

3745-55-10 Applicability- closure and post-closure.

Except as rule 3745-54-01 of the Administrative Code provides otherwise:

- (A) Rules 3745-55-11 to 3745-55-15 of the Administrative Code (which concern closure) apply to the owners and operators of all hazardous waste management facilities; and
- (B) Rule 3745-55-16 to 3745-55-20 of the Administrative Code (which concern post-closure care) apply to the owners and operators of:
 - (1) All hazardous waste disposal facilities;
 - (2) Waste piles and surface impoundments from which the owner or operator intends to remove the wastes at closure to the extent that rules 3745-55-10 to 3745-55-20 of the Administrative Code are made applicable to such facilities in rules 3745-56-28 and 3745-56-58 of the Administrative Code;
 - (3) Tank systems that are required under rule 3745-55-97 of the Administrative Code to meet the requirements for landfills; and
 - (4) Containment buildings that are required under rule 3745-205-102 of the Administrative Code to meet the requirements for landfills.
- (C) The director may replace all or part of the requirements of rules 3745-55-10 to 3745-55-20 of the Administrative Code [and the unit-specific standards referenced in paragraph (C) of rule 3745-55-11 of the Administrative Code that apply to a regulated unit] with alternate requirements set out in a permit or in an enforceable document (as defined in rule 3745-50-45 of the Administrative Code) where the director determines that:
 - (1) The regulated unit is situated among waste management units (or areas of concern), a release has occurred, and both the regulated unit and one or more waste management unit(s) (or areas of concern) are likely to have contributed to the release; and
 - (2) It is not necessary to apply the closure requirements of rules 3745-55-10 to 3745-55-20 of the Administrative Code (and those referenced herein) because the alternative requirements will protect human health and the environment and will satisfy the closure performance standard of paragraphs (A) and (B) of rule 3745-55-11 of the Administrative Code.

Effective: 12/07/2004

119.032 review dates: Exempt

Promulgated under: 119.03

Statutory authority: 3734.12

Rule amplifies: 3734.12

Prior effective dates: 01/07/1983, 05/29/1985 (Emer.), 08/29/1985, 12/08/1988, 12/07/2000

3745-55-11 **Closure performance standard.**

The owner or operator must close the facility in a manner that:

- (A) Minimizes the need for further maintenance; and
- (B) Controls, minimizes or eliminates, to the extent necessary to prevent threats to human health and the environment, 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; and
- (C) Complies with the closure requirements of ~~rules 3745-55-10 to 3745-55-20~~ Chapters 3745-54 to 3745-57 and 3745-205 of the Administrative Code, including, but not limited to, the requirements of rules 3745-55-78, 3745-55-97, 3745-56-28, 3745-56-58, 3745-56-80, 3745-57-10, 3745-57-51, 3745-57-91 to 3745-57-93, and 3745-205-102 of the Administrative Code.

Effective: 09/05/2010

R.C. 119.032 review dates: Exempt

CERTIFIED ELECTRONICALLY

Certification

07/23/2010

Date

Promulgated Under: 119.03
Statutory Authority: 3734.12
Rule Amplifies: 3734.12
Prior Effective Dates: 01/07/1983, 12/08/1988, 12/30/1989, 12/07/2000,
12/07/2004

3745-55-12

Closure plan- and amendment of closure plan.(A) Written closure plan.

(1) The owner or operator of a hazardous waste management facility ~~must~~shall have a written closure plan. In addition, certain surface impoundments and waste piles from which the owner or operator intends to remove or decontaminate the hazardous waste at partial or final closure are required by paragraph (C)(1)(a) of rule 3745-56-28 and paragraph (C)(1)(a) of rule 3745-56-58 of the Administrative Code to have contingent closure plans. The closure plan ~~must~~shall be submitted with the permit application, in accordance with paragraph (A)(13) of rule 3745-50-44 of the Administrative Code, and approved by the director as part of the permit issuance procedures under Chapter 3745-50 of the Administrative Code. ~~The~~In accordance with rules 3745-50-40 and 3745-50-51 of the Administrative Code, the approved closure plan will become a condition of the Ohio hazardous waste permit issued.

(2) The director's approval of the closure plan ~~must~~shall ensure that the approved closure plan is consistent with rules 3745-55-11 to 3745-55-15 of the Administrative Code and the applicable requirements of rules 3745-54-90 to 3745-54-101, 3745-55-78, 3745-55-97, 3745-56-28, 3745-56-58, 3745-56-80, 3745-57-10, 3745-57-51, 3745-57-91, and 3745-205-102 of the Administrative Code. Until final closure is completed and certified in accordance with rule 3745-55-15 of the Administrative Code, a copy of the approved closure plan and all approved revisions ~~must~~shall be furnished to the director upon request, including request by mail.

(B) Content of closure plan. The closure plan ~~must~~shall identify steps necessary to perform partial ~~and/or~~ final closure of the facility at any point during ~~its~~the facility's active life. The closure plan ~~must~~shall include, at least:

(1) A description of how each hazardous waste management unit at the facility will be closed in accordance with rule 3745-55-11 of the Administrative Code; and

(2) A description of how final closure of the facility will be conducted in accordance with rule 3745-55-11 of the Administrative Code. The description ~~must~~shall identify the maximum extent of the operations which will be unclosed during the active life of the facility; and

(3) An estimate of the maximum inventory of hazardous wastes ever on-site over the active life of the facility and a detailed description of the methods to be used during partial closures and final closure including, but not limited to, methods for removing, transporting, treating, storing or disposing of all hazardous

wastes, and identification of the ~~type(s)~~types of the off-site hazardous waste management units to be used, if applicable; and

- (4) 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, including but not limited to, procedures for cleaning equipment and removing contaminated soils, methods for sampling and testing surrounding soils, and criteria for determining the extent of decontamination required to satisfy the closure performance standard; and
 - (5) A detailed description of other activities necessary during the closure period to ensure that all partial closures and final closure satisfy the closure performance standards, including, but not limited to, ground water monitoring, leachate collection, and run-on and run-off control; and
 - (6) A schedule for closure of each hazardous waste management unit and for final closure of the facility. The schedule ~~must~~shall include, at a minimum, 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. ~~(for~~For example, in the case of a landfill unit, ~~an estimate~~estimates of the time required to treat or dispose of all hazardous waste inventory and of the time required to place a final cover ~~must~~shall be included.)~~); and~~
 - (7) For facilities that use trust funds to establish financial assurance under rule 3745-55-43 or 3745-55-45 of the Administrative Code and that are expected to close prior to the expiration of the permit, an estimate of the expected year of final closure.
 - (8) For facilities where the director has applied alternative requirements at a regulated unit under paragraph (F) of rule 3745-54-90, paragraph (C) of rule 3745-55-10, ~~and/or~~ paragraph (D) of rule 3745-55-40 of the Administrative Code, either the alternative requirements that apply to the regulated unit, or a reference to the enforceable document that contains those alternative requirements.
- (C) Amendment of closure plan. The owner or operator ~~must~~shall submit a written notification of or request for a permit modification to authorize a change in operating plans, facility design, or the approved closure plan in accordance with the applicable procedures in ~~rules 3745-50-40 to 3745-50-235~~Chapter 3745-50 of the Administrative Code. The written notification or request ~~must~~shall include a copy of the amended closure plan for review or approval by the director.

- (1) The owner or operator may submit to the director a written notification of or request for a permit modification ~~to the director~~ to amend the closure plan at any time prior to the notification of partial or final closure of the facility.
- (2) The owner or operator ~~must~~shall submit a written notification of or request for a permit modification to authorize a change in the approved closure plan whenever:
- (a) Changes in operating plans or facility design affect the closure plan; or
 - (b) There is a change in the expected year of closure, if applicable; or
 - (c) In conducting partial or final closure activities, unexpected events require a modification of the approved closure plan; or
 - (d) The owner or operator requests the director to apply alternative requirements to a regulated unit under paragraph (F) of rule 3745-54-90, paragraph (C) of rule 3745-55-10, ~~and/or~~or paragraph (D) of rule 3745-55-40 of the Administrative Code.
- (3) The owner or operator ~~must~~shall submit a written request for a permit modification including a copy of the amended closure plan for approval at least sixty days prior to the proposed change in facility design or operation, or no later than sixty 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 owner or operator ~~must~~shall submit a written permit modification no later than thirty days after the unexpected event. An owner or operator of a surface impoundment or waste pile ~~that~~who intends to remove all hazardous waste at closure and is not otherwise required to prepare a contingent closure plan under paragraph (C)(1)(a) of rule 3745-56-28 or paragraph (C)(1)(a) of rule 3745-56-58 of the Administrative Code, ~~must~~shall submit an amended closure plan to the director no later than sixty days ~~from~~after the date that the owner or operator or director determines that the hazardous waste management unit ~~must~~shall be closed as a landfill, subject to the requirements of rule 3745-57-10 of the Administrative Code, or no later than thirty days ~~from~~after that date if the determination is made during partial or final closure. The director will approve, disapprove, or modify this amended closure plan in accordance with the procedures in ~~rules 3745-50-40 to 3745-50-235~~Chapter 3745-50 of the Administrative Code. ~~The~~In accordance with rules 3745-50-40 and 3745-50-51 of the Administrative Code, the approved closure plan will become a condition of the Ohio hazardous waste permit issued.

- (4) The director may request modifications to the closure plan under the conditions described in paragraph (C)(2) of this rule. The owner or operator ~~must~~shall submit the modified closure plan within sixty days ~~of~~after the director's request, or within thirty days if the change in facility conditions occurs during partial or final closure. Any modifications requested by the director will be approved in accordance with procedures in ~~rule 3745-50-51~~Chapter 3745-50 of the Administrative Code.

(D) Notification of partial closure and final closure.

- (1) The owner or operator ~~must~~shall notify the director in writing at least sixty days prior to the date on which ~~he~~the owner or operator expects to begin closure of a surface impoundment, waste pile, land treatment unit, or landfill unit, or final closure of a facility with such a unit. The owner or operator ~~must~~shall notify the director in writing at least forty-five days prior to the date on which ~~he~~the owner or operator expects to begin final closure of a facility with only treatment or storage tanks, container storage, or incinerator units to be closed. The owner or operator ~~must~~shall notify the director in writing at least forty-five days prior to the date on which ~~he~~the owner or operator expects to begin partial or final closure of a boiler or industrial furnace, whichever is earlier.
- (2) The date when ~~he~~the owner or operator "expects to begin closure" ~~must~~shall be either:
- (a) No later than thirty days after the date on which any hazardous waste management unit receives the known final volume of hazardous wastes, or, if there is a reasonable possibility that the hazardous waste management unit will receive additional hazardous wastes, no later than one year after the date on which the unit received the most recent volume of hazardous ~~waste~~wastes. If the owner or operator of a hazardous waste management unit can demonstrate to the director that the hazardous waste management unit or facility has the capacity to receive additional hazardous wastes and ~~he~~the owner or operator has taken all steps to prevent threats to human health and the environment, including compliance with all applicable hazardous waste permit requirements ~~in the hazardous waste rules~~, the director may approve an extension to this one-year limit; or

- (b) For units meeting the requirements of paragraph (D) of rule 3745-55-13 of the Administrative Code, no later than thirty days after the date on which the hazardous waste management unit receives the known final volume of nonhazardous ~~waste~~wastes, or if there is a reasonable possibility that the hazardous waste management unit will receive additional nonhazardous ~~waste~~wastes, no later than one year after the date on which the unit received the most recent volume of nonhazardous ~~waste~~wastes. If the owner or operator can demonstrate to the director that the hazardous waste management unit has the capacity to receive additional nonhazardous ~~waste~~wastes and ~~he~~the owner or operator has taken, and will continue to take, all steps to prevent threats to human health and the environment, including compliance with all applicable hazardous waste permit requirements ~~in the hazardous waste rules~~, the director may approve an extension to this one-year limit.
- (3) If the facility's permit is terminated, or if the facility is otherwise ordered, by issuance of a judicial decree or the issuance by the director of an order for compliance to cease receiving hazardous wastes or to close, then the requirements of ~~paragraphs~~paragraph (D) to (D)(3) of this rule do not apply. However, the owner or operator ~~must~~shall close the facility in accordance with the deadlines established in rule 3745-55-13 of the Administrative Code.
- (E) Removal of wastes and decontamination or dismantling of equipment. Nothing in this rule shall preclude the owner or operator from removing hazardous wastes and decontaminating or dismantling equipment in accordance with the approved partial or final closure plan at any time before or after notification of partial or final closure.

Effective: 10/23/2022

Five Year Review (FYR) Dates: Exempt

CERTIFIED ELECTRONICALLY

Certification

10/11/2022

Date

Promulgated Under: 119.03
Statutory Authority: 3734.12
Rule Amplifies: 3734.12
Prior Effective Dates: 01/07/1983, 05/29/1985 (Emer.), 08/29/1985,
12/28/1987, 12/30/1989, 02/11/1992, 10/20/1998,
12/07/2000, 03/13/2002, 12/07/2004, 02/16/2009

3745-55-13

Closure; time allowed for closure.

(A) Within ninety days after receiving the final volume of hazardous wastes, or the final volume of nonhazardous wastes if the owner or operator complies with applicable requirements in paragraphs (D) and (E) of this rule, at a hazardous waste management unit or facility, the owner or operator must treat, remove from the unit or facility, or dispose of on-site, all hazardous wastes in accordance with the approved closure plan. The director may approve a longer period if the owner or operator complies with all applicable requirements for requesting a modification to the permit and demonstrates that:

(1)

(a) The activities required to comply with paragraphs (A)(1)(a) to (A)(1)(b)(iii) of this rule will, of necessity, take longer than ninety days to complete; or

(b)

(i) The hazardous waste management unit or facility has the capacity to receive additional hazardous wastes, or has the capacity to receive nonhazardous wastes if the owner or operator complies with paragraphs (D) and (E) of this rule; and

(ii) There is a reasonable likelihood that he or another person will recommence operation of the hazardous waste management unit or the facility within one year; and

(iii) Closure of the hazardous waste management unit or the facility would be incompatible with continued operation of the site; and

(2) He 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 in the hazardous waste rules.

(B) The owner or operator must complete partial and final closure activities in accordance with the approved closure plan and within one hundred eighty days after receiving the final volume of hazardous wastes, or the final volume of nonhazardous wastes if the owner or operator complies with applicable requirements in paragraphs (D) and (E) of this rule, at the hazardous waste management unit or facility. The director may approve a longer closure period if the owner or operator complies with all applicable requirements in the hazardous waste rules for requesting a modification to the permit and demonstrates that:

- (1)
 - (a) The partial or final closure activities will, of necessity, take longer than one hundred eighty days to complete; or
 - (b)
 - (i) The hazardous waste management unit or facility has the capacity to receive additional hazardous wastes, or has the capacity to receive nonhazardous wastes if the owner or operator complies with paragraphs (D) and (E) of this rule; and
 - (ii) There is reasonable likelihood that he or another person will recommence operation of the hazardous waste management unit or the facility within one year; and
 - (iii) Closure of the hazardous waste management unit or facility would be incompatible with continued operation of the site; and
 - (2) He has taken and will continue to take all steps to prevent threats to human health and the environment from the unclosed but inactive hazardous waste management unit or facility, including compliance with all applicable permit requirements in the hazardous waste rules.
- (C) The demonstrations referred to in paragraphs (A)(1) and (B)(1) of this rule must be made as follows:
 - (1) The demonstrations in paragraph (A)(1) of this rule must be made at least thirty days prior to the expiration of the ninety-day period in paragraph (A) of this rule; and
 - (2) The demonstration in paragraph (B)(1) of this rule must be made at least thirty days prior to the expiration of the one-hundred-eighty-day period in paragraph (B) of this rule, unless the owner or operator is otherwise subject to the deadlines in paragraph (D) of this rule.
- (D) The director may allow an owner or operator to receive only nonhazardous wastes in a landfill, land treatment, or surface impoundment unit after the final receipt of hazardous wastes at that unit if:

- (1) The owner or operator requests a permit modification in compliance with all applicable requirements in rules 3745-50-40 to 3745-50-235 of the Administrative Code and if the permit modification request demonstrates that:
 - (a) The unit has the existing design capacity as indicated on the "Part A" application to receive nonhazardous wastes; and
 - (b) There is a reasonable likelihood that the owner or operator or another person will receive nonhazardous wastes in that unit within one year after the final receipt of hazardous waste; and
 - (c) The nonhazardous wastes will not be incompatible with any remaining wastes in the unit, or with the facility design and operating requirements of the unit or facility under this rule; and
 - (d) Closure of the hazardous waste management unit would be incompatible with continued operation of the unit or facility; and
 - (e) The owner or operator is operating and will continue to operate in compliance with all applicable permit requirements in the hazardous waste rules; and
- (2) The request to modify the permit includes an amended waste analysis plan, ground water monitoring and response program, human exposure assessment required under RCRA section 3019, and closure and post-closure plans, and updated cost estimates and demonstrations of financial assurance for closure and post-closure care as necessary and appropriate, to reflect any changes due to the presence of hazardous constituents in the nonhazardous wastes, and changes in closure activities, including the expected year of closure if applicable under paragraph (B)(7) of rule 3745-55-12 of the Administrative Code, as a result of the receipt of nonhazardous wastes following the final receipt of hazardous waste; and
- (3) The request to modify the permit includes revisions, as necessary and appropriate, to affected conditions of the permit to account for the receipt of nonhazardous wastes following receipt of the final volume of hazardous waste; and
- (4) The request to modify the permit and the demonstrations referred to in paragraphs (D)(1) and (D)(2) of this rule are submitted to the director no later than ~~one hundred twentyone~~ one hundred twenty days prior to the date on which

the owner or operator of the facility receives the known final volume of hazardous waste at the unit, or no later than ninety days after ~~the effective date of this rule~~ February 11, 1992, whichever is later.

(E) In addition to the requirements in paragraph (D) of this rule, an owner or operator of a hazardous waste surface impoundment that is not in compliance with the liner and leachate collection system requirements in 42 U.S.C. 3004(O)(1) and 3005(J)(1) or in 42 U.S.C. 3004(O)(2) or 3004(O)(3) or 3005(J)(2), 3005(J)(3), 3005(J)(4), or 3005(J)(13) must:

(1) Submit with the request to modify the permit:

(a) A contingent corrective measures plan, unless a corrective action plan has already been submitted under rule 3745-54-99 of the Administrative Code; and

(b) A plan for removing hazardous wastes in compliance with paragraph (E)(2) of this rule; and

(2) 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.

(3) Removal of hazardous wastes must be completed no later than ninety days after the final receipt of hazardous wastes. The director may approve an extension to this deadline if the owner or operator 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.

