility (i.e., final closure or closure of all units at the Facility), in accordance with the Closure Plan in the Approved Permit Application. The closure must be done in a manner that minimizes the need for further maintenance; and controls, minimizes, or eliminates 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. [Refer to 40 CFR 264.111 and 270.14(b)(13).]

VII.B. CLOSURE PLAN

{Permit Writer: The Closure Plan must meet the requirements of 40 CFR 264.111 through 264.115. It must also address the specific closure requirements of the applicable requirements of Subpart F of the unit-specific standards. The plan must be submitted with the permit application, in accordance with 40 CFR 270.14(b)(13), and approved by the Director as part of the permit issuance procedures under 40 CFR part 124. In accordance with 40 CFR 264.112(a) and 270.32(b), the approved Closure Plan will become a condition of the RCRA permit.

Owners and operators of certain tank systems, surface impoundments, waste piles, and drip pads, from which they intend to remove or decontaminate hazardous waste at partial or final closure, are required to have contingent Closure Plans in accordance with 40 CFR 264.197(c), 264.228(c), 264.258(c), and 264.575(c), respectively. The Permit Writer should evaluate whether a contingent Closure Plan is appropriate for any Miscellaneous Unit regulated under 40 CFR part 264, Subpart X. Refer to 40 CFR 264.112(a) and 264.601. For permits for these types of facilities that require contingent Closure Plans, insert "Contingent Closure Plan" after "Closure Plan" in each applicable permit condition, append the contingent Closure Plan as Permit Attachment {XXX}, and renumber subsequent attachments.}

VII.B.1. The Permittee must have and maintain the Closure Plan included in Section {XXX} of the Approved Permit Application. This Plan must be approved by the {Director}. [Refer to 40 CFR 264.112(a)(1) and 270.14(b)(13).]

VII.B.2. Until final closure is completed and certified in accordance with 40 CFR 264.115, the Permittee must furnish a copy of the approved plan and all approved revisions to the {Director} upon request, including requests made by mail. [Refer to 40 CFR 264.112(a)(2).]

VII.C. CONTENT OF CLOSURE PLAN

VII.C.1. The Closure Plan must identify steps necessary to perform partial and/or final closure of the Facility at any point during its active life. [Refer to 40 CFR 264.112(b).]

VII.C.2. The plan must at least include the following elements, as required by 40 CFR 264.112(b):

VII.C.2.a. A description of how each hazardous waste management unit at the Facility will be closed in accordance with 40 CFR 264.111.

VII.C.2.b. A description of how final closure of the Facility will be conducted in accordance with 40 CFR 264.111. This description must specify the maximum extent of operations that will remain unclosed during the Facility's active life.

VII.C.2.c. An estimate of the maximum inventory of hazardous wastes present on-site during the Facility's active life; a detailed description of the methods to be used during partial and final closures, including methods for removing, transporting, treating, storing, or disposing of all hazardous wastes, and identification of the type(s) of the off-site hazardous waste management units to be used, if applicable.

VII.C.2.d. A detailed description of the steps needed to remove or decontaminate all hazardous waste residues and contaminated containment system components, equipment, structures, and soils during partial and final closure. This includes procedures for cleaning equipment and removing contaminated soils, and methods for sampling and testing surrounding soils, along with criteria for determining the extent of decontamination required to meet the closure performance standard.

VII.C.2.e. A detailed description of other necessary activities during the closure period to ensure compliance with the closure performance standards, including, but not limited to, ground-water monitoring, leachate collection, and run-on and run-off control.

VII.C.2.f. A schedule for closure of each hazardous waste management unit and for final closure of the Facility. The schedule must include the total time required to close each hazardous waste management unit, and the time required for intervening closure activities which will allow tracking of the progress of partial and final closure.

VII.C.2.g. If the Facility uses trust funds to establish financial assurance under 40 CFR 264.143 or 264.145 and is expected to close prior to the expiration of this Permit, an estimate of the expected year of final closure.

VII.C.2.h. If the {Director} has applied alternative requirements at a regulated unit at the Facility under 40 CFR 264.90(f), 264.110(c), and/or 264.140(d), either the alternative requirements applying to the regulated unit, or a reference to the enforceable document containing those alternative requirements.

VII.D. AMENDMENT OF CLOSURE PLAN

VII.D.1. The Permittee must submit to the {Director} a written notification of or request for a

permit modification to authorize a change in the operating plans, Facility design, or the approved Closure Plan included in Section {XXX} of the Approved Permit Application and include a copy of the amended Closure Plan for approval by the {Director}, in accordance with applicable procedures in 40 CFR 270.42. Such requests may be submitted at any time prior to the notification of partial or final closure of the Facility. [Refer to 40 CFR 264.112(c) and (c)(1) and 270.14(b)(13).]