(4) If a release that is a statistically significant increase (or decrease in the case of pH) over the background values for detection monitoring parameters or constituents specified in the 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 rules 3745-54-90 to 3745-54-101 of the Administrative Code, the owner or operator of the unit:

(a) Must implement corrective measures in accordance with the approved contingent corrective measures plan required by paragraph (E)(1) of this rule no later than one year after detection of the release, or approval of the contingent corrective measures plan, whichever is later;

- (b) 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
 - (c) 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.
- (5) During the period of corrective action, the owner or operator must provide ~~semi-annual~~annual reports to the director ~~that describe~~describing the progress of the corrective action program, compile all ground water monitoring data, and evaluate the effect of continued receipt of nonhazardous wastes on the effectiveness of the corrective action.
- (6) The director may require the owner or operator to commence closure of the unit if the owner or operator fails to implement corrective action measures in accordance with the approved contingent corrective measures plan within one year as required in paragraph (E)(4) of this rule, or fails to make substantial progress in implementing corrective action and achieving the facility's ground water protection standard or background levels if the facility has not yet established a ground water protection standard.
- (7) If the owner or operator fails to implement corrective action measures as required in paragraph (E)(4) of this rule, or if the director determines that substantial progress has not been made pursuant to paragraph (E)(6) of this rule, the director will:
 - (a) Notify the owner or operator in writing that the owner or operator must begin closure in accordance with the deadlines in paragraphs (A) and (B) of this rule and provide a detailed statement of reasons for this determination, and
 - (b) Provide the owner or operator and the public, through a newspaper notice, the opportunity to submit written comments on the decision no later than twenty days after the date of the notice.
 - (c) If the director receives no written comments, the decision will become final five days after the close of the comment period. The director will notify the owner or operator that the decision is final, and that a revised closure plan, if necessary, must be submitted within fifteen days of the

final notice and that closure must begin in accordance with the deadlines in paragraphs (A) and (B) of this rule.

- (d) If the director receives written comments on the decision, he will make a final decision within thirty days after the end of the comment period, and provide the owner or operator in writing and the public through a newspaper notice, 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 paragraphs (A) and (B) of this rule.

~~[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules, and federal statutory provisions referenced in this rule, see rule 3745-50-11 of the Administrative Code titled "Incorporated by reference."]~~

[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules, and federal statutory provisions referenced in this rule, see rule 3745-50-11 of the Administrative Code titled "Incorporated by reference."]

Effective: 09/05/2010

R.C. 119.032 review dates: Exempt

CERTIFIED ELECTRONICALLY

Certification

07/23/2010

Date

Promulgated Under: 119.03
Statutory Authority: 3734.12
Rule Amplifies: 3734.12
Prior Effective Dates: 01/07/1983, 11/13/1987, 02/11/1992, 12/07/2004,
02/16/2009

3745-55-14 Disposal or decontamination of equipment, structures and soils.

During the partial and final closure periods, all contaminated equipment, structures, and soils must be properly disposed of or decontaminated unless otherwise specified in rules 3745-55-97, 3745-56-28, 3745-56-58, 3745-56-80, or 3745-57-10 of the Administrative Code. By removing any hazardous wastes or hazardous constituents during partial and final closure, the owner or operator may become a generator of hazardous waste and must handle that waste in accordance with all applicable requirements of Chapter 3745-52 of the Administrative Code.

Effective: 06/29/1990

119.032 review dates: Exempt

Promulgated under: 119.03

Statutory authority: 3734.12

Rule amplifies: 3734.12

Prior effective dates: 01/07/1983, 11/13/1987, 11/17/1988 (Emer.), 02/23/1989, 12/30/1989

3745-55-15

Certification of closure.

Within sixty days ~~of~~after completion of closure of each hazardous waste surface impoundment, waste pile, land treatment, landfill unit, and storage area, and within sixty days ~~of~~after the completion of final closure, the owner or operator ~~shall~~must submit to the director, by registered mail, a certification that the hazardous waste management unit or facility, as applicable, has been closed in accordance with the specifications in the approved closure plan. The certification ~~shall~~must be signed by the owner or operator and by ~~an independent, registered~~a qualified professional engineer. Documentation supporting the ~~independent, registered~~ professional engineer's certification ~~shall~~must be furnished to the director upon request until he releases the owner or operator from the financial assurance requirements for closure under paragraph (I) of rule 3745-55-43 of the Administrative Code.

Effective: 09/05/2010

R.C. 119.032 review dates: Exempt

CERTIFIED ELECTRONICALLY

Certification

07/23/2010

Date

Promulgated Under: 119.03
Statutory Authority: 3734.12
Rule Amplifies: 3734.05, 3734.12
Prior Effective Dates: 01/07/1983, 11/13/1987, 04/01/1990, 11/11/1999

3745-55-16 Survey plat.

No later than the submittal of the certification of closure of each hazardous waste disposal unit, the owner or operator must submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the director, a survey plat indicating the location and dimensions of landfill cells or other hazardous waste disposal units with respect to permanently surveyed benchmarks. This plat must be prepared and certified by a professional land surveyor. The plat filed with the local zoning authority, or the authority with jurisdiction over local land use, must contain a note, prominently displayed, which states the owner's or operator's obligation to restrict disturbance of the hazardous waste disposal unit in accordance with the applicable provisions in rules 3745-55-10 to 3745-55-20 of the Administrative Code.

Effective: 12/07/2004

119.032 review dates: Exempt

Promulgated under: 119.03

Statutory authority: 3734.12

Rule amplifies: 3734.12

Prior effective dates: 11/13/1987

3745-55-17

Post-closure care and use of property.

(A)

(1) Post-closure care for each hazardous waste management unit subject to the requirements of rules 3745-55-17 to 3745-55-20 of the Administrative Code must begin after completion of closure of the unit and continue for thirty years after the date of completing closure and must consist of at least the following:

(a) Monitoring and reporting in accordance with the requirements of rules 3745-54-90 to 3745-54-101, 3745-56-20 to 3745-56-31, 3745-56-50 to 3745-56-59, 3745-56-70 to 3745-56-83, 3745-57-02 to 3745-57-17, and 3745-57-90 to 3745-57-93 of the Administrative Code; and

(b) Maintenance and monitoring of waste containment systems in accordance with the requirements of rules 3745-54-90 to 3745-54-101, 3745-56-20 to 3745-56-31, 3745-56-50 to 3745-56-59, 3745-56-70 to 3745-56-83, 3745-57-02 to 3745-57-17, and 3745-57-90 to 3745-57-93 of the Administrative Code.

(2) Any time preceding partial closure of a hazardous waste management unit subject to post-closure care requirements or final closure, or any time during the post-closure period for a particular unit, the director may, in accordance with the permit modification procedures in rules 3745-50-40 to ~~3745-50-66~~3745-50-235 of the Administrative Code:

(a) Shorten the post-closure care period applicable to the hazardous waste management unit or facility, if all disposal units have been closed, if he finds that the reduced period is sufficient to protect human health and the environment (e.g., leachate or ground water monitoring results, characteristics of the hazardous wastes, application of advanced technology, or alternative disposal, treatment, or re-use techniques indicate that the hazardous waste management unit or facility is secure); or

(b) Extend the post-closure care period applicable to the hazardous waste management unit or facility if he finds that the extended period is necessary to protect human health and the environment (e.g., leachate or groundwater monitoring results indicate a potential for migration of hazardous wastes at levels which may be harmful to human health and the environment).

(B) The director may require, at partial and final closure, continuation of any of the

security requirements of rule 3745-54-14 of the Administrative Code during part or all of the post-closure period when:

- (1) Hazardous wastes may remain exposed after completion of partial or final closure; or
 - (2) Access by the public or domestic livestock may pose a hazard to human health.
- (C) Post-closure use of property on or in which hazardous wastes remain after partial or final closure must never be allowed to disturb the integrity of the final cover, liner(s), or any other components of any containment system, or the function of the facility's monitoring systems, unless the director finds that the disturbance:
- (1) Is necessary to the proposed use of the property, and will not increase the potential hazard to human health or the environment; or
 - (2) Is necessary to reduce a threat to human health or the environment.
- (D) All post-closure care activities must be in accordance with the provisions of the approved post-closure plan as specified in rule 3745-55-18 of the Administrative Code.

Effective: 02/16/2009

R.C. 119.032 review dates: Exempt

CERTIFIED ELECTRONICALLY

Certification

01/13/2009

Date

Promulgated Under: 119.03
Statutory Authority: 3734.12
Rule Amplifies: 3734.12
Prior Effective Dates: 01/07/1983, 11/13/1987, 02/23/1989, 12/30/1989,
03/13/2002, 12/07/2004

3745-55-18

Post-closure plan and amendment of post-closure plan.

- (A) Written post-closure plan. The owner or operator of a hazardous waste disposal unit shall have a written post-closure plan. In addition, certain surface impoundments and waste piles from which the owner or operator intends to remove or decontaminate the hazardous wastes at partial or final closure are required by paragraph (C)(2) of rule 3745-56-28 and paragraph (C)(1) of rule 3745-56-58 of the Administrative Code to have contingent post-closure plans. Owners or operators of surface impoundments and waste piles not otherwise required to prepare contingent post-closure plans under paragraph (C)(2) of rule 3745-56-28 and paragraph (C)(1) of rule 3745-56-58 of the Administrative Code shall submit a post-closure plan to the director within ninety days after the date that the owner or operator or director determines that the hazardous waste management unit shall be closed as a landfill, subject to rules 3745-55-17 to 3745-55-20 of the Administrative Code. The post-closure plan shall be submitted with the permit application, in accordance with paragraph (A)(13) of rule 3745-50-44 of the Administrative Code, and approved by the director as part of the permit issuance procedures under rules 3745-50-40 to 3745-50-235 of the Administrative Code. The approved post-closure plan will become a condition of the Ohio hazardous waste permit.
- (B) For each hazardous waste management unit subject to this rule, the post-closure plan shall identify the activities that will be carried on after closure of each disposal unit and the frequency of these activities, and shall include at least:
- (1) A description of the planned monitoring activities and frequencies at which the planned monitoring activities will be performed to comply with rules 3745-54-90 to 3745-54-101, 3745-56-20 to 3745-56-31, 3745-56-50 to 3745-56-59, 3745-56-70 to 3745-56-83, 3745-57-02 to 3745-57-17, and 3745-57-90 to 3745-57-93 of the Administrative Code during the post-closure care period.
 - (2) A description of the planned maintenance activities, and frequencies at which the planned maintenance activities will be performed, to ensure both:
 - (a) The integrity of the cap and final cover or other containment systems in accordance with rules 3745-54-90 to 3745-54-101, 3745-56-20 to 3745-56-31, 3745-56-50 to 3745-56-59, 3745-56-70 to 3745-56-83, 3745-57-02 to 3745-57-17, and 3745-57-90 to 3745-57-93 of the Administrative Code; and
 - (b) The function of the monitoring equipment in accordance with rules 3745-54-90 to 3745-54-101, 3745-56-20 to 3745-56-31, 3745-56-50 to 3745-56-59, 3745-56-70 to 3745-56-83, 3745-57-02 to 3745-57-17, and 3745-57-90 to 3745-57-93 of the Administrative Code.

- (3) The name, address, and telephone number of the person or office to contact about the hazardous waste disposal unit or facility during the post-closure care period.
 - (4) For facilities where the director has applied alternative requirements at a regulated unit under paragraph (F) of rule 3745-54-90, paragraph (C) of rule 3745-55-10, or paragraph (D) of rule 3745-55-40 of the Administrative Code, either the alternative requirements that apply to the regulated unit, or a reference to the enforceable document containing the alternative requirements.
- (C) Until final closure of the facility, a copy of the approved post-closure plan shall be furnished to the director upon request, including request by mail. After final closure has been certified, the person or office specified in paragraph (B)(3) of this rule shall keep the approved post-closure plan during the remainder of the post-closure period.
- (D) Amendment of post-closure plan. The owner or operator shall submit a written notification of or request for a permit modification to authorize a change in the approved post-closure plan in accordance with the applicable requirements of rules 3745-50-40 to 3745-50-235 of the Administrative Code. The written notification or request shall include a copy of the amended post-closure plan for review or approval by the director:
- (1) The owner or operator may submit a written notification or request to the director for a permit modification to amend the post-closure plan at any time during the active life of the facility or during the post-closure care period.
 - (2) The owner or operator shall submit a written notification of or request for a permit modification to authorize a change in the approved post-closure plan whenever any of the following occur:
 - (a) Changes in operating plans or facility design affect the approved post-closure plan.
 - (b) There is a change in the expected year of final closure, if applicable.
 - (c) Events which occur during the active life of the facility, including partial and final closures, affect the approved post-closure plan.
 - (d) The owner or operator requests the director to apply alternative requirements to a regulated unit under paragraph (F) of rule 3745-54-90, paragraph (C) of rule 3745-55-10, or paragraph (D) of rule 3745-55-40 of the Administrative Code.
 - (3) The owner or operator shall submit a written request for a permit modification at least sixty days prior to the proposed change in facility design or operation,

or no later than sixty days after an unexpected event has occurred which has affected the post-closure plan. An owner or operator of a surface impoundment or waste pile who intends to remove all hazardous waste at closure and is not otherwise required to submit a contingent post-closure plan under paragraph (C)(2) of rule 3745-56-28 and paragraph (C)(1) of rule 3745-56-58 of the Administrative Code shall submit a post-closure plan to the director no later than ninety days after the date that the owner or operator or director determines that the hazardous waste management unit shall be closed as a landfill, subject to rule 3745-57-10 of the Administrative Code. The director will approve, disapprove, or modify this post-closure plan in accordance with rules 3745-50-40 to 3745-50-235 of the Administrative Code. The approved post-closure plan will become a permit condition in accordance with the permit issuance process.

- (4) The director may request modifications to the post-closure plan under the conditions described in paragraph (D)(2) of this rule. The owner or operator shall submit the modified post-closure plan no later than sixty days after the director's request, or no later than ninety days after the director's request if the unit is a surface impoundment or waste pile not previously required to prepare a contingent post-closure plan. Any modifications requested by the director will be approved, disapproved, or modified in accordance with rules 3745-50-40 to 3745-50-235 of the Administrative Code.

Effective: 9/29/2021

Five Year Review (FYR) Dates: 6/7/2021 and 06/05/2026

CERTIFIED ELECTRONICALLY

Certification

09/14/2021

Date

Promulgated Under: 119.03

Statutory Authority: 3734.12

Rule Amplifies: 3734.12

Prior Effective Dates: 01/07/1983, 12/28/1987, 02/23/1989, 12/30/1989,
11/11/1999, 03/13/2002, 12/07/2004, 02/16/2009,
10/31/2015

3745-55-19

Notice to local land authority.

- (A) No later than sixty days after certification of closure of each hazardous waste disposal unit, the owner or operator must submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the director, a record of the type, location, and quantity of hazardous wastes disposed of within each cell or other disposal unit of the facility. For hazardous wastes disposed of before January 12, 1981, the owner or operator must identify the type, location, and quantity of the hazardous wastes to the best of his knowledge and in accordance with any records he has kept.
- (B) Within sixty days of certification of closure of the first hazardous waste disposal unit and within sixty days of certification of closure of the last hazardous waste disposal unit, the owner or operator must:
- (1) Record, in accordance with state law, a notation on the deed to the facility property, or on some other instrument which is normally examined during title search, that will in perpetuity notify any potential purchaser of the property that:
 - (a) The land has been used to manage hazardous wastes;
 - (b) Its use is restricted under rules 3745-55-10 to 3745-55-20 of the Administrative Code; and
 - (c) The survey plat and record of the type, location, and quantity of hazardous wastes disposed of within each cell or other hazardous waste disposal unit of the facility required by this rule and rule 3745-55-16 of the Administrative Code have been filed with the local zoning authority or the authority with jurisdiction over local land use and with the director.
 - (2) Submit a certification, signed by the owner or operator, that he has recorded the notation specified in paragraph (B)(1) of this rule, including a copy of the document in which the notation has been placed, to the director.
- (C) If the owner or operator or any subsequent owner or operator of the land upon which a hazardous waste disposal unit is located wishes to remove hazardous wastes and hazardous waste residues, the liner, if any, or contaminated soils, he must request a modification to the post-closure permit in accordance with the applicable requirements in rules 3745-50-40 to ~~3745-50-66~~3745-50-235 of the Administrative Code. The owner or operator must demonstrate that the removal of hazardous wastes will satisfy the criteria of paragraph (C) of rule 3745-55-17 of the Administrative Code. By removing hazardous waste, the owner or operator may become a generator of hazardous waste and must manage it in accordance with all

applicable requirements in the hazardous waste rules. If he is granted a permit modification or otherwise granted approval to conduct such removal activities, the owner or operator may request that the director approve either:

- (1) The removal of the notation on the deed to the facility property or other instrument normally examined during title search; or
- (2) The addition of a notation to the deed or instrument indicating the removal of the hazardous waste.

Effective: 02/16/2009

R.C. 119.032 review dates: Exempt

CERTIFIED ELECTRONICALLY

Certification

01/13/2009

Date

Promulgated Under: 119.03
Statutory Authority: 3734.12
Rule Amplifies: 3734.12
Prior Effective Dates: 01/07/1983, 11/13/1987, 12/07/2004

3745-55-20

Certification of completion of post-closure care.

No later than sixty days after completion of the established post-closure care period for each hazardous waste disposal unit, the owner or operator must submit to the director, by registered mail, a certification that the post-closure care period for the hazardous waste disposal unit was performed in accordance with the specifications in the approved post-closure plan. The certification must be signed by the owner or operator and ~~an independent, qualified, registered~~ a qualified professional engineer. Documentation supporting the ~~independent, qualified, registered~~ professional engineer's certification must be furnished to the director upon request until he releases the owner or operator from the financial assurance requirements for post-closure care under paragraph (I) of rule 3745-55-45 of the Administrative Code.

Effective: 09/05/2010

R.C. 119.032 review dates: Exempt

CERTIFIED ELECTRONICALLY

Certification

07/23/2010

Date

Promulgated Under: 119.03
Statutory Authority: 3734.12
Rule Amplifies: 3734.12
Prior Effective Dates: 01/07/1983, 05/29/1985 (Emer.), 08/29/1985,
11/13/1987, 04/01/1990

3745-55-40

Applicability- financial requirements.

- (A) The requirements of rules 3745-55-42, 3745-55-43, and 3745-55-47 to 3745-55-51 of the Administrative Code apply to owners and operators of all hazardous waste facilities, except as provided otherwise in this rule or rule 3745-54-01 of the Administrative Code.
- (B) The requirements of rules 3745-55-44 and 3745-55-45 of the Administrative Code apply only to owners and operators of:
- (1) Disposal facilities;
 - (2) Piles, and surface impoundments from which the owner or operator intends to remove the wastes at closure, to the extent that rules 3745-55-44 and 3745-55-45 of the Administrative Code are made applicable to such facilities in rules 3745-56-28 and 3745-56-58 of the Administrative Code;
 - (3) Tank systems that are required under rule 3745-55-97 of the Administrative Code to meet the requirements for landfills; and
 - (4) Containment buildings that are required under rule 3745-205-102 of the Administrative Code to meet the requirements for landfills.
- (C) The state of Ohio and the federal government are exempt from the requirements of rules 3745-55-40 to 3745-55-51 of the Administrative Code.
- (D) The director may replace all or part of the requirements of rules 3745-55-40 to 3745-55-51 of the Administrative Code that apply to a regulated unit with alternate requirements of financial assurance set out in the permit or in an enforceable document (as defined in rule 3745-50-45 of the Administrative Code) where the director:
- (1) Prescribes alternative requirements for the regulated unit under paragraph (F) of rule 3745-54-90 and/or paragraph ~~(D)~~(C) of rule 3745-55-10 of the Administrative Code; and
 - (2) Determines that it is not necessary to apply the requirements of rules 3745-55-40 to 3745-55-51 of the Administrative Code because the alternative financial assurance requirements will protect human health and the environment.

Effective: 09/05/2010

R.C. 119.032 review dates: Exempt

CERTIFIED ELECTRONICALLY

Certification

07/23/2010

Date

Promulgated Under: 119.03
Statutory Authority: 3734.12
Rule Amplifies: 3734.12
Prior Effective Dates: 08/26/1983 (Emer.), 11/29/1983, 05/29/1985 (Emer.),
08/29/1985, 12/08/1988, 12/07/2000, 12/07/2004

3745-55-41 Definitions.

- (A) When used in rules 3745-55-40 to 3745-55-51 of the Administrative Code, the following terms have the following meanings:
- (1) "Closure plan" means the plan for closure prepared in accordance with the requirements of rule 3745-55-12 of the Administrative Code.
 - (2) "Current closure cost estimate" means the most recent of the estimates prepared in accordance with paragraphs (A), (B), and (C) of rule 3745-55-42 of the Administrative Code.
 - (3) "Current post-closure care estimate" means the most recent of the estimates prepared in accordance with paragraphs (A), (B), and (C) of rule 3745-55-44 of the Administrative Code.
 - (4) "Parent corporation" means a corporation which directly owns at least fifty per cent of the voting stock of the corporation which is the facility owner or operator; the latter corporation is deemed a "subsidiary" of the parent corporation.
 - (5) "Post-closure plan" means the plan for post-closure care prepared in accordance with the requirements of rules 3745-55-17 to 3745-55-20 of the Administrative Code.
- (B) The following terms are used in the specifications for the financial tests for closure, post-closure care, and liability coverage. The definitions are intended to assist in the understanding of these rules and are not intended to limit the meanings of terms in a way that conflicts with generally accepted accounting practices.
- (1) "Assets" means all existing and all probable future economic benefits obtained or controlled by a particular entity.
 - (2) "Current assets" means cash or other assets or resources commonly identified as those which are reasonably expected to be realized in cash or sold or consumed during the normal operating cycle of the business.
 - (3) "Current liabilities" means obligations whose liquidation is reasonably expected to require the use of existing resources properly classifiable as current assets or the creation of other current liabilities.
 - (4) "Current plugging and abandonment cost estimate" means the most recent of the estimates prepared in accordance with rule 3745-34-36 of the Administrative Code.
 - (5) "Independently audited" refers to an audit performed by an independent certified public accountant in accordance with generally accepted auditing standards.

- (6) "Liabilities" means probable future sacrifices of economic benefits arising from present obligations to transfer assets or provide services to other entities in the future as a result of past transactions or events.
 - (7) "Net working capital" means current assets minus current liabilities.
 - (8) "Net worth" means total assets minus total liabilities and is equivalent to owner's equity.
 - (9) "Tangible net worth" means the tangible assets that remain after deducting liabilities; such assets would not include intangibles such as good will and rights to patents or royalties.
- (C) As used in the liability insurance requirements, the terms "bodily injury" and "property damage" shall have the meanings given these terms by applicable Ohio law. However, these terms do not include those liabilities which, consistent with standard industry practices, are excluded from coverage in liability policies for bodily injury and property damage. Ohio EPA intends the meanings of other terms used in the liability insurance requirements to be consistent with their common meanings within the insurance industry. The following definitions of several of the terms are intended to assist in the understanding of the liability insurance requirements and are not intended to limit their meanings in a way that conflicts with general insurance industry usage.
- (1) "Accidental occurrence" means an accident, including continuous or repeated exposure to conditions, which results in bodily injury or property damage neither expected nor intended from the standpoint of the insured.
 - (2) "Legal defense costs" means any expenses that an insurer incurs in defending against claims of third parties brought under the terms and conditions of an insurance policy.
 - (3) "Non sudden accidental occurrence" means an occurrence which takes place over time and involves continuous or repeated exposure.
 - (4) "Sudden accidental occurrence" means an occurrence which is not continuous or repeated in nature.
- (D) "Substantial business relationship" means the extent of a business relationship necessary under applicable Ohio law to make a guarantee contract issued incident to that relationship valid and enforceable. A "substantial business relationship" must arise from a pattern of recent or ongoing business transactions, in addition to the guarantee itself, such that a currently existing business relationship between the guarantor and the owner or operator is demonstrated to the satisfaction of the director.

Effective: 09/02/1997

119.032 review dates: Exempt

Promulgated under: 119.03

Statutory authority: 3734.12

Rule amplifies: 3734.12

Prior effective dates: 08/26/1983 (Emer.), 11/29/1983, 11/13/1987, 06/29/1990

3745-55-42

Cost estimate for closure.

- (A) The owner or operator shall have a detailed written estimate, in current dollars, of the cost of closing the facility in accordance with rules 3745-55-11 to 3745-55-15 of the Administrative Code and applicable closure requirements in rules 3745-55-78, 3745-55-97, 3745-56-28, 3745-56-58, 3745-56-80, 3745-57-10, 3745-57-51, 3745-57-91 to 3745-57-93, and 3745-205-102 of the Administrative Code.
- (1) The closure cost estimate shall equal the cost of final closure at the point in the facility's active life when the extent and manner of the facility's operation would make closure the most expensive, as indicated by the facility's closure plan [see paragraph (B) of rule 3745-55-12 of the Administrative Code].
 - (2) The closure cost estimate shall be based on the costs to the owner or operator of hiring a third party to close the facility. A third party is a party who is neither a parent nor a subsidiary of the owner or operator [see definition of "parent corporation" in paragraph (A)(4) of rule 3745-55-41 of the Administrative Code]. The owner or operator may use costs for on-site disposal if the owner or operator can demonstrate that on-site disposal capacity will exist at all times over the life of the facility.
 - (3) The closure cost estimate may not incorporate any salvage value that may be realized with the sale of hazardous wastes, or nonhazardous wastes if applicable under paragraph (D) of rule 3745-55-13 of the Administrative Code, facility structures or equipment, land, or other assets associated with the facility at the time of partial or final closure.
 - (4) The owner or operator may not incorporate a zero cost for hazardous wastes, or nonhazardous wastes if applicable under paragraph (D) of rule 3745-55-13 of the Administrative Code, that might have economic value.
- (B) During the active life of the facility, the owner or operator shall adjust the closure cost estimate for inflation within sixty days prior to the anniversary date of the establishment of the financial instruments used to comply with rule 3745-55-43 of the Administrative Code. For owners and operators using the financial test or corporate guarantee, the closure cost estimate shall be updated for inflation within thirty days after the close of the owner or operator's fiscal year and before submittal of updated information to the director as specified in paragraph (F)(3) of rule 3745-55-43 of the Administrative Code. The adjustment may be made by recalculating the maximum costs of closure in current dollars, or by using an inflation factor derived as specified in 40 CFR 264.142(b).

- (1) The first adjustment is made by multiplying the closure cost estimate by the inflation factor. The result is the adjusted closure cost estimate.
 - (2) Subsequent adjustments are made by multiplying the latest adjusted closure cost estimate by the latest inflation factor.
- (C) During the active life of the facility, the owner or operator shall revise the closure cost estimate no later than thirty days after the director has approved the request to modify the closure plan, if the change in the closure plan increases the cost of closure. The revised closure cost estimate shall be adjusted for inflation as specified in paragraph (B) of this rule.
- (D) ~~The~~ During the operating life of the facility, the owner or operator shall keep ~~the following~~ at the facility ~~during the operating life of the facility~~: the latest closure cost estimate prepared in accordance with paragraphs (A) and (C) of this rule and, when this estimate has been adjusted in accordance with paragraph (B) of this rule, the latest adjusted closure cost estimate.
- (E) A copy of the facility's current, detailed closure cost estimate prepared and maintained in accordance with paragraphs (A) and (B) of this rule shall be submitted annually to the director.
- (1) For owners or operators using a financial mechanism other than the financial test, such submittal of the closure cost estimate to the director shall be made within sixty days ~~following~~ after a revision or update to the estimate made in accordance with paragraph (B) of this rule.
 - (2) For owners or operators using a financial test, such submittal of the closure cost estimate to the director shall be made within ninety days after the close of the firm's fiscal year ~~following~~ after a revision or update to the estimate made in accordance with paragraph (B) of this rule.

[Comment 1: As used in this rule, "detailed closure cost estimate" means a listing of the specific costs associated with each major phase of closure activity for each hazardous waste management unit, including but not limited to: removal, transportation, and off-site disposal of hazardous waste and contaminated media; decontamination activities; construction of landfill cap system; sampling and laboratory analysis; and certification of closure by a qualified professional engineer.]

[Comment 2: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules, and federal statutory provisions referenced in this rule, see rule 3745-50-11 of the Administrative Code titled "Incorporated by reference."]

Effective: 9/29/2021
Five Year Review (FYR) Dates: 6/7/2021 and 06/05/2026

CERTIFIED ELECTRONICALLY

Certification

09/14/2021

Date

Promulgated Under: 119.03
Statutory Authority: 3734.12
Rule Amplifies: 3734.12
Prior Effective Dates: 08/26/1983 (Emer.), 11/29/1983, 08/30/1984,
11/13/1987, 12/30/1989, 02/11/1992, 02/14/1995,
10/20/1998, 12/07/2000, 03/13/2002, 12/07/2004,
09/05/2010, 03/24/2017

3745-55-43

Financial assurance for facility closure.

An owner or operator of each facility shall establish financial assurance for closure of the facility. The owner or operator shall choose from among the following options:

(A) Closure trust fund.

- (1) An owner or operator may satisfy the requirements of this rule by establishing a closure trust fund which conforms to the requirements of ~~paragraphs~~paragraph (A) ~~to (A)(1)(b)~~ of this rule and submitting an originally signed duplicate of the trust agreement to the director ~~by certified mail~~. An owner or operator of a new facility shall send the originally signed duplicate of the trust agreement to the director ~~by certified mail~~ at least sixty days before the date on which hazardous waste is first received for treatment, storage, or disposal. The trustee shall be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency.
- (2) The wording of the trust agreement shall be identical to the wording specified in paragraph (A)(1) of rule 3745-55-51 of the Administrative Code and the trust agreement shall be accompanied by a formal certification of acknowledgement. [For example, see paragraph (A)(2) of rule 3745-55-51 of the Administrative Code.] "Schedule A" of the trust agreement shall be updated within sixty days after a change in the amount of the current closure cost estimate covered by the agreement.
- (3) Payments to the trust fund shall be made annually by the owner or operator over the term of the initial hazardous waste permit or over the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter. This period is hereafter referred to as the "pay-in period." The payments into the closure trust fund shall be made as follows:
 - (a) For a new facility, the first payment shall be made before the initial receipt of hazardous waste for treatment, storage, or disposal. A receipt from the trustee for this payment shall be submitted by the owner or operator to the director before this initial receipt of hazardous waste. The first payment shall be at least equal to the current closure cost estimate (see rule 3745-55-42 of the Administrative Code) except as provided in paragraph (G) of this rule, divided by the number of years in the pay-in period. Subsequent payments shall be made no later than thirty days after each anniversary date of the first payment. The amount of each subsequent payment shall be determined by this formula:

$$\text{Next payment} = (\text{CE} - \text{CV}) / Y$$

Where CE is the current closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

- (b) If an owner or operator establishes a trust fund as specified in paragraph (A) of this rule, and the value of that trust fund is less than the current closure cost estimate when a permit is issued to the facility, the amount of the current closure cost estimate still to be paid into the trust fund shall be paid in over the pay-in period as described in paragraph (A)(3) of this rule. Payments shall continue to be made no later than thirty days after each anniversary date of the first payment made pursuant to Chapters 3745-65 to 3745-69 and 3745-256 of the Administrative Code. The amount of each payment must be determined by this formula:

$$\text{Next payment} = (\text{CE} - \text{CV}) / Y$$

Where CE is the current closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

- (4) The owner or operator may accelerate payments unto the trust fund or the owner or operator may deposit the full amount of the current closure cost estimate at the time the trust fund is established. However, the owner or operator shall maintain the value of the trust fund at no less than the value the trust fund would have if annual payments were made as specified in paragraph (A)(3) of this rule.
- (5) If the owner or operator establishes a closure trust fund after having used one or more alternate mechanisms specified in this rule or in rule 3745-66-43 of the Administrative Code, the owner's or operator's first payment shall be in at least the amount that the trust fund would contain if the trust fund were established initially and annual payments made according to paragraph (A)(3) of this rule and paragraph (A) of rule 3745-66-43 of the Administrative Code, as applicable.
- (6) After the pay-in period is completed, whenever the current closure cost estimate changes, the owner or operator shall compare the new estimate with the trustee's most recent annual valuation of the trust fund. If the value of the trust fund is less than the amount of the new estimate, the owner or operator, within sixty days after the change in the cost estimate, ~~either shall either~~ deposit an amount into the trust fund so that the value of the trust fund after this deposit at least equals the amount of the current closure cost estimate, or obtain other financial assurance as specified in this rule to cover the difference.

- (7) If the value of the trust fund is greater than the total amount of the current closure cost estimate, the owner or operator may submit a written request to the director for release of the amount in excess of the current closure cost estimate.
 - (8) If an owner or operator substitutes other financial assurance as specified in this rule for all or part of the trust fund, the owner or operator may submit a written request to the director for release of the amount in excess of the current closure cost estimate covered by the trust fund.
 - (9) Within sixty days after receiving a request from the owner or operator for release of funds as specified in paragraph (A)(7) or (A)(8) of this rule, the director will instruct the trustee to release to the owner or operator such funds as the director specifies in writing.
 - (10) After beginning partial or final closure, an owner or operator or another person authorized to conduct partial or final closure may request reimbursement for partial or final closure expenditures by submitting itemized bills to the director. The owner or operator may request reimbursements for partial closure only if sufficient funds are remaining in the trust fund to cover the maximum costs of closing the facility over the remaining operating life of the facility. Within sixty days after receiving bills for partial or final closure activities, the director will determine whether the partial or final closure expenditures are in accordance with the approved closure plan or are otherwise justified, and if so, the director will instruct the trustee to make reimbursement in such amounts as the director specifies in writing. If the director has reason to believe that the maximum cost of closure over the remaining operating life of the facility will be significantly greater than the value of the trust fund, the director may withhold reimbursement of such amounts as the director deems prudent until the director determines, in accordance with paragraph (I) of this rule, that the owner or operator is no longer required to maintain financial assurance for final closure of the facility. If the director does not instruct the trustee to make such reimbursements, the director will provide the owner or operator with a detailed written statement of reasons.
 - (11) The director will agree to termination of the trust when either:
 - (a) The owner or operator substitutes alternate financial assurance as specified in this rule.
 - (b) The director releases the owner or operator from the requirements of this rule in accordance with paragraph (I) of this rule.
- (B) Surety bond guaranteeing payment into a closure trust fund.

- (1) An owner or operator may satisfy the requirements of this rule by obtaining a surety bond which conforms to the requirements of ~~paragraphs~~ paragraph (B) to (B)(9) of this rule and submitting the bond to the director ~~by certified mail~~. An owner or operator of a new facility shall submit the surety bond to the director ~~by certified mail~~ at least sixty days before the date on which hazardous waste is first received for treatment, storage, or disposal. The bond shall be effective before this initial receipt of hazardous waste. ~~The~~ At a minimum, the surety company issuing the bond shall, ~~at a minimum,~~ be among those listed as acceptable sureties on federal bonds in "Circular 570" of the U.S. department of the treasury.

[Comment: "Circular 570" is published in the Federal Register annually on July first; ~~interim~~. Interim changes in the circular are also published in the Federal Register.]

- (2) The wording of the surety bond shall be identical to the wording specified in paragraph (B) of rule 3745-55-51 of the Administrative Code.
- (3) The owner or operator who uses a surety bond to satisfy the requirements of this rule also shall ~~also~~ establish a standby trust fund by the time the bond is obtained. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the director. This standby trust fund shall meet the requirements specified in paragraph (A) of this rule, except that:
- (a) An originally signed duplicate of the trust agreement shall be submitted to the director with the surety bond; and
- (b) Until the standby trust fund is funded pursuant to this rule, the following are not required:
- (i) Payments into the trust fund as specified in paragraph (A) of this rule;
- (ii) Updating of "Schedule A" of the trust agreement [see paragraph (A) of rule 3745-55-51 of the Administrative Code] to show current closure cost estimates;
- (iii) Annual valuations as required by the trust agreement; and
- (iv) Notices of nonpayment as required by the trust agreement.
- (4) The bond shall guarantee that the owner or operator will:

- (a) Fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of final closure of the facility; or
 - (b) Fund the standby trust fund in an amount equal to the penal sum within fifteen days after an order to begin final closure in accordance with rules 3745-55-10 to 3745-55-20 of the Administrative Code is issued by the director, or by an Ohio court, or other court of competent jurisdiction, or by a U.S. district court, or within fifteen days after issuance of a notice or revocation of the permit by the director; or
 - (c) Provide alternate financial assurance as specified in this rule, and obtain the director's written approval of the assurance provided, within ninety days after receipt by both the owner or operator and the director of a notice of cancellation of the bond from the surety.
- (5) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond. ~~Following~~After a determination by the director that the owner or operator has failed to perform final closure in accordance with the approved closure plan and other permit requirements when required to do so, under the terms of the bond the surety will perform final closure as guaranteed by the bond, or will deposit the amount of the penal sum into the standby trust fund.
- (6) The penal sum of the bond shall be in an amount at least equal to the current closure cost estimate (see rule 3745-55-42 of the Administrative Code) except as provided in paragraph (G) of this rule.
- (7) Whenever the current closure cost estimate increases to an amount greater than the penal sum, the owner or operator, within sixty days after the increase, either shall ~~either~~ cause the penal sum to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the director, or shall obtain other financial assurance as specified in this rule to cover the increase. Whenever the current closure cost estimate decreases, the penal sum may be reduced to the amount of the current closure cost estimate following written approval by the director.
- (8) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the director. Cancellation may not occur, however, during the one hundred twenty days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the director, as evidenced by the return receipts.

- (9) The owner or operator may cancel the bond if the director has given prior written consent based on the director's receipt of evidence of alternate financial assurance as specified in this rule.

(C) Surety bond guaranteeing performance of closure.

- (1) An owner or operator may satisfy the requirements of this rule by obtaining a surety bond which conforms to the requirements of ~~paragraph (C) to (C)(10)~~ paragraph (C) of this rule and submitting the bond to the director ~~by certified mail~~. An owner or operator of a new facility shall submit the bond to the director ~~by certified mail~~ at least sixty days before the date on which hazardous waste is first received for treatment, storage, or disposal. The bond shall be effective before this initial receipt of hazardous waste. ~~The~~ At a minimum, the surety company issuing the bond shall, ~~at a minimum,~~ be among those listed as acceptable sureties on federal bonds in "Circular 570" of the U.S. department of the treasury.