VII.D.2. The Permittee must submit a written notification of or request for a permit modification to authorize a change in the approved Closure Plan whenever:

VII.D.2.a. Changes in operating plans or Facility design affect the Closure Plan,

VII.D.2.b. There is a change in the expected year of closure, if applicable,

VII.D.2.c. In conducting partial or final closure activities, unexpected events require a modification of the approved Closure Plan, or

VII.D.2.d. The Permittee requests the {Director} to apply alternative requirements to a regulated unit under 40 CFR 264.90(f), 264.110(c), and/or 264.140(d). [Refer to 40 CFR 264.112(c)(2)]

VII.D.3. The Permittee must submit a written request for a permit modification including the copy of the amended Closure Plan at least 60 days prior to the proposed change in Facility design or operation, or no later than 60 days after an unexpected event has occurred which has affected the Closure Plan. If an unexpected event occurs during the partial or final closure period, the Permittee must submit the written request for a permit modification including the copy of the amended Closure Plan no later than 30 days after the unexpected event. [Refer to 40 CFR 264.112(c)(3).]

{Permit Writer: Per 40 CFR 264.112(c)(3), Condition VII.D.4. only applies to surface impoundments or waste piles from which all hazardous waste was intended to be removed at closure and are not otherwise required to prepare a contingent Closure Plan under 40 CFR 264.228(c)(1)(i) or 40 CFR 264.258(c)(1)(i).}

VII.D.4. If the Permittee intends to remove all hazardous wastes at the closure of [surface impoundment or waste pile], the Permittee must submit an amended Closure Plan to the {Director} no later than 60 days from the date the Permittee or {Director} determines that the hazardous waste management unit must be closed as a landfill, in accordance with 40 CFR 264.310. If this determination is made during partial or final closure, the amended Closure Plan must be submitted no later than 30 days from that date. [Refer to 40 CFR 265.112(c)(3).]

VII.D.5. If at any time the {Director} requests modification(s) to the Closure Plan included in Section {XXX} of the Approved Permit Application under the conditions described in VII.D.2, the Permittee must submit the permit modification request and modified Closure Plan within 60 days of the {Director's} request, or within 30 days if the change in Facility conditions occurs during partial or final closure. [Refer to 40 CFR 264.112(c)(4) and 270.14(b)(13).]

VII.E. NOTIFICATION OF PARTIAL AND FINAL CLOSURE

{Permit Writer: For facilities with surface impoundments, waste piles, land treatment units, or landfill units, use Alternative # 1 condition VII.E.1 below.}

VII.E.1. The Permittee must notify the {Director} in writing at least 60 days prior to the date on which the Permittee expects to begin closure of any {insert as appropriate: surface impoundment, waste pile, land treatment unit, or landfill unit}, or final closure of the Facility containing such unit(s). [Refer to 40 CFR 264.112(d).]

{Permit Writer: For facilities with only tanks, containers, or incinerators, substitute VII.E.1. with the alternative #1 condition below.}

Alternative #1: VII.E.1. The Permittee must notify the {Director} in writing at least 45 days prior to the date on which the Permittee expects to begin final closure [Refer to 40 CFR 264.112(d).]

{Permit Writer: For facilities using boilers or industrial furnaces, replace or supplement condition VII.E.1 with the alternative #2 condition below.}

Alternative #2: VII.E.1. The Permittee must notify the {Director} in writing at least 45 days prior to the date on which the Permittee expects to begin partial closure of {insert as appropriate: the boiler or industrial furnace} or final closure of the facility, whichever occurs first, as required by 40 CFR 264.112(d).

VII.E.2. The date the Permittee expects to begin partial or final closure must be either:

VII.E.2.a No later than 30 days after the hazardous waste management unit receives the known final volume of hazardous waste (or non-hazardous wastes, if applicable; refer to Condition VII.G.), in accordance with the approved Closure Plan included in Section {XXX} of the Approved Permit Application; or

VII.E.2.b. If additional hazardous wastes are expected, partial or final closure must begin no later than one year after the most recent volume is received by the Permittee. [Refer

to 40 264.112(d)(2)(i) and 270.14(b)(13).]