[Comment: "Circular 570" is published in the Federal Register annually on July first; ~~interim~~. Interim changes in the circular are also published in the Federal Register.]

- (2) The wording of the surety bond shall be identical to the wording specified in paragraph (C) of rule 3745-55-51 of the Administrative Code.
- (3) The owner or operator who uses a surety bond to satisfy the requirements of this rule also shall ~~also~~ establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the director. This standby trust shall meet the requirements specified in paragraph (A) of this rule, except that:
- (a) An originally signed duplicate of the trust agreement shall be submitted to the director with the surety bond; and
- (b) Unless the standby trust fund is funded pursuant to this rule, the following are not required:
- (i) Payments into the trust fund as specified in paragraph (A) of this rule;
- (ii) Updating of "Schedule A" of the trust agreement [see paragraph (A) of rule 3745-55-51 of the Administrative Code] to show current closure cost estimates;
- (iii) Annual valuations as required by the trust agreement; and

- (iv) Notices of nonpayment as required by the trust agreement.
- (4) The bond shall guarantee that the owner or operator will either:
- (a) Perform final closure in accordance with the closure plan and other requirements of the permit for the facility whenever required to do so.
 - (b) Provide alternate financial assurance as specified in this rule, and obtain the director's written approval of the assurance provided, within ninety days after receipt by both the owner or operator and the director of a notice of cancellation of the bond from the surety.
- (5) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond. ~~Following~~After a determination pursuant to Chapter 3734. of the Revised Code or Section 3008 of RCRA that the owner or operator has failed to perform final closure in accordance with the approved closure plan and other permit requirements when required to do so, under the terms of the bond the surety will perform final closure as guaranteed by the bond or will deposit the amount of the penal sum into the standby trust fund.
- (6) The penal sum of the bond shall be in an amount at least equal to the amount of the current closure cost estimate (see rule 3745-55-42 of the Administrative Code).
- (7) Whenever the current closure cost estimate increases to an amount greater than the amount of the penal sum, the owner or operator, within sixty days after the increase, either ~~shall either~~ cause the penal sum of the bond to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the director, or shall obtain other financial assurance as specified in this rule. Whenever the current closure cost estimate decreases, the penal sum may be reduced to the amount of the current closure cost estimate following written approval by the director.
- (8) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the director. Cancellation may not occur, however, during the one hundred twenty days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the director, as evidenced by return receipts.
- (9) The owner or operator may cancel the bond if the director has given prior written consent. The director will provide such written consent when either:
- (a) An owner or operator provides alternate financial assurance as specified in this rule.

(b) The director releases the owner or operator from the requirements of this rule in accordance with paragraph (I) of this rule.

(10) The surety will not be liable for deficiencies in the performance of closure by the owner or operator after the director releases the owner or operator from the requirements of this rule in accordance with paragraph (I) of this rule.

(D) Closure letter of credit.

(1) An owner or operator may satisfy the requirements of this rule by obtaining an irrevocable standby letter of credit which conforms to the requirements of ~~paragraphs~~ paragraph (D) to ~~(D)(10)(b)~~ of this rule and by submitting the letter to the director ~~by certified mail~~. An owner or operator of a new facility shall submit the letter of credit to the director ~~by certified mail~~ at least sixty days before the date on which hazardous waste is first received for treatment, storage, or disposal. The letter of credit shall be effective before this initial receipt of hazardous waste. The issuing institution shall be an entity which has the authority to issue letters of credit and whose letter of credit operations are regulated and examined by a federal or state agency.

(2) The wording of the letter of credit shall be identical to the wording specified in paragraph (D) of rule 3745-55-51 of the Administrative Code.

(3) An owner or operator who uses a letter of credit to satisfy the requirements of this rule also shall ~~also~~ establish a standby trust fund. Under the terms of the letter of credit, all amounts paid pursuant to a draft by the director will be deposited by the issuing institution directly into the standby trust fund in accordance with instruction from the director. This standby trust fund shall meet the requirements of the trust fund specified in paragraph (A) of this rule, except that:

(a) An originally signed duplicate of the trust agreement shall be submitted to the director with the letter of credit; and

(b) Unless the standby trust fund is funded pursuant to this rule, the following are not required:

(i) Payments into the trust fund as specified in paragraph (A) of this rule;

(ii) Updating of "Schedule A" of the trust agreement [see paragraph (A) of rule 3745-55-51 of the Administrative Code] to show current closure estimates;

(iii) Annual valuations as required by the trust agreement; and

- (iv) Notices of nonpayment as required by the trust agreement.
- (4) The letter of credit shall be accompanied by a letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the U.S. EPA identification number, name, and address of the facility, and the amount of funds assured for closure of the facility by the letter of credit.
- (5) The letter of credit shall be irrevocable and issued for a period of at least one year. The letter of credit shall provide that the expiration date will be automatically extended for a period of at least one year unless, at least one hundred twenty days before the current expiration date, the issuing institution notifies both the owner or operator and the director by certified mail of a decision not to extend the expiration date. Under the terms of the letter of credit, the one hundred twenty days ~~will~~ begin on the date when both the owner or operator and the director have received the notice, as evidenced by the return receipts.
- (6) The letter of credit shall be issued in an amount at least equal to the current closure cost estimate, except as provided in paragraph (G) of this rule.
- (7) Whenever the current closure cost estimate increases to an amount greater than the amount of the credit, the owner or operator, within sixty days after the increase, either shall ~~either~~ cause the amount of the credit to be increased so that the amount of the credit at least equals the current closure cost estimate and submit evidence of such increase to the director, or shall obtain other financial assurance as specified in this rule to cover the increase. Whenever the current closure cost estimate decreases, the amount of the letter of credit may be reduced to the amount of the current closure cost estimate ~~following~~after written approval by the director.
- (8) ~~Following~~After a determination pursuant to Chapter 3734. of the Revised Code or Section 3008 of the RCRA that the owner or operator has failed to perform final closure in accordance with the closure plan and other permit requirements when required to do so, the director may draw on the letter of credit.
- (9) If the owner or operator does not establish alternate financial assurance as specified in this rule and obtain written approval of such alternate assurance from the director within ninety days after the receipt by both the owner or operator and the director of a notice from the issuing institution that the issuing institution ~~has~~ decided not to extend the letter of credit beyond the current expiration date, the director will draw on the letter of credit. The director may delay the drawing if the issuing institution grants an extension of the term of the credit. During the last thirty days of any such extension, the director will draw on the letter of credit if the owner or operator has failed to provide alternate

financial assurance as specified in this rule and obtain written approval of such assurance from the director.

- (10) The director will return the letter of credit to the issuing institution for termination when either:
- (a) The owner or operator substitutes alternate financial assurance as specified in this rule; or
 - (b) The director releases the owner or operator from the requirements of this rule in accordance with paragraph (I) of this rule.

(E) Closure insurance.

- (1) An owner or operator may satisfy the requirements of this rule by obtaining closure insurance which conforms to the requirements of ~~paragraphs~~ paragraph (E) ~~to (E)(10)(b)~~ of this rule and submitting a certificate of such insurance to the director. An owner or operator of a new facility shall submit the certificate of insurance to the director at least sixty days before the date on which hazardous waste is first received for treatment, storage, or disposal. The insurance shall be effective before this initial receipt of hazardous waste. At a minimum, the insurer shall be licensed to transact the business of insurance; or eligible to provide insurance as an excess or surplus lines insurer; in one or more states.
- (2) The wording of the certificate of insurance shall be identical to the wording specified in paragraph (E) of rule 3745-55-51 of the Administrative Code.
- (3) The closure insurance policy shall be issued for a face amount at least equal to the current closure cost estimate, except as provided in paragraph (G) of this rule. The term "face amount" means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.
- (4) The closure insurance policy shall guarantee that funds will be available to close the facility whenever final closure occurs. The policy also shall ~~also~~ guarantee that once final closure begins, the insurer will be responsible for paying out funds, up to an amount equal to the face amount of the policy, upon the direction of the director, to such party or parties as the director specifies.
- (5) After beginning partial or final closure, an owner or operator or any other person authorized to conduct closure may request reimbursement for closure expenditures by submitting itemized bills to the director. The owner or operator may request reimbursement for partial closure only if the remaining value of

the policy is sufficient to cover the maximum costs of closing the facility over the remaining operating life of the facility. Within sixty days after receiving bills for closure activities, the director will determine whether the partial or final closure expenditures are in accordance with the approved closure plan or otherwise justified, and if so, the director will instruct the insurer to make reimbursement in such amounts as the director specifies in writing. If the director has reason to believe that the maximum cost of closure over the remaining operating life of the facility will be significantly greater than the face amount of the policy, the director may withhold reimbursement of such amounts as the director deems prudent until the director determines, in accordance with paragraph (I) of this rule, that the owner or operator is no longer required to maintain financial assurance for final closure of the facility. If the director does not instruct the insurer to make such reimbursements, the director will provide the owner or operator with a detailed written statement of reasons.

- (6) The owner or operator shall maintain the policy in full force and effect until the director consents to termination of the policy by the owner or operator as specified in paragraph (E)(10) of this rule. Failure to pay the premium, without substitution of alternate financial assurance as specified in this rule, will constitute a significant violation, warranting such remedy as the director deems necessary. Such violation will be deemed to begin upon receipt by the director of a notice of future cancellation, termination, or failure to renew due to nonpayment of the premium, rather than upon the date of expiration.
- (7) Each policy shall contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer, provided such consent is not unreasonably refused.
- (8) The policy shall provide that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. ~~The~~ At a minimum, the automatic renewal of the policy shall, ~~at a minimum,~~ provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may elect to cancel, terminate, or fail to renew the policy by sending notice by certified mail to the owner or operator and the director. Cancellation, termination, or failure to renew may not occur, however, during the one hundred twenty days beginning with the date of receipt of the notice by both the director and the owner or operator, as evidenced by the return receipts. Cancellation, termination, or failure to renew may not occur and the policy will remain in full force and effect in the event that on or before the date of expiration:
 - (a) The director deems the facility abandoned; or

- (b) The permit is terminated or revoked or a new permit is denied; or
 - (c) Closure is ordered by the director or a U.S. district court or other court of competent jurisdiction; or
 - (d) The owner or operator is named as debtor in a voluntary or involuntary proceeding under Title 11 (bankruptcy), U.S. Code; or
 - (e) The premium due is paid.
- (9) Whenever the current closure cost estimate increases to an amount greater than the face amount of the policy, the owner or operator, within sixty days after the increase, either shall either cause the face amount to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the director, or shall obtain other financial assurance as specified in this rule to cover the increase. Whenever the current closure cost estimate decreases, the face amount may be reduced to the amount of the current closure cost estimate ~~following~~after written approval by the director.
- (10) The director will give written consent to the owner or operator that the owner or operator may terminate the insurance policy when either:
- (a) An owner or operator substitutes alternate financial assurance as specified in this rule.
 - (b) The director releases the owner or operator from the requirements of this rule in accordance with paragraph (I) of this rule.

(F) Financial test and corporate guarantee for closure.

- (1) An owner or operator may satisfy the requirements of this rule by demonstrating that the owner or operator passes a financial test as specified in ~~paragraphs paragraph (F) to (F)(10)(c)~~paragraph (F) of this rule. To pass this test, the owner or operator shall meet the criteria of either paragraph (F)(1)(a) or (F)(1)(b) of this rule.
- (a) The owner or operator shall have:
 - (i) Two of the following three ratios: a ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5; and

- (ii) Net working capital and tangible net worth each at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates; and
 - (iii) Tangible net worth of at least ten million dollars; and
 - (iv) Assets located in the United States amounting to at least ninety per cent of total assets or at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates.
- (b) The owner or operator shall have:
- (i) A current ~~rating~~rating for the owner's or operator's most recent bond issuance of "AAA, AA, A, or BBB" as issued by "Standard and Poor's" or "Aaa, Aa, A, or Baa" as issued by "Moody's"; and
 - (ii) Tangible net worth at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates; and
 - (iii) Tangible net worth of at least ten million dollars; and
 - (iv) Assets located in the United States amounting to at least ninety per cent of the owner's or operator's total assets or at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates.
- (2) The phrase "current closure and post-closure cost estimates" as used in ~~paragraphs~~paragraph (F)(1) ~~to (F)(1)(b)(iv)~~ of this rule refers to the cost estimates required to be shown in paragraphs one through four of the letter from the owner's or operator's chief financial officer [paragraph (F) of rule 3745-55-51 of the Administrative Code]. The phrase "current plugging and abandonment cost estimates" as used in ~~paragraphs~~paragraph (F)(1) ~~to (F)(1)(b)(iv)~~ of this rule refers to the cost estimates required to be shown in paragraphs one through four of the letter from the owner's or operator's chief financial officer [see paragraph (F) of rule 3745-55-51 of the Administrative Code].
- (3) To demonstrate that the owner or operator meets this test, the owner or operator shall submit the following items to the director:
- (a) A letter signed by the owner's or operator's chief financial officer and worded as specified in paragraph (F) of rule 3745-55-51 of the Administrative Code; and

- (b) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year; and
- (c) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:
 - (i) The accountant has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited year-end financial statements for the latest fiscal year with the amounts in such financial statements; and
 - (ii) In connection with that procedure, no matters came to the accountant's attention which caused the accountant to believe that the specified data should be adjusted.
- (4) An owner or operator of a new facility shall submit the items specified in paragraph (F)(3) of this rule to the director at least sixty days before the date on which hazardous waste is first received for treatment, storage, or disposal.
- (5) After the initial submittal of items specified in paragraph (F)(3) of this rule, the owner or operator shall send updated information to the director within ninety days after the close of each succeeding fiscal year. This information shall consist of all three items specified in paragraph (F)(3) of this rule.
- (6) If the owner or operator no longer meets the requirements of paragraph (F)(1) of this rule, the owner or operator shall send notice to the director of intent to establish alternate financial assurance as specified in this rule. The notice shall be sent by certified mail within ninety days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the requirements. The owner or operator shall provide the alternate financial assurance within one hundred twenty days after the end of such fiscal year.
- (7) The director, based on a reasonable belief that the owner or operator may no longer meet the requirements of paragraph (F)(1) of this rule, may require reports of financial condition at any time from the owner or operator in addition to those specified in paragraph (F)(3) of this rule. If the director finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of paragraph (F)(1) of this rule, the owner or operator shall provide alternate financial assurance as specified in this rule within thirty days after notification of such a finding.

- (8) The director may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in the accountant's report on examination of the owner's or operator's financial statements [see paragraph (F)(3)(b) of this rule]. An adverse opinion or a disclaimer of opinion will be cause for disallowance. The director will evaluate other qualifications on an individual basis. The owner or operator shall provide alternate financial assurance as specified in this rule within thirty days after notification of the disallowance.
- (9) The owner or operator is no longer required to submit the items specified in paragraph (F)(3) of this rule when either:
- (a) An owner or operator substitutes alternate financial assurance as specified in this rule.
 - (b) The director releases the owner or operator from the requirements of this rule in accordance with paragraph (I) of this rule.
- (10) An owner or operator may meet the requirements of this rule by obtaining a written guarantee. The guarantor shall be the direct or higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a "substantial business relationship" with the owner or operator. The guarantor shall meet the requirements for owners or operators in paragraphs (F)(1) to (F)(8) of this rule and shall comply with the terms of the guarantee. The wording of the guarantee shall be identical to the wording specified in paragraph (H) of rule 3745-55-51 of the Administrative Code. A certified copy of the guarantee shall accompany the items sent to the director as specified in paragraph (F)(3) of this rule. One of these items shall be the letter from the guarantor's chief financial officer. If the guarantor's parent corporation is also the parent corporation of the owner or operator, the letter shall describe the value received in consideration of the guarantee. If the guarantor is a firm with a "substantial business relationship" with the owner or operator, this letter shall describe this "substantial business relationship" with and the value received in consideration of the guarantee. The terms of the guarantee shall provide that:
- (a) If the owner or operator fails to perform final closure of a facility covered by the corporate guarantee in accordance with the closure plan and other permit requirements whenever required to do so, the guarantor will do so or establish a trust fund as specified in paragraph (A) of this rule in the name of the owner or operator.

- (b) The corporate guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the director. Cancellation may not occur, however, during the one hundred twenty days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the director, as evidenced by the return receipts.
 - (c) If the owner or operator fails to provide alternate financial assurance as specified in this rule and obtain the written approval of such alternate assurance from the director within ninety days after receipt by both the owner or operator and the director of a notice of cancellation of the corporate guarantee from the guarantor, the guarantor will provide such alternative financial assurance in the name of the owner or operator.
- (G) Use of multiple financial mechanisms. An owner or operator may satisfy the requirements of this rule by establishing more than one financial mechanism per facility. These mechanisms are limited to trust funds, surety bonds guaranteeing payment into a trust fund, letters of credit, and insurance. The mechanisms shall be as specified in paragraphs (A), (B), (D), and (E) of this rule, except that it is the combination of mechanisms, rather than the single mechanism, which shall provide financial assurance for an amount at least equal to the current closure cost estimate. If an owner or operator uses a trust fund in combination with a surety bond or letter of credit, the owner or operator may use the trust fund as the standby trust fund for the other mechanisms. A single standby trust may be established for two or more mechanisms. The director may use any or all of the mechanisms to provide for closure of the facility.
- (H) Use of a financial mechanism for multiple facilities. An owner or operator may use a financial assurance mechanism specified in this rule to meet the requirements of this rule for more than one facility. Evidence of financial assurance submitted to the director shall include a list showing, for each facility, the U.S. EPA identification number, name, address, and the amount of funds for closure assured by the mechanism. If the facilities covered by the mechanism are in more than one U.S. EPA region, identical evidence of financial assurance shall be submitted to and maintained with the U.S. EPA regional administrators of all such regions or the directors of state programs in states authorized to administer such programs. The amount of funds available through the mechanism shall be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each facility. In directing funds available through the mechanism for closure of any of the facilities covered by the mechanism, the director may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism.

(I) Release of the owner or operator from the requirements of this rule. Within sixty days after receiving certifications from the owner or operator and a qualified professional engineer that final closure has been completed in accordance with the approved closure plan, the director will notify the owner or operator in writing that the owner or operator is no longer required by this rule to maintain financial assurance for closure of the facility, unless the director has reason to believe that final closure has not been in accordance with the approved closure plan. The director will provide the owner or operator a detailed written statement of any such reason to believe that closure has not been in accordance with the approved closure plan.

[Comment 1: The notice releases the owner or operator only from requirements for financial assurance for closure of the facility;~~the~~. The notice does not release the owner or operator from legal responsibility for meeting the closure standards.]

[Comment 2: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules, and federal statutory provisions referenced in this rule, see rule 3745-50-11 of the Administrative Code titled "Incorporated by reference."]

Effective: 9/29/2021
Five Year Review (FYR) Dates: 6/7/2021 and Exempt

CERTIFIED ELECTRONICALLY

Certification

09/14/2021

Date

Promulgated Under: 119.03
Statutory Authority: 3734.12
Rule Amplifies: 3734.12
Prior Effective Dates: 08/26/1983 (Emer.), 11/29/1983, 05/29/1985 (Emer.),
08/29/1985, 12/28/1987, 02/23/1989, 09/02/1997,
12/07/2000, 12/07/2004, 09/05/2010, 10/31/2015

3745-55-44

Cost estimate for post-closure care.

- (A) The owner or operator of a disposal surface impoundment, disposal miscellaneous unit, land treatment unit, or landfill unit, or of a surface impoundment or waste pile that is required under rules 3745-56-28 and 3745-56-58 of the Administrative Code to prepare a contingent closure and post-closure plan, shall have a detailed written estimate, in current dollars, of the annual cost of post-closure monitoring and maintenance of the facility in accordance with the applicable post-closure requirements in rules 3745-55-17 to 3745-55-20, 3745-56-28, 3745-56-58, 3745-56-80, 3745-57-10, and 3745-57-93 of the Administrative Code.
- (1) The post-closure cost estimate shall be based on the costs to the owner or operator of hiring a third party to conduct post-closure care activities. A "third party" is a party who is neither a parent nor a subsidiary of the owner or operator (see definition of "parent corporation" in rule 3745-55-41 of the Administrative Code).
- (2) The post-closure cost estimate is calculated by multiplying the annual post-closure cost estimate by the number of years of post-closure care required in rule 3745-55-17 of the Administrative Code.
- (B) During the active life of the facility, the owner or operator shall adjust the post-closure cost estimate for inflation within sixty days prior to the anniversary date of the establishment of the financial instruments used to comply with rule 3745-55-45 of the Administrative Code. For owners or operators using the financial test or corporate guarantee, the post-closure cost estimate shall be updated for inflation within thirty days after the close of the firm's fiscal year and before the submittal of updated information to the director as specified in paragraph ~~(F)~~(F)(5) of rule 3745-55-45 of the Administrative Code. The adjustment may be made by recalculating the post-closure cost estimate in current dollars or by using an inflation factor derived as specified in 40 CFR 264.144(b).
- (1) The first adjustment is made by multiplying the post-closure cost estimate by the inflation factor. The result is the adjusted post-closure cost estimate.
- (2) Subsequent adjustments are made by multiplying the latest adjusted post-closure cost estimate by the latest inflation factor.
- (C) During the active life of the facility, the owner or operator shall revise the post-closure cost estimate within thirty days after the director has approved the request to modify the post-closure plan if the change in the post-closure plan increases the cost of post-closure care. The revised post-closure cost estimate shall be adjusted for inflation as specified in paragraph (B) of this rule.

- (D) ~~The~~ During the operating life of the facility, the owner or operator shall keep ~~the following~~ at the facility ~~during the operating life of the facility~~: the latest post-closure cost estimate prepared in accordance with paragraphs (A) and (C) of this rule and, when this estimate has been adjusted in accordance with paragraph (B) of this rule, the latest adjusted post-closure cost estimate.
- (E) A copy of the facility's current, detailed post-closure cost estimate prepared and maintained in accordance with paragraphs (A) and (B) of this rule shall be submitted annually to the director.
- (1) For owners or operators using a financial mechanism other than the financial test, such submittal of the post-closure cost estimate to the director shall be made within sixty days ~~following~~ after a revision or update to the estimate made in accordance with paragraph (B) of this rule.
 - (2) For owners or operators using a financial test, such submittal of the post-closure cost estimate to the director shall be made within ninety days after the close of the firm's fiscal year ~~following~~ after a revision or update to the estimate made in accordance with paragraph (B) of this rule.

[Comment 1: As used in this rule, "detailed post-closure cost estimate" means a listing of the specific costs associated with each major phase of facility post-closure activity for each hazardous waste management unit including but not limited to ground water monitoring, maintenance of final cap and cover, erosion and wind dispersal control, and leachate collection and disposal activities.]

[Comment 2: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules, and federal statutory provisions referenced in this rule, see rule 3745-50-11 of the Administrative Code titled "Incorporated by reference."]

Effective: 9/29/2021
Five Year Review (FYR) Dates: 6/7/2021 and 06/05/2026

CERTIFIED ELECTRONICALLY

Certification

09/14/2021

Date

Promulgated Under: 119.03
Statutory Authority: 3734.12
Rule Amplifies: 3734.12
Prior Effective Dates: 08/26/1983 (Emer.), 11/29/1983, 12/28/1987,
12/30/1989, 02/14/1995, 11/11/1999, 03/13/2002,
03/17/2012, 03/24/2017

3745-55-45

Financial assurance for post-closure care.

The owner or operator of a hazardous waste management unit subject to rule 3745-55-44 of the Administrative Code shall establish financial assurance for post-closure care in accordance with the approved post-closure plan for the facility sixty days prior to the initial receipt of hazardous waste or August 26, 1983, whichever is later. The owner or operator shall choose from the following options:

(A) Post-closure trust fund.

- (1) An owner or operator may satisfy the requirements of this rule by establishing a post-closure trust fund which conforms to the requirements of ~~paragraphs~~ paragraphs (A) to (A)(12)(b) of this rule and submitting an originally signed duplicate of the trust agreement to the director ~~by certified mail~~. An owner or operator of a new facility shall submit the originally signed duplicate of the trust agreement to the director ~~by certified mail~~ at least sixty days before the date on which hazardous waste is first received for disposal. The trustee shall be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency.
- (2) The wording of the trust agreement shall be identical to the wording specified in paragraph (A)(1) of rule 3745-55-51 of the Administrative Code, and the trust agreement shall be accompanied by a formal certification of acknowledgement [for example, see paragraph (A)(2) of rule 3745-55-51 of the Administrative Code]. "Schedule A" of the trust agreement shall be updated within sixty days after a change in the amount of the current post-closure cost estimate covered by the agreement.
- (3) Payments to the trust fund shall be made annually by the owner or operator over the term of the hazardous waste permit, or over the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter. This period is hereafter referred to as the "pay-in period." The payments to the post-closure trust fund shall be made as follows:
 - (a) For a new facility, the first payment shall be made before the initial receipt of hazardous waste for disposal. A receipt from the trustee for this payment shall be submitted by the owner or operator to the director before this initial receipt of hazardous waste. The first payment shall be at least equal to the current post-closure cost estimate, except as provided in paragraph (G) of this rule, divided by the number of years in the pay-in period. Subsequent payments shall be made no later than thirty days after each anniversary date of the first payment. The amount of each subsequent payment shall be determined by this formula:

$$\text{Next payment} = (\text{CE} - \text{CV}) / \text{Y}$$

Where CE is the current post-closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

- (b) If an owner or operator establishes a trust fund as specified in paragraph (A) of rule 3745-66-45 of the Administrative Code, and the value of that trust fund is less than the current post-closure cost estimate when a permit is awarded for the facility, the amount of the current post-closure cost estimate still to be paid into the trust fund shall be paid in over the "pay-in period" as defined in paragraph (A)(3) of this rule. Payments shall continue to be made no later than thirty days after each anniversary date of the first payment made pursuant to Chapters 3745-65 to 3745-69 and 3745-256 of the Administrative Code. The amount of each payment shall be determined by this formula:

$$\text{Next payment} = (\text{CE} - \text{CV}) / \text{Y}$$

Where CE is the current post-closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

- (4) The owner or operator may accelerate payments into the trust fund or the owner or operator may deposit the full amount of the current post-closure cost estimate at the time the trust fund is established. However, the owner or operator shall maintain the value of the trust fund at no less than the value that the trust fund would have if annual payments were made as specified in paragraph (A)(3) of this rule.
- (5) If the owner or operator establishes a post-closure trust fund after having used one or more alternate mechanisms specified in this rule or in rule 3745-66-45 of the Administrative Code, the owner's or operator's first payment shall be in at least the amount that the trust fund would contain if the trust fund were established initially and annual payments made according to specifications of this paragraph and paragraph (A) of rule 3745-66-45 of the Administrative Code, as applicable.
- (6) After the pay-in period is completed, whenever the current post-closure cost estimate changes during the operating life of the facility, the owner or operator shall compare the new estimate with the trustee's most recent annual valuation of the trust fund. If the value of the trust fund is less than the amount of the new estimate, the owner or operator, within sixty days after the change in the cost

estimate, either shall deposit an amount into the trust fund so that the value of the trust fund after this deposit at least equals the amount of the current post-closure cost estimate, or shall obtain other financial assurance as specified in this rule to cover the difference.

- (7) During the operating life of the facility, if the value of the trust fund is greater than the total amount of the current post-closure cost estimate, the owner or operator may submit a written request to the director for release of the amount in excess of the current post-closure cost estimate.
 - (8) If an owner or operator substitutes other financial assurance as specified in this rule for all or part of the trust fund, the owner or operator may submit a written request to the director for release of the amount in excess of the current post-closure cost estimate covered by the trust fund.
 - (9) Within sixty days after receiving a request from the owner or operator for a release of funds as specified in paragraph (A)(7) or (A)(8) of this rule, the director will instruct the trustee to release to the owner or operator such funds as the director specifies in writing.
 - (10) During the period of post-closure care, the director may approve a release of funds if the owner or operator demonstrates to the director that the value of the trust fund exceeds the remaining cost of post-closure care.
 - (11) An owner or operator or any other person authorized to conduct post-closure care may request reimbursement for post-closure care expenditures by submitting itemized bills to the director. Within sixty days after receiving bills for post-closure activities, the director will instruct the trustee to make reimbursements in those amounts as the director specifies in writing, if the director determines that the post-closure care expenditures are in accordance with the approved post-closure plan or otherwise justified. If the director does not instruct the trustee to make such reimbursement, the director will provide the owner or operator with a detailed written statement of reasons.
 - (12) The director will agree to termination of the trust when either:
 - (a) The owner or operator substitutes alternate financial assurance as specified in this rule; or
 - (b) The director releases the owner or operator from the requirements of this rule in accordance with paragraph (I) of this rule.
- (B) Surety bond guaranteeing payment into a post-closure trust fund.

- (1) An owner or operator may satisfy the requirements of this rule by obtaining a surety bond which conforms to the requirements of ~~paragraph~~ paragraph (B) to (B)(9) of this rule and submitting the bond to the director ~~by certified mail~~. An owner or operator of a new facility shall submit the bond to the director ~~by certified mail~~ at least sixty days before the date on which hazardous waste is first received for disposal. The bond shall be effective before this initial receipt of hazardous waste. The surety company issuing the bond, at a minimum, shall be among those listed as acceptable sureties on federal bonds in "Circular 570" of the U.S. department of the treasury.

[Comment: "Circular 570" is published in the Federal Register annually on July first. Interim changes in the circular are also published in the Federal Register.]

- (2) The wording of the surety bond shall be identical to the wording specified in paragraph (B) of rule 3745-55-51 of the Administrative Code.
- (3) The owner or operator who uses a surety bond to satisfy the requirements of this rule also shall ~~also~~ establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the director. This standby trust fund shall meet the requirements specified in paragraph (A) of this rule, except that:
- (a) An originally signed duplicate of the trust agreement shall be submitted to the director with the surety bond.
 - (b) Until the standby trust fund is funded pursuant to this rule, the following are not required:
 - (i) Payments into the trust fund as specified in paragraph (A) of this rule.
 - (ii) Updating of "Schedule A" of the trust agreement [see paragraph (A) of rule 3745-55-51 of the Administrative Code] to show current post-closure cost estimates.
 - (iii) Annual valuations as required by the trust agreement.
 - (iv) Notices of nonpayment as required by the trust agreement.
- (4) The bond shall guarantee that the owner or operator will do any of the following:
- (a) Fund the standby trust fund in an amount equal to the penal sum of the bond by the beginning of final closure of the facility.

- (b) Fund the standby trust fund in an amount equal to the penal sum within fifteen days after an order to begin final closure is issued by the director or an Ohio court, or by a U. S. district court, or other court of competent jurisdiction, or within fifteen days after issuance of a notice of revocation of the permit by the director.
 - (c) Provide alternate financial assurance as specified in this rule, and obtain the director's written approval of the assurance provided, within ninety days after receipt by both the owner or operator and the director of a notice of cancellation of the bond from the surety.
- (5) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.
 - (6) The penal sum of the bond shall be in an amount at least equal to the current post-closure cost estimate, except as provided in paragraph (G) of this rule.
 - (7) Whenever the current post-closure cost estimate increases to an amount greater than the penal sum, the owner or operator, within sixty days after the increase, either shall cause the penal sum to be increased to an amount at least equal to the current post-closure cost estimate and submit evidence of such increase to the director, or shall obtain other financial assurance as specified in this rule to cover the increase. Whenever the current post-closure cost estimate decreases, the penal sum may be reduced to the amount of the current post-closure cost estimate ~~following~~ ~~after~~ written approval by the director. Notice of an increase or decrease in the penal sum shall be sent to the director ~~by certified mail~~ within sixty days after the change.
 - (8) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the director. Cancellation may not occur, however, during the one hundred twenty days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the director, as evidenced by the return receipts.
 - (9) The owner or operator may cancel the bond if the director has given prior written consent based on the director's receipt of evidence of alternate financial assurance as specified in this rule.
- (C) Surety bond guaranteeing performance of post-closure care.
- (1) An owner or operator may satisfy the requirements of this rule by obtaining a surety bond which conforms to the requirements of ~~paragraphs~~ paragraph (C) ~~to (C)(11)~~ of this rule and submitting the bond to the director ~~by certified mail~~.

An owner or operator of a new facility shall submit the bond to the director ~~by certified mail~~ at least sixty days before the date on which hazardous waste is first received for disposal. The bond shall be effective before this initial receipt of hazardous waste. The surety company issuing the bond, at a minimum, shall be among those listed as acceptable sureties on federal bonds in "Circular 570" of the U.S. department of treasury.

[Comment: "Circular 570" is published in the Federal Register annually on July first. Interim changes in the circular are also published in the Federal Register.]

- (2) The wording of the surety bond shall be identical to the wording specified in paragraph (C) of rule 3745-55-51 of the Administrative Code.
- (3) The owner or operator who uses a surety bond to satisfy the requirements of this rule also shall ~~also~~ establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the director. This standby trust fund shall ~~meet the requirements specified in~~ comply with paragraph (A) of this rule, except that:
 - (a) An originally signed duplicate of the trust agreement shall be submitted to the director with the surety bond.
 - (b) Unless the standby trust fund is funded pursuant to this rule, the following are not required:
 - (i) Payments into the trust fund as specified in paragraph (A) of this rule.
 - (ii) Updating of "Schedule A" of the trust agreement [see paragraph (A) of rule 3745-55-51 of the Administrative Code] to show current post-closure cost estimates.
 - (iii) Annual valuations as required by the trust agreement.
 - (iv) Notices of nonpayment as required by the trust agreement.
- (4) The bond shall guarantee that the owner or operator will either:
 - (a) Perform post-closure care in accordance with the post-closure plan and other requirements of the permit for the facility; or
 - (b) Provide alternate financial assurance as specified in this rule, and obtain the director's written approval of the assurance provided, within ninety days

after receipt by both the owner or operator and the director of a notice of cancellation of the bond from the surety.

- (5) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond. ~~Following~~After a determination pursuant to Chapter 3734. of the Revised Code or Section 3008 of RCRA that the owner or operator has failed to perform post-closure care in accordance with the approved post-closure plan and other permit requirements, under the terms of the bond the surety will perform post-closure care in accordance with the post-closure plan and other permit requirements or will deposit the amount of the penal sum into the standby trust fund.
- (6) The penal sum of the bond shall be in an amount at least equal to the current post-closure cost estimate.
- (7) Whenever the current post-closure cost estimate increases to an amount greater than the penal sum during the operating life of the facility, the owner or operator, within sixty days after the increase, either shall cause the penal sum to be increased to an amount at least equal to the current post-closure cost estimate and submit evidence of such increase to the director, or shall obtain other financial assurance as specified in this rule. Whenever the current post-closure cost estimate decreases during the operating life of the facility, the penal sum may be reduced to the amount of the current post-closure cost estimate ~~following~~after written approval by the director.
- (8) During the period of post-closure care, the director may approve a decrease in the penal sum if the owner or operator demonstrates to the director that the amount exceeds the remaining cost of post-closure care.
- (9) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the director. Cancellation may not occur, however, during the one hundred twenty days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the director, as evidenced by the return receipts.
- (10) The owner or operator may cancel the bond if the director has given prior written consent. The director will provide such written consent when either:
 - (a) An owner or operator substitutes alternate financial assurance as specified in this rule; or
 - (b) The director releases the owner or operator from the requirements of this rule in accordance with paragraph (I) of this rule.

- (11) The surety will not be liable for deficiencies in the performance of post-closure care by the owner or operator after the director releases the owner or operator from the requirements of this rule in accordance with paragraph (I) of this rule.

(D) Post-closure letter of credit.

- (1) An owner or operator may satisfy the requirements of this rule by obtaining an irrevocable standby letter of credit which conforms to the requirements of ~~paragraphs~~ paragraph (D) to (D)(11)(b) of this rule and submitting the letter to the director ~~by certified mail~~. An owner or operator of a new facility shall submit the letter of credit to the director by certified mail at least sixty days before the date on which hazardous waste is first received for disposal. The letter of credit shall be effective before this initial receipt of hazardous waste. The issuing institution shall be an entity which has the authority to issue letters of credit and whose letter of credit operations are regulated and examined by a federal or state agency.
- (2) The wording of the letter of credit shall be identical to the wording specified in paragraph (D) of rule 3745-55-51 of the Administrative Code.
- (3) An owner or operator who uses a letter of credit to satisfy the requirements of this rule also shall ~~also~~ establish a standby trust fund. Under the terms of the letter of credit, all amounts paid pursuant to a draft by the director will be deposited by the issuing institution directly into the standby trust fund in accordance with instructions from the director. The standby trust fund shall meet the requirements of the trust fund specified in paragraph (A) of this rule, except that:
 - (a) An originally signed duplicate of the trust agreement shall be submitted to the director with the letter of credit.
 - (b) Unless the standby trust fund is funded pursuant to this rule, the following are not required:
 - (i) Payments into the trust fund as specified in paragraph (A) of this rule.
 - (ii) Updating of "Schedule A" of the trust agreement [see paragraph (A) of rule 3745-55-51 of the Administrative Code] to show current post-closure cost estimates.
 - (iii) Annual valuations as required by the trust agreement.
 - (iv) Notices of nonpayment as required by the trust agreement.