VII.E.3. The Permittee may request an extension to the one-year limit for notification of partial or final closure if the Permittee can demonstrate to the {Director} that the hazardous waste management unit or Facility has the capacity to receive additional hazardous wastes (or non-hazardous waste, if applicable, refer to Condition VII.G.) and the Permittee has taken all steps to prevent threats to human health and the environment, including compliance with all applicable permit requirements. Upon satisfactory demonstration, the {Director} may approve the extension. [Refer to 40 CFR 264.112(d)(2).]

{Permit Writer: When considering the termination of a permit, it is important to understand the critical role RCRA permits play. These permits set site-specific conditions to ensure proper monitoring and maintenance, preventing environmental and public health threats. Governed by 40 CFR part 270, they require compliance with basic permitting standards, financial assurance for post-closure care, and corrective actions as needed. Permits also enforce public participation and allow for additional site-specific conditions to protect health and the environment. They remain enforceable regardless of property sale or owner bankruptcy, emphasizing the need for permits to be current and complete. A discussion on the benefits for permits is available.}

VII.E.4. If the {Director} terminates this Permit or if the Permittee is ordered to cease receiving hazardous wastes or to close by judicial decree or final order under section 3008 of RCRA, the notification requirements of section VII.D. of this Permit do not apply. However, the Permittee must close the Facility in accordance with the deadlines established in section VII.E. of this Permit. [Refer to 40 CFR 264.112(d)(3).]

VII.E.5. The Permittee is allowed to remove hazardous wastes and decontaminate or dismantle equipment in accordance with the approved Closure Plan included in Section {XXX} of the Approved Permit Application at any time before or after notification of partial or final closure. [Refer to 40 CFR 264.112(e) and 270.14(b)(13).]

VII.F. TIME ALLOWED FOR CLOSURE

VII.F.1. Initial Waste Management. The Permittee must treat, remove from the unit or Facility, or dispose of on-site all hazardous wastes from the hazardous waste management unit or Facility within 90 days after receiving the final volume of hazardous waste, or non-hazardous wastes, if applicable (refer to Condition VII.G.), in accordance with the approved Closure Plan included in Section {XXX} of the Approved Permit Application. [Refer to 40 CFR 264.113(a) and 270.14(b)(13).]

VII.F.1.a. If additional time is required, the Permittee must request an extension for the

treatment, removal, or disposal of hazardous waste by submitting a permit modification request and a revised Closure Plan to the {Director}, demonstrating that:

VII.F.1.a.i. The activities necessary to treat, remove, or dispose of all hazardous wastes in accordance with the Closure Plan will take longer than 90 days or the hazardous waste management unit or Facility has capacity to receive additional hazardous, or non-hazardous wastes if applicable, and there is a reasonable likelihood of resuming operations of the unit(s) or facility within one year and closure would be incompatible with ongoing site operations; and

VII.F.1.a.ii. The Permittee has taken and will continue to take all steps to prevent threats to human health and the environment, including compliance with all applicable permit requirements. [Refer to 40 CFR 264.113(a)(1) and (2)].

VII.F.1.b. Demonstrations for an extension must be made at least 30 days before the expiration of the 90-day period in Condition VII.E.1. [Refer to 40 CFR 264.113(c)(1).]

VII.F.2. Completion of Closure Activities. The Permittee must complete all partial and final closure activities within 180 days after the receipt of the final volume of hazardous waste, or non-hazardous waste, as applicable (refer to Condition VII.G.), in accordance with the Closure Plan included in Section {XXX} of the Approved Permit Application [Refer to 40 CFR 264.113(b) and 270.14(b)(13).]

VII.F.2.a. If additional time is required, the Permittee must request an extension for the closure period by submitting a permit modification request and a revised Closure Plan to the {Director}, demonstrating that:

VII.F.2.a.i. the partial or final closure activities will necessarily take longer than 180 days; or the hazardous waste management unit or Facility has capacity to receive additional hazardous, or non-hazardous wastes if applicable (refer to Condition VII.G.), and there is a reasonable likelihood of resuming operations of the unit(s) or facility within one year and closure would be incompatible with ongoing site operations; and

VII.F.2.a.ii. the Permittee has taken actions to prevent threats to human health and the environment from the unclosed but not operating hazardous waste management unit or facility, including compliance with all applicable permit requirements. [Refer to 40 CFR 264.113(b).]

VII.F.2.a.iii. Demonstrations for an extension must be made at least 30 days

before the expiration of the 180-day period in Condition VII.F.3., {unless the Permittee is subject to the deadlines in Condition VII.G} [Refer to 40 CFR 264.113(c)(2).]