- (4) The letter of credit shall be accompanied by a letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the U.S. EPA identification number, name and address of the facility, and the amount of funds assured for post-closure care of the facility by the letter of credit.
- (5) The letter of credit shall be irrevocable and issued for a period of at least one year. The letter of credit shall provide that the expiration date will be automatically extended for a period of at least one year unless, at least one hundred twenty days before the current expiration date, the issuing institution notifies both the owner or operator and the director by certified mail of a decision not to extend the expiration date. Under the terms of the letter of credit, the one hundred twenty days ~~will~~ begin on the date when both the owner or operator and the director have received notice, as evidenced by the return receipts.
- (6) The letter of credit shall be issued in an amount at least equal to the current post-closure cost estimate, except as provided in paragraph (G) of this rule.
- (7) Whenever the current post-closure cost estimate increases to an amount greater than the amount of the credit during the operating life of the facility, the owner or operator, within sixty days after the increase, either shall cause the amount of the credit to be increased so that the amount at least equals the current post-closure cost estimate and submit evidence of such increase to the director, or shall obtain other financial assurance as specified in this rule to cover the increase. Whenever the current post-closure cost estimate decreases during the operating life of the facility, the amount of the letter of credit may be reduced to the amount of the current post-closure cost estimate ~~following~~after written approval by the director.
- (8) During the period of post-closure care, the director may approve a decrease in the amount of the letter of credit if the owner or operator demonstrates to the director that the amount exceeds the remaining cost of post-closure care.
- (9) ~~Following~~After a determination pursuant to Chapter 3734. of the Revised Code or Section 3008 of RCRA that the owner or operator has failed to perform post-closure care in accordance with the approved post-closure plan or other permit requirements, the director may draw on the letter of credit.
- (10) If the owner or operator does not establish alternate financial assurance as specified in this rule and obtain written approval of such alternate assurance from the director within ninety days after receipt by both the owner or operator and the director of a notice from the issuing institution that the issuing institution has decided not to extend the letter of credit beyond the current

expiration date, the director will draw on the letter of credit. The director may delay the drawing if the issuing institution grants an extension of the term of the credit. During the last thirty days of any such extension, the director will draw on the letter of credit if the owner or operator has failed to provide alternate financial assurance as specified in this rule and obtain written approval of such assurance from the director.

- (11) The director will return the letter of credit to the issuing institution for termination when either:
 - (a) The owner or operator substitutes alternate financial assurance as specified in this rule; or
 - (b) The director releases the owner or operator from the requirements of this rule in accordance with paragraph (I) of this rule.

(E) Post-closure insurance.

- (1) An owner or operator may satisfy the requirements of this rule by obtaining post-closure insurance which conforms to the requirements of ~~paragraphs~~paragraph (E) ~~to (E)(1)(b)~~ of this rule and submitting a certificate of such insurance to the director. An owner or operator of a new facility shall submit the certificate of insurance to the director at least sixty days before the date on which hazardous waste is first received for disposal. The insurance shall be effective before this initial receipt of hazardous waste. At a minimum, the insurer shall be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more states.
- (2) The wording of the certificate of insurance shall be identical to the wording specified in paragraph (E) of rule 3745-55-51 of the Administrative Code.
- (3) The post-closure insurance policy shall be issued for a face amount at least equal to the current post-closure cost estimate, except as provided in paragraph (G) of this rule. The term "face amount" means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.
- (4) The post-closure insurance policy shall guarantee that funds will be available to provide post-closure care of the facility whenever the post-closure period begins. The policy also shall ~~also~~ guarantee that once post-closure care begins, the insurer will be responsible for paying out funds, up to an amount equal to

the face amount of the policy, upon the direction of the director, to such party or parties as the director specifies.

- (5) An owner or operator or any other person authorized to conduct post-closure care may request reimbursement for post-closure care expenditures by submitting itemized bills to the director. Within sixty days after receiving bills for post-closure care activities, the director will determine whether the post-closure care expenditures are in accordance with the approved post-closure plan or otherwise justified, and if so, the director will instruct the insurer to make reimbursement in such amounts as the director specifies in writing. If the director does not instruct the insurer to make such reimbursements, the director will provide the owner or operator with a detailed written statement of reasons.
- (6) The owner or operator shall maintain the policy in full force and effect until the director consents to termination of the policy by the owner or operator as specified in paragraph (E)(11) of this rule. Failure to pay the premium; without substitution of alternate financial assurance as specified in this rule; will constitute a significant violation, warranting such remedy as the director deems necessary. Such violation will be deemed to begin upon receipt by the director of a notice of future cancellation, termination, or failure to renew due to nonpayment of the premium; rather than upon the date of expiration.
- (7) Each policy shall contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer, provided such consent is not unreasonably refused.
- (8) The policy shall provide that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy, at a minimum, shall provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may elect to cancel, terminate, or fail to renew the policy by sending notice by certified mail to the owner or operator and the director. Cancellation, termination, or failure to renew may not occur, however, during the one hundred twenty days beginning with the date of receipt of the notice by both the director and the owner or operator, as evidenced by the return receipts. Cancellation, termination, or failure to renew may not occur and the policy will remain in full force and effect in the event that on or before the date of expiration, any of the following occurs:
 - (a) The director deems the facility abandoned.
 - (b) The permit is terminated or revoked or a new permit is denied.

- (c) Closure is ordered by the director or a U.S. district court; or other court of competent jurisdiction.
 - (d) The owner or operator is named as debtor in a voluntary or involuntary proceeding under Title 11 (bankruptcy), U.S. Code.
 - (e) The premium due is paid.
- (9) Whenever the current post-closure cost estimate increases to an amount greater than the face amount of the policy during the operating life of the facility, the owner or operator, within sixty days after the increase, either shall cause the face amount to be increased to an amount at least equal to the current post-closure cost estimate and submit evidence of such increase to the director, or shall obtain other financial assurance as specified in this rule to cover the increase. Whenever the current post-closure cost estimate decreases during the operating life of the facility, the face amount may be reduced to the amount of the current post-closure cost estimate ~~following~~after written approval by the director.
- (10) Commencing on the date that liability to make payments pursuant to the policy accrues, the insurer will thereafter annually increase the face amount of the policy. Such increase shall be equivalent to the face amount of the policy, less any payments made, multiplied by an amount equivalent to eighty-five per cent of the most recent investment rate or of the equivalent coupon-issue yield announced by the U.S. treasury for twenty-six-week treasury securities.
- (11) The director will give written consent to the owner or operator that the owner or operator may terminate the insurance policy when either:
- (a) An owner or operator substitutes alternate financial assurance as specified in this rule; or
 - (b) The director releases the owner or operator from the requirements of this rule in accordance with paragraph (I) of this rule.
- (F) Financial test and corporate guarantee for post-closure care.
- (1) An owner or operator may satisfy the requirements of this rule by demonstrating that the owner or operator passes a financial test as specified in ~~paragraphs paragraph (F) to (F)(11)(e)~~paragraph (F) of this rule. To pass this test, the owner or operator shall meet the criteria of either paragraph (F)(1)(a) or (F)(1)(b) of this rule.
- (a) The owner or operator shall have the following:

- (i) Two of the following three ratios: a ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5.
 - (ii) Net working capital and tangible net worth each at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost-estimates.
 - (iii) Tangible net worth of at least ten million dollars.
 - (iv) Assets in the United States amounting to at least ninety per cent of the owner's or operator's total assets or at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost-estimates.
- (b) The owner or operator shall have the following:
- (i) A current rating for the owner's or operator's most recent bond issuance of "AAA, AA, A, or BBB" as issued by "Standard and Poor's" or "Aaa, Aa, A, or Baa" as issued by "Moody's."
 - (ii) Tangible net worth at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates.
 - (iii) Tangible net worth of at least ten million dollars.
 - (iv) Assets located in the United States amounting to at least ninety per cent of the owner's or operator's total assets or at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates.
- (2) The phrase "current closure and post-closure cost estimates" as used in paragraph (F)(1) of this rule refers to the cost estimates required to be shown in paragraphs 1-4 of the letter from the owner's or operator's chief financial officer. [See paragraph (F) of rule 3745-55-51 of the Administrative Code.] The phrase "current plugging and abandonment cost estimates" as used in paragraph (F) (1) of this rule refers to the cost estimates required to be shown in paragraphs 1-4 of the letter from the owner's or operator's chief financial officer (see rule 3745-55-51 of the Administrative Code).
- (3) To demonstrate that the owner or operator meets this test, the owner or operator shall submit the following items to the director:

- (a) A letter signed by the owner's or operator's chief financial officer and worded as specified in paragraph (F) of rule 3745-55-51 of the Administrative Code.
 - (b) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year.
 - (c) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating ~~that~~ both:
 - (i) The accountant has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements-: and
 - (ii) In connection with that procedure, no matters came to the accountant's attention which caused the accountant to believe that the specified data should be adjusted.
- (4) An owner or operator of a new facility shall submit the items specified in paragraph (F)(3) of this rule to the director at least sixty days before the date on which hazardous waste is first received for disposal.
- (5) After the initial submittal of items specified in paragraph (F)(3) of this rule, the owner or operator shall send updated information to the director within ninety days after the close of each succeeding fiscal year. This information shall consist of all three items specified in paragraph (F)(3) of this rule.
- (6) If the owner or operator no longer meets the requirements of paragraph (F)(1) of this rule, the owner or operator shall send notice to the director of intent to establish alternate financial assurance as specified in this rule. The notice shall be sent by certified mail within ninety days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the requirements. The owner or operator shall provide the alternate financial assurance within one hundred twenty days after the end of such fiscal year.
- (7) The director, based on a reasonable belief that the owner or operator may no longer meet the requirements of paragraph (F)(1) of this rule, may require reports of financial condition at any time from the owner or operator in addition to those specified in paragraph (F)(3) of this rule. If the director finds, on the basis of such reports or other information, that the owner or operator no longer meets

the requirements of paragraph (F)(1) of this rule, the owner or operator shall provide alternate financial assurance as specified in this rule within thirty days after notification of such a finding.

- (8) The director may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in the accountant's report on examination of the owner's or operator's financial statements [see paragraph (F)(3)(b) of this rule]. An adverse opinion or a disclaimer of opinion will be cause for disallowance. The director will evaluate other qualifications on an individual basis. The owner or operator shall provide alternate financial assurance as specified in this rule within thirty days after notification of the disallowance.
- (9) During the period of post-closure care, the director may approve a decrease in the current post-closure cost estimate for which this test demonstrates financial assurance if the owner or operator demonstrates to the director that the amount of the cost estimate exceeds the remaining cost of post-closure care.
- (10) The owner or operator is no longer required to submit the items specified in paragraph (F)(3) of this rule when either:
 - (a) An owner or operator substitutes alternate financial assurance as specified in this rule; or
 - (b) The director releases the owner or operator from the requirements of this rule in accordance with paragraph (I) of this rule.
- (11) An owner or operator may meet the requirements of this rule by obtaining a written guarantee. The guarantor shall be the direct or higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a "substantial business relationship" with the owner or operator. The guarantor shall meet the requirements for owners or operators in paragraphs (F)(1) to (F)(9) of this rule and shall comply with the terms of the guarantee. The wording of the guarantee shall be identical to the wording specified in paragraph (H) of rule 3745-55-51 of the Administrative Code. A certified copy of the guarantee shall accompany the items sent to the director as specified in paragraph (F)(3) of this rule. One of these items shall be the letter from the guarantor's chief financial officer. If the guarantor's parent corporation is also the parent corporation of the owner or operator, the letter shall describe the value received in consideration of the guarantee. If the guarantor is a firm with a "substantial business relationship" with the owner or operator, this letter shall describe this "substantial business

relationship" and the value received in consideration of the guarantee. The terms of the guarantee shall provide that:

- (a) If the owner or operator fails to perform post-closure care of a facility covered by the corporate guarantee in accordance with the post-closure plan and other permit requirements whenever required to do so, the guarantor will do so or establish a trust fund as specified in paragraph (A) of this rule in the name of the owner or operator.
 - (b) The corporate guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the director. Cancellation may not occur, however, during the one hundred twenty days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the director, as evidenced by the return receipts.
 - (c) If the owner or operator fails to provide alternate financial assurance as specified in this rule and obtain the written approval of such alternate assurance from the director within ninety days after receipt by both the owner or operator and the director of a notice of cancellation of the corporate guarantee from the guarantor, the guarantor will provide such alternate financial assurance in the name of the owner or operator.
- (G) Use of multiple financial mechanisms. An owner or operator may satisfy the requirements of this rule by establishing more than one financial mechanism per facility. These mechanisms are limited to trust funds, surety bonds guaranteeing payment into a trust fund, letters of credit, and insurance. The mechanisms shall be as specified in paragraphs (A), (B), (D), and (E) of this rule, except that ~~it is~~ the combination of mechanisms, rather than the single mechanism, ~~which~~ shall provide financial assurance for an amount at least equal to the current post-closure cost estimate. If an owner or operator uses a trust fund in combination with a surety bond or a letter of credit, the owner or operator may use the trust fund as the standby trust fund for the other mechanisms. A single standby trust fund may be established for two or more mechanisms. The director may use any or all of the mechanisms to provide for post-closure care of the facility.
- (H) Use of a financial mechanism for multiple facilities. An owner or operator may use a financial assurance mechanism specified in this rule to meet the requirements of this rule for more than one facility. Evidence of financial assurance submitted to the director shall include a list showing, for each facility, the U.S. EPA identification number, name, address, and the amount of funds for post-closure care assured by the mechanism.

If the facilities covered by the mechanism are in more than one U.S. EPA region, identical evidence of financial assurance shall be submitted to and maintained with the U.S. EPA regional administrators of all such U.S. EPA regions or the directors of state programs in states authorized to administer such programs.

The amount of funds available through the mechanism shall be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each facility. In directing funds available through the mechanism for post-closure care of any of the facilities covered by the mechanism, the director may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism.

- (I) Release of the owner or operator from the requirements of this rule. Within sixty days after receiving certifications from the owner or operator and a qualified professional engineer that the post-closure care period has been completed for a hazardous waste disposal unit in accordance with the approved plan, the director will notify the owner or operator that the owner or operator is no longer required to maintain financial assurance for post-closure of that unit, unless the director has reason to believe that post-closure care has not been in accordance with the approved post-closure plan. The director shall provide the owner or operator a detailed written statement of any such reason to believe that post-closure care has not been in accordance with the approved post-closure plan.

[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules, and federal statutory provisions referenced in this rule, see rule 3745-50-11 of the Administrative Code titled "Incorporated by reference."]

Effective: 9/29/2021
Five Year Review (FYR) Dates: 6/7/2021 and 06/05/2026

CERTIFIED ELECTRONICALLY

Certification

09/14/2021

Date

Promulgated Under: 119.03
Statutory Authority: 3734.12
Rule Amplifies: 3734.12
Prior Effective Dates: 08/26/1983 (Emer.), 11/29/1983, 05/29/1985 (Emer.),
08/29/1985, 11/13/1987, 09/02/1997, 12/07/2000,
12/07/2004, 09/05/2010, 03/24/2017

3745-55-46 Use of a mechanism for financial assurance of both closure and post-closure care.

An owner or operator may satisfy the requirements for financial assurance for both closure and post-closure care for one or more facilities by using a trust fund, surety bond, letter of credit, insurance, financial test, or corporate guarantee that meets the specifications for the mechanism in both rule 3745-55-43 and 3745-55-45 of the Administrative Code. The amount of funds available through the mechanism shall be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for financial assurance of closure and of post-closure care.

Effective: 11/29/1983

119.032 review dates: Exempt

Promulgated under: 119.03

Statutory authority: 3734.12

Rule amplifies: 3734.12

Prior effective dates: 08/26/1983 (Emer.)

3745-55-47

Liability requirements.

(A) Coverage for sudden accidental occurrences. An owner or operator of a hazardous waste treatment, storage, or disposal facility, or a group of such facilities, shall demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator shall have and maintain liability coverage for sudden accidental occurrences in the amount of at least one million dollars per occurrence with an annual aggregate of at least two million dollars, exclusive of legal defense costs. This liability coverage may be demonstrated as specified in paragraph (A)(1), (A)(2), (A)(3), (A)(4), (A)(5), or (A)(6) of this rule.

(1) An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in ~~paragraphs~~paragraph (A) to (A)(7)(e) of this rule.

(a) Each insurance policy shall be amended by attachment of the "Hazardous Waste Facility Liability Endorsement" or evidenced by a "Certificate of Liability Insurance." The wording of the endorsement shall be identical to the wording specified in paragraph (I) of rule 3745-55-51 of the Administrative Code. The wording of the certificate of insurance shall be identical to the wording specified in paragraph (J) of rule 3745-55-51 of the Administrative Code. The owner or operator shall submit an originally signed duplicate of the endorsement or the certificate of insurance to the director. If requested by the director, the owner or operator shall provide an originally signed duplicate of the insurance policy. An owner or operator of a new facility shall submit the originally signed duplicate of the "Hazardous Waste Facility Liability Endorsement" or the "Certificate of Liability Insurance" to the director at least sixty days before the date on which hazardous waste is first received for treatment, storage, or disposal. The insurance shall be effective before this initial receipt of hazardous waste.

(b) Each insurance policy shall be issued by an insurer which, at a minimum, is licensed to transact the business of insurance; or eligible to provide insurance as an excess or surplus lines insurer; in one or more states.

(2) An owner or operator may meet the requirements of this rule by passing a financial test or using the guarantee for liability coverage as specified in paragraphs (F) and (G) of this rule.

(3) An owner or operator may meet the requirements of this rule by obtaining a letter of credit for liability coverage as specified in paragraph (H) of this rule.

- (4) An owner or operator may meet the requirements of this rule by obtaining a surety bond for liability coverage as specified in paragraph (I) of this rule.
 - (5) An owner or operator may meet the requirements of this rule by obtaining a trust fund for liability coverage as specified in paragraph (J) of this rule.
 - (6) An owner or operator may demonstrate the required liability coverage through the use of combinations of insurance, financial test, guarantee, letter of credit, surety bond, and trust fund, except that the owner or operator may not combine a financial test covering part of the liability coverage requirement with a guarantee unless the financial statement of the owner or operator is not consolidated with the financial statement of the guarantor. The amounts of coverage demonstrated shall total at least the minimum amounts required by this rule. If the owner or operator demonstrates the required coverage through the use of a combination of financial assurances under ~~paragraphs~~ paragraph (A) to (A)(7)(e) of this rule, the owner or operator shall specify at least one such assurance as "primary" coverage and shall specify other assurance as "excess" coverage.
 - (7) An owner or operator shall notify the director in writing within thirty days whenever any of the following occurs:
 - (a) A claim results in a reduction in the amount of financial assurance for liability coverage provided by a financial instrument authorized in paragraphs (A)(1) to (A)(6) of this rule.
 - (b) A "Certification of Valid Claim" for bodily injury or property damages caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is entered between the owner or operator and third-party claimant for liability coverage under paragraphs (A)(1) to (A)(6) of this rule.
 - (c) A final court order establishing a judgement for bodily injury or property damages caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is issued against the owner or operator or an instrument that is providing financial assurance for liability coverage under paragraphs (A)(1) to (A)(6) of this rule.
- (B) Coverage for nonsudden accidental occurrences. An owner or operator of a surface impoundment, landfill, or land treatment facility, or disposal miscellaneous unit that is used to manage hazardous waste, or a group of such facilities, shall demonstrate financial responsibility for bodily injury and property damage to third parties caused

by nonsudden accidental occurrences arising from operations of the facility or group of facilities. An owner or operator shall have and maintain liability coverage for nonsudden accidental occurrences in the amount of at least three million dollars per-occurrence with an annual aggregate of at least six million dollars, exclusive of legal defense costs. An owner or operator who shall meet the requirements of this rule may combine the required per occurrence coverage levels for sudden and nonsudden accidental occurrences into a single per-occurrence level, and combine the required annual aggregate coverage levels for sudden and nonsudden accidental occurrences into a single annual aggregate level. Owners or operators who combine coverage levels for sudden and nonsudden accidental occurrences shall maintain liability coverage in the amount of at least four million dollars per occurrence and eight million dollars annual aggregate. This liability coverage may be demonstrated as specified in paragraph (B)(1), (B)(2), (B)(3), (B)(4), (B)(5), or (B)(6) of this rule:

- (1) An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in ~~paragraphs~~ paragraph (B) to (B)(7)(e) of this rule.
 - (a) Each insurance policy shall be amended by attachment of the "Hazardous Waste Facility Liability Endorsement" or evidenced by a "Certificate of Liability Insurance." The wording of the endorsement shall be identical to the wording specified in paragraph (I) of rule 3745-55-51 of the Administrative Code. The wording of the certificate of insurance shall be identical to the wording specified in paragraph (J) of rule 3745-55-51 of the Administrative Code. The owner or operator shall submit an originally signed duplicate of the endorsement or the certificate of insurance to the director. If requested by the director, the owner or operator shall provide an originally signed duplicate of the insurance policy. An owner or operator of a new facility shall submit the originally signed duplicate of the "Hazardous Waste Facility Liability Endorsement" or the "Certificate of Liability Insurance" to the director at least sixty days before the date on which hazardous waste is first received for treatment, storage, or disposal. The insurance shall be effective before this initial receipt of hazardous waste.
 - (b) Each insurance policy shall be issued by an insurer which, at a minimum, is licensed to transact the business of insurance; or eligible to provide insurance as an excess or surplus lines insurer; in one or more states.
- (2) An owner or operator may meet the requirements of this rule by passing a financial test or using the guarantee for liability coverage as specified in paragraphs (F) and (G) of this rule.

- (3) An owner or operator may meet the requirements of this rule by obtaining a letter of credit for liability coverage as specified in paragraph (H) of this rule.
- (4) An owner or operator may meet the requirements of this rule by obtaining a surety bond for liability coverage as specified in paragraph (I) of this rule.
- (5) An owner or operator may meet the requirements of this rule by obtaining a trust fund for liability coverage as specified in paragraph (J) of this rule.
- (6) An owner or operator may demonstrate the required liability coverage through the use of combinations of insurance, financial test, guarantee, letter of credit, surety bond, and trust fund, except that the owner or operator may not combine a financial test covering part of the liability coverage requirement with a guarantee unless the financial statement of the owner or operator is not consolidated with the financial statement of the guarantor. The amounts of coverage demonstrated shall total at least the minimum amount required by this rule. If the owner or operator demonstrates the required coverage through the use of a combination of financial assurances under ~~paragraphs~~ paragraph (B) ~~to (B)(7)(c)~~ of this rule, the owner or operator shall specify at least one such assurance as "primary" coverage and shall specify other assurance as "excess" coverage.
- (7) An owner or operator shall notify the director in writing within thirty days whenever any of the following occurs:
 - (a) A claim results in a reduction in the amount of financial assurance for liability coverage provided by a financial instrument authorized in paragraphs (B)(1) to (B)(6) of this rule.
 - (b) A "Certification of Valid Claim" for bodily injury or property damages caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is entered between the owner or operator and third-party claimant for liability coverage under paragraphs (B)(1) to (B)(6) of this rule.
 - (c) A final court order establishing a judgement for bodily injury or property damages caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is issued against the owner or operator or an instrument that is providing financial assurance for liability coverage under paragraphs (B) (1) to (B)(6) of this rule.

- (C) Request for variance. If an owner or operator can satisfactorily demonstrate that the levels of financial responsibility required by paragraph (A) or (B) of this rule are not consistent with the degree and duration of risk associated with the treatment, storage, or disposal at a facility or group of facilities, the owner or operator may obtain a variance from the director. The request for a variance shall be submitted as part of the permit application under rule 3745-50-44 of the Administrative Code for a facility that does not have a permit, or pursuant to the procedures for permit modification for a facility that has a permit. If granted, the variance will take the form of an adjusted level of required liability coverage, such level to be based on the director's assessment of the degree and duration of risks associated with the ownership or operation of each facility or group of facilities. The director may require an owner or operator who requests a variance to provide such technical and engineering information as is deemed necessary by the director to determine a level of financial responsibility other than that required by paragraph (A) or (B) of this rule. Any request for a variance for a permitted facility will be treated as a request for a permit modification under rule 3745-50-51 of the Administrative Code.
- (D) Adjustments by the director. If the director determines that the levels of financial responsibility required by paragraph (A) or (B) of this rule are not consistent with the degree and duration of risks associated with treatment, storage, or disposal at a facility or group of facilities, the director may adjust the level of financial responsibility required under paragraph (A) or (B) of this rule as may be necessary to protect human health and the environment. This adjusted level will be based on the director's assessment of the degree and duration of risks associated with the ownership or operation of a facility or group of facilities. In addition, if the director determines that there is a significant risk to human health and the environment from nonsudden accidental occurrences resulting from the operations of the facility that is not a surface impoundment, landfill, or land treatment facility, the director may require that an owner or operator of the facility comply with paragraph (B) of this rule. An owner or operator shall furnish the director, within a reasonable time, any information which the director requests in order to determine whether cause exists for such adjustments of level or type of required coverage. Any adjustment of the level or type of coverage for a facility that has a permit will be treated as a permit modification under rule 3745-50-51 of the Administrative Code.
- (E) Period of coverage. Within sixty days after receiving certifications from the owner or operator and a qualified professional engineer that final closure has been completed in accordance with the approved closure plan, the director will notify the owner or operator in writing that the owner or operator is no longer required by this rule to maintain liability coverage for that facility, unless the director has reason to believe that closure has not been in accordance with the approved closure plan.
- (F) Financial test for liability coverage.

- (1) An owner or operator may satisfy the requirements of this rule by demonstrating that the owner or operator passes a financial test as specified in ~~paragraphs~~ paragraph (F) to (F)(7) of this rule. To pass this test, the owner or operator shall meet the criteria of paragraph (F)(1)(a) or (F)(1)(b) of this rule:
- (a) The owner or operator shall have:
- (i) Net working capital and tangible net worth each at least six times the amount of liability coverage to be demonstrated by this test; and
 - (ii) Tangible net worth of at least ten million dollars; and
 - (iii) Assets in the United States amounting to either:
 - (a) At least ninety per cent of the owner's or operator's total assets; or
 - (b) At least six times the amount of liability coverage to be demonstrated by this test; and
- (b) The owner or operator shall have:
- (i) A current rating for the owner's or operator's most recent bond issuance of "AAA, AA, A, or BBB" as issued by "Standard and Poor's" or "Aaa, Aa, A, or Baa" as issued by "Moody's"; and
 - (ii) Tangible net worth of at least ten million dollars; and
 - (iii) Tangible net worth at least six times the amount of liability coverage to be demonstrated by this test; and
 - (iv) Assets in the United States amounting to either:
 - (a) At least ninety per cent of the owner's or operator's total assets; or
 - (b) At least six times the amount of liability coverage to be demonstrated by this test.
- (2) The phrase "amount of liability coverage" as used in paragraph (F)(1) of this rule refers to the annual aggregate amounts for which coverage is required under paragraphs (A) and (B) of this rule.
- (3) To demonstrate that the owner or operator meets this test, the owner or operator shall submit the following three items to the director:

- (a) A letter signed by the owner's or operator's chief financial officer and worded as specified in paragraph (G) of rule 3745-55-51 of the Administrative Code. If an owner or operator is using the financial test to demonstrate both assurance for closure or post-closure care, as specified by paragraph (F) of rule 3745-55-43, paragraph (F) of rule 3745-55-45, paragraph (E) of rule 3745-66-43, and paragraph (E) of rule 3745-66-45 of the Administrative Code, and liability coverage, the owner or operator shall submit the letter specified in paragraph (G) of rule 3745-55-51 of the Administrative Code to cover both forms of financial responsibility. A separate letter as specified in paragraph (F) of rule 3745-55-51 of the Administrative Code is not required.
- (b) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year.
- (c) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that both:
 - (i) The owner's or operator's independent certified public accountant has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and
 - (ii) In connection with that procedure, no matters came to the accountant's attention which caused the accountant to believe that the specified data should be adjusted.
- (4) An owner or operator of a new facility shall submit the items specified in paragraph (F)(3) of this rule to the director at least sixty days before the date on which hazardous waste is first received for treatment, storage, or disposal.
- (5) After the initial submittal of items specified in paragraph (F)(3) of this rule, the owner or operator shall send updated information to the director within ninety days after the close of each succeeding fiscal year. This information shall consist of all three items specified in paragraph (F)(3) of this rule.
- (6) If the owner or operator no longer meets the requirements of paragraph (F)(1) of this rule, the owner or operator shall obtain insurance, a letter of credit, a surety bond, a trust fund, or a guarantee for the entire amount of required liability coverage as specified in this rule. Evidence of liability coverage shall be submitted to the director within ninety days after the end of the fiscal year

for which the year-end financial data show that the owner or operator no longer meets the test requirements.

- (7) The director may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in such accountant's report on examination of the owner's or operator's financial statements [see paragraph (F)(3)(b) of this rule]. An adverse opinion or a disclaimer of opinion will be cause for disallowance. The director will evaluate other qualifications on an individual basis. ~~The~~ Within thirty days after notification of disallowance, the owner or operator shall provide evidence of insurance for the entire amount of required liability coverage as specified in this rule ~~within thirty days after notification of disallowance.~~

(G) Guarantee for liability coverage.

- (1) Subject to paragraph (G)(2) of this rule, an owner or operator may meet the requirements of this rule by obtaining a written guarantee, hereinafter referred to as "guarantee." The guarantor shall be the direct or higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a "substantial business relationship" with the owner or operator. The guarantor shall meet the requirements for owners or operators in paragraphs (F)(1) to (F)(6) of this rule. The wording of the guarantee shall be identical to the wording specified in paragraph (H)(2) of rule 3745-55-51 of the Administrative Code. A certified copy of the guarantee shall accompany the items sent to the director as specified in paragraph (F)(3) of this rule. One of these items shall be the letter from the guarantor's chief financial officer. If the guarantor's parent corporation is also the parent corporation of the owner or operator, this letter shall describe the value received in consideration of the guarantee. If the guarantor is a firm with a "substantial business relationship" with the owner or operator, this letter shall describe this "substantial business relationship" and the value received in consideration of the guarantee.
- (a) If the owner or operator fails to satisfy a judgment based on a determination of liability for bodily injury or property damage to third parties caused by sudden or nonsudden accidental occurrences (or both as the case may be); arising from the operation of facilities covered by this corporate guarantee, or fails to pay an amount agreed to in settlement of claims arising from or alleged to arise from such injury or damage, the guarantor will do so up to the limits of coverage.
- (b) [Reserved.]

- (2) In the case of corporations incorporated in Ohio, a guarantee executed as described in this rule and paragraph (H)(2) of rule 3745-55-51 of the Administrative Code may be used to satisfy the requirements of this rule. In the case of a corporation incorporated in a state other than Ohio, a guarantee may be used to satisfy the requirements of this rule only if the attorney general or insurance commissioners of that state have submitted a written statement to the director that a guarantee executed as described in this rule and paragraph (H)(2) of rule 3745-55-51 of the Administrative Code is a legally valid and enforceable obligation in that state.
- (3) In the case of corporations incorporated outside the United States, a guarantee may be used to satisfy the requirements of this rule only if both:
 - (a) The non-U.S. corporation has identified a registered agent for service of process in Ohio and in the state in which the principal place of business of the guarantor corporation is located; and
 - (b) The attorney general or insurance commissioner of the state in which the principal place of business of the guarantor corporation is located has submitted a written statement to the director that a guarantee executed as described in this rule and paragraph (H)(2) of rule 3745-55-51 of the Administrative Code is a legally valid and enforceable obligation in that state.

(H) Letter of credit for liability coverage.

- (1) An owner or operator may satisfy the requirements of this rule by obtaining an irrevocable standby letter of credit that conforms to the requirements of ~~paragraphs~~ paragraph (H) ~~to (H)(5)~~ of this rule; and submitting a copy of the letter of credit to the director.
- (2) The financial institution issuing the letter of credit shall be an entity that has the authority to issue letters of credit and whose letter of credit operations are regulated and examined by a federal or state agency.
- (3) The wording of the letter of credit shall be identical to the wording specified in paragraph (K) of rule 3745-55-51 of the Administrative Code.
- (4) An owner or operator who uses a letter of credit to satisfy the requirements of this rule may also establish a standby trust fund. Under the terms of such a letter of credit, all amounts paid pursuant to a draft by the trustee of the standby trust will be deposited by the issuing institution into the standby trust in accordance with instructions from the trustee. The trustee of the standby trust fund shall be

an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency.

- (5) The wording of the standby trust fund shall be identical to the wording specified in paragraph (N) of rule 3745-55-51 of the Administrative Code.

(I) Surety bond for liability coverage.

- (1) An owner or operator may satisfy the requirements of this rule by obtaining a surety bond that conforms to the requirements of ~~paragraphs~~ paragraph (I) to (I)(4)(b) of this rule; and submitting a copy of the bond to the director.
- (2) The surety company issuing the bond shall be among those listed as acceptable sureties on federal bonds in the most recent "Circular 570" of the U.S. department of the treasury.
- (3) The wording of the surety bond shall be identical to the wording specified in paragraph (L) of rule 3745-55-51 of the Administrative Code.
- (4) A surety bond may be used to satisfy the requirements of this rule only if the attorney general or insurance commissioners of the state in which the surety is incorporated, and each state in which a facility covered by the surety bond is located, have submitted a written statement to Ohio EPA that a surety bond executed as described in this rule and paragraph (L) of rule 3745-55-51 of the Administrative Code, and is legally valid and enforceable obligation in that state.

(J) Trust fund for liability coverage.

- (1) An owner or operator may satisfy the requirements of this rule by establishing a trust fund that conforms to the requirements of ~~paragraphs~~ paragraph (J) to (J)(4) of this rule and submitting an originally signed duplicate of the trust agreement to the director.
- (2) The trustee shall be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency.
- (3) The trust fund for liability coverage shall be funded for the full amount of the liability coverage to be provided by the trust fund before the trust fund may be relied upon to satisfy the requirements of this rule. If at any time after the trust fund is created the amount of funds in the trust fund is reduced below the full amount of the liability coverage to be provided, the owner or operator, by the anniversary date of the establishment of the trust fund, either shall ~~either~~ add sufficient funds to the trust fund to cause the value of the trust fund to equal

the full amount of liability coverage to be provided, or obtain other financial assurance as specified in this rule to cover the difference. For purposes of ~~paragraphs~~paragraph (J) to (J)(4) of this rule, "the full amount of the liability coverage to be provided" means the amount of coverage for sudden, nonsudden, or sudden and nonsudden occurrences required by this rule to be provided by the owner or operator, less the amount of financial assurance for liability coverage that is being provided by other financial assurance mechanisms being used by the owner or operator to demonstrate financial assurance.

- (4) The wording of the trust fund shall be identical to the wording specified in paragraph (M) of rule 3745-55-51 of the Administrative Code.

[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules, and federal statutory provisions referenced in this rule, see rule 3745-50-11 of the Administrative Code titled "Incorporated by reference."]

Effective: 9/29/2021
Five Year Review (FYR) Dates: 6/7/2021 and Exempt

CERTIFIED ELECTRONICALLY

Certification

09/14/2021

Date

Promulgated Under: 119.03
Statutory Authority: 3734.12
Rule Amplifies: 3734.12
Prior Effective Dates: 02/16/1009, 08/26/1983 (Emer.), 11/29/1983,
08/30/1984, 05/29/1985 (Emer.), 08/29/1985,
11/13/1987, 12/08/1988, 12/30/1989, 06/29/1990,
02/14/1995, 09/02/1997, 09/05/2010, 03/24/2017

3745-55-48 Incapacity of owners or operators, guarantors, or financial institutions.

- (A) An owner or operator must notify the director by certified mail of the commencement of a voluntary or involuntary proceeding under Title 11 (bankruptcy), U.S. code, naming the owner or operator as debtor, within ten days after commencement of the proceeding. A guarantor of a corporate guarantee as specified in paragraph (F) of rules 3745-55-43 and 3745-55-45 of the Administrative Code shall make such a notification if he is named as debtor, as required under the terms of the corporate guarantee.
- (B) An owner or operator who fulfills the requirements of rule 3745-55-43, 3745-55-45 or 3745-55-47 of the Administrative Code by obtaining a trust fund, surety bond, letter of credit, or insurance policy will be deemed to be without the required financial assurance or liability coverage in the event of bankruptcy of the trustee or issuing institution, or a suspension or revocation of the authority of the trustee institution issuing the surety bond, letter of credit, or insurance policy to issue such instruments. The owner or operator shall establish other financial assurance or liability coverage within sixty days after such an event.

Effective: 08/29/1985

119.032 review date: Exempt

Promulgated under: 119.03

Statutory authority: 3734.12

Rule amplifies: 3734.12

Prior effective dates: 08/26/1983 (Emer.), 11/29/1983, 05/29/1985 (Emer.)

3745-55-51

Wording of the instruments.

(A)

- (1) A trust agreement for a trust fund as specified in paragraph (A) of rule 3745-55-43, paragraph (A) of rule 3745-55-45, paragraph (A) of rule 3745-66-43, or paragraph (A) of rule 3745-66-45 of the Administrative Code must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

"Trust Agreement

Trust agreement. The "Agreement", entered into as of [date] by and between [name of the owner or operator], a [state] [corporation, partnership, association, proprietorship], the "Grantor", and [name of corporate trustee], ["incorporated in the State of _____" or "a national bank"], the "Trustee".

Whereas, the Ohio Environmental Protection Agency, "Ohio EPA", has established certain rules applicable to the Grantor, requiring that the owner or operator of a hazardous waste management facility shall provide assurance that funds will be available when needed for closure and/or post-closure care of the facility,

Whereas, the Grantor has elected to establish a trust to provide all or part of such financial assurance for the facilities identified herein.

Whereas, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this agreement, and the Trustee is willing to act as trustee,

Now, therefore, the Grantor and the Trustee agree as follows:

Section 1. Definitions. As used in this Agreement:

- (a) The term "Grantor" means the owner or operator who enters into this Agreement and any successors or assigns of the Grantor.
- (b) The term "Trustee" means the Trustee who enters into this Agreement and any successor Trustee.
- (c) The term "director" means the director of the Ohio EPA, or his designee.