{Permit Writer: Permit Conditions in section VII.G. only apply to landfill, land treatment and surface impoundment units that may intend to only receive non-hazardous waste after the final receipt of hazardous waste. The Director may authorize the Permittee to only receive non-hazardous wastes in these units upon satisfying the requirements outlined in 40 CFR 264.113(d).}

VII.G. PERMIT MODIFICATION FOR NON-HAZARDOUS WASTE RECEIPT

VII.G.1. If the Facility intends to continue receiving non-hazardous waste in the {insert unit type: landfill, land treatment or surface impoundment}, after the final receipt of hazardous waste at that unit, the Permittee must submit a permit modification request that complies with all applicable requirements in 40 CFR 270 and 124 at least 120 days before receiving the final volume of hazardous waste. The request must demonstrate:

VII.G.1.a. The hazardous waste management has the existing design capacity to receive non-hazardous wastes (as indicated in the Part A of the Approved Permit Application);

VII.G.1.b. There is a reasonable likelihood that the Permittee or another person will receive non-hazardous wastes in the unit within one year after the final receipt of hazardous wastes;

VII.G.1.c. The non-hazardous wastes will not be incompatible with any remaining wastes in the unit and will not be incompatible with the design and operating requirements of the Facility and unit;

VII.G.1.d. Closure of the hazardous waste management unit is not incompatible with continued operation of the unit or Facility; and

VII.G.1.e. The Permittee is operating and will continue to operate in compliance with all applicable permit requirements. [Refer to 40 CFR 264.113(d)(1) and (d)(4).]

VII.G.2. The permit modification request must include an amended waste analysis plan, a revised groundwater monitoring and response program, a human exposure assessment as required under RCRA section 3019, updated Closure and Post-Closure Plans, and revised cost estimates and demonstrations of financial assurance for closure and post-closure care. All plans and documentation must reflect as necessary and appropriate changes due to the presence of

hazardous constituents in the non-hazardous wastes and changes in closure activities, including expected year of closure if applicable under 40 CFR 264.112(b)(7). [Refer to 40 CFR 264.113(d)(2).]

VII.G.3. The permit modification request must include revisions, as necessary and appropriate, to affected conditions of the Permit to account for the receipt of non-hazardous wastes following receipt of the final volume of hazardous wastes. [Refer to 40 CFR 264.113(d)(3).]

{Permit Writer: The following Permit Conditions in VII.G.4. are applicable to surface impoundment units that intend to receive non-hazardous waste after the final receipt of hazardous waste at that unit, which are not in compliance with the liner and leachate collection system requirements in 42 U.S.C. 3004(o)(1) and 3005(j)(1) or 42 U.S.C. 3004(o) (2) or (3) or 3005(j) (2), (3), (4) or (13). Refer to 40 CFR 264.113(e).}

VII.G.4. For surface impoundment units {list the names of the surface impoundment units that are not in compliance with the liner and leachate collection system requirements in 42 U.S.C. 3004(o)(1) and 3005(j)(1) or 42 U.S.C. 3004(o)(2) or (3) or 3005(j)(2), (3), (4) or (13)}, which are intended to receive non-hazardous waste after the final receipt of hazardous waste, the Permittee must:

VII.G.4.a. Submit with the request to modify the permit a contingent corrective measures plan, unless a corrective action plan has already been submitted under 40 CFR 264.99; and a plan for removing hazardous wastes in compliance with VII.G.4.b [40 CFR 264.113(e)(1)]; and

VII.G.4.b. Remove all hazardous wastes from the unit by removing all hazardous liquids and removing all hazardous sludges to the extent practicable without impairing the integrity of the liner(s), if any. [Refer to 40 CFR 264.113(e)(2).]

VII.G.4.c. Complete the removal of hazardous wastes no later than 90 days after the final receipt of hazardous wastes. The {Director} may approve an extension to this deadline if the Permittee demonstrates that the removal of hazardous wastes will, of necessity, take longer than the allotted period to complete and that an extension will not pose a threat to human health and the environment. [Refer to 40 CFR 264.113(e)(3).]

VII.G.4.d. If a release that is a statistically significant increase (or decrease in the case of pH) over background values for detection monitoring parameters or constituents specified in this Permit or that exceeds the facility's ground-water protection standard at the point of compliance, if applicable, is detected in accordance with the requirements in 40 CFR part 264 subpart F, the Permittee:

VII.G.4.d.i. Must implement corrective measures in accordance with the approved contingent corrective measures plan required by VII.G.4.a. no later than one year after detection of the release, or approval of the contingent corrective measures plan, whichever is later;

VII.G.4.d.ii. May continue to receive wastes at the unit following detection of the release only if the approved corrective measures plan includes a demonstration that continued receipt of wastes will not impede corrective action; and

VII.G.4.d.iii. May be required by the {Director} to implement corrective measures in less than one year or to cease the receipt of wastes until corrective measures have been implemented if necessary to protect human health and the environment. [Refer to 40 CFR 264.113(e)(4).]

VII.G.4.e. During the period of corrective action, the Permittee must provide annual reports to the {Director} describing the progress of the corrective action program, compile all groundwater monitoring data, and evaluate the effect of the continued receipt of non-hazardous wastes on the effectiveness of the corrective action. [Refer to 40 CFR 264.113(e)(5).]

VII.G.4.f. The {Director} may require the Permittee to commence closure of the unit if the Permittee fails to implement corrective action measures in accordance with the approved contingent corrective measures plan within one year as required by VII.G.4.d., or fails to make substantial progress in implementing corrective action and achieving the facility's groundwater protection standard or background levels if the facility has not yet established a groundwater protection standard. [Refer to 40 CFR 264.113(e)(6).]

VII.G.4.g. If the Permittee fails to implement corrective measures as required in VII.G.4.d., or if the {Director} determines that substantial progress has not been made pursuant to VII.G.4.f., the {Director} will notify the Permittee in writing of the requirement to begin closure in accordance with the deadlines in VII.F. along with detailed reasons for this determination, and provide the Permittee and the public, through a newspaper notice, the opportunity to submit written comments on the decision no later than 20 days after the date of the notice.

VII.G.4.g.i. If no comments are received, the decision becomes final five days after the comment period ends, and the {Director} will inform the Permittee of the final decision and that a revised Closure Plan, if necessary, must be submitted within 15 days of the final notice and that closure must begin in accordance with

the deadlines in VII.F.

VII.G.4.g.ii. If comments are received, the {Director} will make a final decision within 30 days after the end of the comment period. The {Director} will notify the Permittee in writing, and the public with a public notice, with a detailed statement of reasons for the final decision. If the {Director} determines that substantial progress has not been made, closure must be initiated in accordance with the deadlines in VII.F.

VII.G.4.g.iii. The final determinations made by the {Director} under VII.G.4.f. are not subject to administrative appeal.

VII.H. DISPOSAL OR DECONTAMINATION OF EQUIPMENT, STRUCTURES, AND SOILS

{Permit Writer: Permit Condition VII.H.1 applies to all contaminated equipment, structures, and soils unless otherwise specified in 40 CFR Sections 264.197 264.228, 264.258, 264.280 or 264.310.}

VII.H.1. During the partial and final closure periods, the Permittee must decontaminate and/or properly dispose of all contaminated equipment, structures, and soils in accordance with the Closure Plan in the Approved Permit Application. [Refer to 40 CFR 264.114.]

VII.h.2. During the partial and final closure periods, if the Permittee removes any hazardous wastes or hazardous constituents, the Permittee may become a generator of hazardous waste and must handle this waste in accordance with all applicable requirements of 40 CFR Part 262. [Refer to 40 CFR 264.114.]

VII.I. CERTIFICATION OF CLOSURE

The Permittee must: (1) certify that the Facility or hazardous waste management unit has been closed in accordance with the Closure Plan included in Section {XXX} of the Approved Permit Application, and (2) submit the certification to the {Director} within 60 days of the completion of closure of the Facility or the hazardous waste management unit. The certification must be signed by the Permittee and by a qualified Professional Engineer. Until the permittee is released from the financial assurance requirements for closure under 40 CFR 264.143(i), documentation supporting the Professional Engineer's certification must be furnished to the {Director} upon request. [Refer to 40 CFR 264.115.]

VII.J. SURVEY PLAT

{Permit Writer: This permit condition should be included only if the Facility contains hazardous waste disposal units (i.e., landfill cells, surface impoundments, waste piles, land treatment units; or non-land-based units, such as certain tanks or containment buildings, that cannot fully decontaminate or “clean close” all equipment, structures, and soils, or other cases as required by a state.}

The Permittee must submit a survey plat indicating the location and dimensions of each hazardous waste disposal unit with respect to permanently surveyed benchmarks to the local zoning authority, or the authority with jurisdiction over local land use, and to the {Director} no later than the submission of certification of closure of each hazardous waste disposal unit, in accordance with VII.I. This plat must be prepared and certified by a professional land surveyor and must contain a note, prominently displayed, which states the Permittee’s obligation to restrict disturbance of the hazardous waste disposal unit in accordance with the approved Closure Plan in Section {XXX} and Post-Closure Plan in Section {XXX} of the Approved Permit Application. [Refer to 40 CFR 264.116.]