Section 2. Identification of Facilities and Cost Estimates. This Agreement pertains to the facilities and cost estimates identified on attached Schedule A [on Schedule A, for each facility list the U.S. EPA identification number, name, address, ~~Ohio permit number~~ and the current closure and/or

post-closure cost estimates, or portions thereof, for which financial assurance is demonstrated by this Agreement].

Section 3. Establishment of Fund. The Grantor and the Trustee hereby establish a trust fund, the "Fund" for the benefit of the Ohio EPA. The Grantor and the Trustee intend that no third party have access to the Fund except as herein provided. The Fund is established initially as consisting of the property, which is acceptable to the Trustee, described in Schedule B attached hereto. Such property and any other property subsequently transferred to the Trustee is referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund will be held by the Trustee, in trust, as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor, any payments necessary to discharge any liabilities of the Grantor established by the Ohio EPA.

Section 4. Payment for Closure and Post-Closure Care. The Trustee will make such payments from the Fund as the director will direct, in writing, to provide for the payment of the costs of closure and/or post-closure care of the facilities covered by this Agreement. The Trustee will reimburse the Grantor or other persons as specified by the director from the Fund for closure and post-closure expenditures in such amounts as the director will direct, in writing. In addition, the Trustee will refund to the Grantor such amounts as the director specifies in writing. Upon refund, such funds will no longer constitute part of the Fund as defined herein.

Section 5. Payments Comprising the Fund. Payments made to the Trustee for the Fund will consist of cash or securities acceptable to the Trustee.

Section 6. Trustee Management. The Trustee will invest and reinvest the principal and income of the Fund and keep the Fund invested as a single fund, without distinction between principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this Section. In investing, reinvesting, exchanging, selling and managing the Fund, the Trustee will discharge his duties with respect to the trust fund solely in the interest of the beneficiary and with the care, skill, prudence, and diligence under the circumstances then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; except that:

(i) Securities or other obligations of the Grantor, or any other owner or operator of the facilities, or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 USC # 80a-2(a), will not be acquired or held, unless they are securities or other obligations of the Federal or a State

government;

(ii) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the Federal or State government; and

(iii) The Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

Section 7. Commingling and Investment. The Trustee is expressly authorized in its discretion:

(a) To transfer from time to time any or all of the assets of the Fund to any common, commingled or collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and

(b) To purchase shares in any investment company registered under the Investment Company Act of 1940, 15 U.S.C. # 80a-1 et seq., including one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 8. Express Powers of Trustee. Without in any way limiting the powers and discretions conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

(a) To sell, exchange, convey, transfer or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee will be bound to see to the application of the purchase money or to inquire into the validity or expediency of any such sale or other disposition;

(b) To make, execute, acknowledge and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;

(c) To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depository even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depository with other securities deposited therein by another person, or to deposit or arrange for the deposit of any

securities issued by the United States Government, or any agency or instrumentality thereof, with a Federal Reserve bank, but the books and records of the Trustee will at all times show that all such securities are part of the Fund;

(d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the Federal or State government; and

(e) To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. Taxes and Expenses. All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund will be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee will be paid from the Fund.

Section 10. Annual Valuation. The Trustee will annually, at least thirty days prior to the anniversary date of establishment of the Fund furnish to the Grantor and to the director a statement confirming the value of the Trust. Any securities in the Fund will be valued at market value as of no more than sixty days prior to the anniversary date of establishment of the Fund. The failure of the Grantor to object in writing to the Trustee within ninety days after the statement has been furnished to the Grantor and the director will constitute a conclusively binding assent by the Grantor, barring the Grantor from asserting any claim or liability against the Trustee with respect to matters disclosed in the statement.

Section 11. Advice of Counsel. The Trustee may from time to time consult with counsel, who may be counsel to the Grantor, with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee will be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 12. Trustee Compensation. The Trustee will be entitled to reasonable compensation for its services as agreed upon in writing from time to time with the Grantor.

Section 13. Successor Trustee. The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor Trustee and this successor accepts the appointment. The successor Trustee will have the same powers and duties

as those conferred upon the Trustee hereunder. Upon the successor Trustee's acceptance of the appointment, the Trustee will assign, transfer and pay over to the successor Trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor Trustee shall specify the date on which it assumes administration of the trust in a writing sent to the Grantor, the director, and the present Trustee by certified mail ten days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this Section will be paid as provided in Section 9.

Section 14. Instructions to the Trustee. All orders, requests and instructions by the Grantor to the Trustee will be in writing, signed by such persons as are designated in the attached Exhibit A or such other designees as the Grantor may designate by amendment to Exhibit A. The Trustee will be fully protected in acting without inquiry in accordance with the Grantor's orders, requests and instructions. All orders, requests, and instructions by the director to the Trustee will be in writing, signed by the director, and the Trustee will act and will be fully protected in acting in accordance with such orders, requests and instructions. The Trustee will have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor or the director hereunder has occurred. The Trustee will have no duty to act in the absence of such orders, requests and instructions from the Grantor and/or the director except as provided for herein.

Section 15. Notice of Nonpayment. The Trustee will notify the Grantor and the director, by certified mail within ten days following the expiration of the thirty-day period after the anniversary of the establishment of the Trust, if no payment is received from the Grantor during that period. After the pay-in period is completed the Trustee is not required to send a notice of nonpayment.

Section 16. Amendment of Agreement. This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, and the director, or by the Trustee and the director if the Grantor ceases to exist.

Section 17. Irrevocability and Termination. Subject to the right of the parties to amend this Agreement as provided in Section 16, this Trust will be irrevocable and will continue until terminated at the written agreement of the Grantor, the Trustee, and the director or by the Trustee and the director if the Grantor ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, will be delivered to the Grantor.

Section 18. Immunity and Indemnification. The Trustee will not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor or the director issued in accordance with this Agreement. The Trustee will be indemnified and saved harmless by the Grantor or from the Trust Fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense.

Section 19. Choice of Law. This Agreement will be administered, construed and enforced according to the laws of the state of Ohio.

Section 20. Interpretation. As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each Section of this Agreement will not affect the interpretation or the legal efficacy of this Agreement.

In witness whereof the parties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals to be hereunto affixed and attested as of the date first above written: The parties below certify that the wording of this Agreement is identical to the wording specified in paragraph (A)(1) of rule 3745-55-51 of the Administrative Code as such regulations were constituted on the date first above written.

[Signature of Grantor]

[Title]

Attest:

[Title]

[Seal]

[Signature of Trustee]

Attest:

[Title]

[Seal]"

- (2) The following is an example of the certification of acknowledgment, which must accompany the trust agreement for a trust fund as specified in paragraph (A) of ~~rule~~rule 3745-55-43, paragraph (A) of rule 3745-55-45, paragraph (A)

of rule 3745-66-43, or paragraph (A) of 3745-66-45 of the Administrative Code:

"State of _____

County of _____

On this [date], before me personally came [owner or operator] to me known, who, being by me duly sworn, did depose and say that she/he resides at [address], that she/he is [title] of [corporation], the corporation described in and which executed the above instrument; that she/he knows the seal of said corporation; that the seal affixed to such instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that she/he signed her/his name thereto by like order.

[Signature of Notary Public]"

[Comment: As required in paragraph (A)(2) of ~~rules~~rule 3745-55-43, paragraph (A)(2) of rule 3745-55-45, paragraph (A)(2) of rule 3745-66-43, and paragraph (A)(2) of rule 3745-66-45 of the Administrative Code, the trust agreement must be accompanied by a formal certification of acknowledgment. This is an example only.]

- (B) A surety bond guaranteeing payment into a trust fund, as specified in paragraph (B) of ~~rules~~rule 3745-55-43, paragraph (B) of rule 3745-55-45, paragraph (B) of rule 3745-66-43, or paragraph (B) of rule 3745-66-45 of the Administrative Code, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

"Financial Guarantee Bond

Date bond executed: _____

Effective date: _____

Principal: [legal name and business address of owner or operator]

Type of organization: [insert "individual," "joint venture," "partnership," or "corporation"]

State of incorporation: _____

Surety(ies): [name(s) and business address(es)]

U.S. EPA identification number, name, address, ~~Ohio permit number~~, and closure and/or post-closure amount(s) for each facility guaranteed by this bond [indicate

closure and post-closure amounts separately]: _____

Total penal sum of bond: \$ _____

Surety's bond number: _____

Know All Persons By These Presents, That we, the Principal and Surety(ies) hereto are firmly bound to the Ohio Environmental Protection Agency ("hereinafter called Ohio EPA"), in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally; provided that, where the Surety(ies) are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

Whereas, said Principal is required to have an Ohio EPA permit or permits, in order to own or operate each hazardous waste management facility(ies) identified above, and

Whereas said Principal is required to provide financial assurance for closure, or closure and post-closure care, of the facility(ies) as a condition of the permit(s) or Chapters 3745-65 to 3745-69 and 3745-256 of the Administrative Code, and

Whereas said Principal shall establish a standby trust fund as ~~specified by rule 3745-55-43 or 3745-66-43 of the Ohio Administrative Code~~ is required when a surety bond is used to provide such financial assurance,

Now, therefore the conditions of the obligation are such that if the Principal shall faithfully, before the beginning of final closure of each facility identified above, fund the standby trust fund in the amount(s) identified above for the facility,

Or, if the Principal shall fund the standby trust fund in such an amount(s) within fifteen days after an order to begin closure is issued by the director, or an Ohio court, or a U.S. district court or other court of competent jurisdiction, or within fifteen days after a notice of revocation of the permit(s) by the director,

Or, if the Principal shall provide alternate financial assurance, as specified in rules 3745-55-40 to 3745-55-51 or 3745-66-40 to 3745-66-48 of the Ohio Administrative Code as applicable, and obtain the director's written approval of such assurance, within ninety days after the date notice of cancellation is received by both the Principal and the director from the Surety(ies), then this obligation will be null and void, otherwise it is to remain in full force and effect.

The Surety(ies) shall become liable on this bond obligation only when the Principal has failed to fulfill the conditions described above. Upon notification by the

director that the Principal has failed to perform as guaranteed by this bond, the Surety(ies) shall place funds in the amount guaranteed for the facility(ies) into the standby trust fund as directed by the director.

The liability of the Surety(ies) shall not be discharged by any payment or succession of payments hereunder, unless and until such payment or payments shall amount in the aggregate to the penal sum of the bond, but in no event shall the obligation of the Surety(ies) hereunder exceed the amount of said penal sum.

The Surety(ies) may cancel the bond by sending notice of cancellation by certified mail to the Principal and to the director, provided, however, that cancellation shall not occur during the one hundred twenty days beginning on the date of receipt of the notice of cancellation by both the Principal and the director as evidenced by the return receipts.

The Principal may terminate this bond by sending written notice to the Surety(ies), provided, however, that no such notice shall become effective until the Surety(ies) receive(s) written authorization for termination of the bond by the director.

[The following paragraph is an optional rider that may be included but is not required.]

Principal and Surety(ies) hereby agree to adjust the penal sum of the bond yearly so that it guarantees a new closure and/or post-closure amount, provided that the penal sum does not increase by more than twenty percent in any one year, and no decrease in the penal sum takes place without the written permission of the director.

In witness whereof, the Principal and Surety(ies) have executed this Financial Guarantee Bond and have affixed their seals on the date set forth above.

The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the Principal and Surety(ies) and that the wording of this surety bond is identical to the wording specified in paragraph (B) of rule 3745-55-51 of the Administrative Code as such regulations were constituted on the date this bond was executed.

Principal

Signature(s): _____

Name(s) and title(s) [typed]: _____

Corporate seal:

Corporate Surety(ies)

Name and address: _____

State of incorporation: _____

Liability limit: \$ _____

Signature(s): _____

Name(s) and title(s) [typed]: _____

Corporate seal:

[For every co-surety, provide signature(s), corporate seal, and other information in the same manner as for Surety above.]

Bond premium: \$ _____

- (C) A surety bond guaranteeing performance of closure and/or post-closure care, as specified in paragraph (C) of rule 3745-55-43 or paragraph (C) of rule 3745-55-45 of the Administrative Code, must be worded as follows, except that instructions in brackets are to be replaced by the relevant information and the brackets deleted:

"Performance Bond

Date bond executed: _____

Effective date: _____

Principal: [legal name and business address of owner or operator]

Type of organization: [insert "individual," "joint venture," "partnership," or "corporation"]

State of incorporation: _____

Surety(ies): [name(s) and business address(es)]

U.S. EPA identification number, name, address, ~~Ohio EPA permit number~~ and closure and/or post-closure amount(s) for each facility guaranteed by this bond [indicate closure and post-closure amounts separately]: _____

Total penal sum of bond: \$ _____

Surety's bond number: _____

Know All Persons By These Presents, That we, the Principal and Surety(ies) hereto

are firmly bound to Ohio Environmental Protection Agency (hereinafter called "Ohio EPA"), in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally; provided that, where the Surety(ies) are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

Whereas, said Principal is required to have an Ohio EPA permit or permits in order to own or operate each hazardous waste management facility(ies) identified above, and

Whereas, said Principal is required to provide financial assurance for closure, or closure and post-closure care as a condition of the permit(s), and

Whereas said Principal shall establish a standby trust fund as is required when a surety bond is used to provide such financial assurance;

Now, therefore, the conditions of this obligation are such that if the Principal shall faithfully perform closure, whenever required to do so, of each facility for which this bond guarantees closure, in accordance with the closure plan and other requirements of the permit as such plan and permit may be amended, pursuant to all applicable laws, statutes, rules, and regulations, as such laws, statutes, rules and regulations may be amended.

And, if the Principal shall faithfully perform post-closure care of each facility for which this bond guarantees post-closure care, in accordance with the post-closure plan and other requirements of the permit, as such plan and permit may be amended, pursuant to all applicable laws, statutes, rules, and regulations, as such laws, statutes, rules, and regulations may be amended.

Or, if the Principal shall provide alternate financial assurance as specified in rules 3745-55-40 to 3745-55-51 of the Administrative Code and obtain the director's written approval of such assurance within ninety days after the date notice of cancellation is received by both the Principal and the director from the Surety(ies), then this obligation will be null and void, otherwise it is to remain in full force and effect.

The Surety(ies) shall become liable on this bond obligation only when the Principal has failed to fulfill the conditions described above.

Upon notification by the director that the Principal has been found in violation of the closure requirements of Chapters 3745-54 to 3745-57 and 3745-205 of the Administrative Code, for a facility for which this bond guarantees performance of

closure, the Surety(ies) shall either perform closure in accordance with the closure plan and other permit requirements or place the closure amount guaranteed for the facility into the standby trust fund as directed by the director.

Upon notification by the director that the Principal has been found in violation of the post-closure requirements of Chapters 3745-54 to 3745-57 and 3745-205 of the Administrative Code for a facility for which this bond guarantees performance of post-closure care, the Surety(ies) shall either perform post-closure care in accordance with the post-closure plan and other permit requirements or place the post-closure amount guaranteed for the facility into the standby trust fund as directed by the director.

Upon notification by the director that the Principal has failed to provide alternate financial assurance as specified in rules 3745-55-40 to 3745-55-51 of the Administrative Code and obtain written approval of such assurance from the director during the ninety days following receipt by both the Principal and the director of a notice of cancellation of the bond, the Surety(ies) shall place funds in the amount guaranteed for the facility(ies) into the standby trust fund as directed by the director.

The Surety(ies) hereby waive(s) notification of amendments to closure plans, permits, applicable laws, statutes, rules, and regulations and agrees that no such amendment shall in any way alleviate its (their) obligation on this bond.

The liability of the Surety(ies) shall not be discharged by any payment or succession of payments hereunder, unless and until such payment or payments shall amount in the aggregate to the penal sum of the bond, but in no event shall the obligation of the Surety(ies) hereunder exceed the amount of said penal sum.

The Surety(ies) may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the director, provided, however, that cancellation cannot occur during the one hundred twenty days beginning on the date of receipt of the notice of cancellation by both the Principal and the director as evidenced by the returned receipt(s).

The Principal may terminate this bond by sending written notice to the Surety(ies), provided, however, that no such notice shall become effective until the Surety(ies) receive(s) written authorization for termination of the bond by the director.

[The following paragraph is an optional rider that may be included but is not required.]

Principal and Surety(ies) hereby agree to adjust the penal sum of the bond yearly so that it guarantees a new closure and/or post-closure amount, provided that the penal sum does not increase by more than twenty percent in any one year, and no decrease in the penal sum takes place without the written permission of the director.

In witness whereof, the Principal and Surety(ies) have executed this Performance Bond and have affixed their seals on the date set forth above.

The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the Principal and Surety(ies) and that the wording of this surety bond is identical to the wording specified in paragraph (C) of rule 3745-55-51 of the Administrative Code, as such regulation was constituted on the date this bond was executed.

Principal

Signature(s): _____

Name(s) and title(s) [typed]: _____

Corporate seal:

Corporate surety(ies)

Name and address: _____

State of incorporation: _____

Liability limit: \$ _____

Signature(s): _____

Name(s) and title(s) [typed]: _____

Corporate seal:

[For every co-surety, provide signature(s), corporate seal, and other information in the same manner as for Surety above.]

Bond premium: \$ _____ "

- (D) A letter of credit as specified in paragraph (D) of rule 3745-55-43, paragraph (D) of rule 3745-55-45, or paragraph (C) of rule 3745-66-43, or paragraph (C) of rule 3745-66-45 of the Administrative Code must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted.

~~Note~~**Comment:** A letter of credit may also contain provisions used by the issuing institution in its regular course of business, provided that such provisions do not alter the terms and conditions contained in paragraph (D) of this rule.]

"Irrevocable Standby Letter of Credit

[director]

Ohio Environmental Protection Agency

Dear Sir or Madam: We hereby establish our Irrevocable Standby Letter of Credit No. _____ in your favor, at the request and for the account of [owner's or operator's name and address] up to the aggregate amount of [in words] U.S. dollars \$ _____, available upon presentation of (1) Your sight draft, bearing reference to this letter of credit no. _____, and (2) Your signed statement reading as follows: "I certify that the amount of the draft is payable pursuant to regulations issued under the authority of Chapter 3734. of the Ohio Revised Code as amended."

This letter of credit is effective as of [date] and will expire on [date of at least one year later], but such expiration date will be automatically extended for a period of [at least one year] on [date] and on each successive expiration date, unless, at least one hundred twenty days before the current expiration date, we notify both you and [owner or operator's name] by certified mail that we have decided not to extend this letter of credit beyond the current expiration date. In the event that you are so notified, any unused portion of the credit will be available upon presentation of your sight draft for one hundred twenty days after the date of receipt by both you and [owner's or operator's name] as shown on the signed return receipts.

Whenever this letter of credit is drawn on under and in compliance with the terms of this credit, we will duly honor such draft upon presentation to us, and we will deposit the amount of the draft directly into the standby trust fund of [owner's or operator's name] in accordance with your instructions.

We certify that the wording of this letter of credit is identical to the wording specified in paragraph (D) of rule 3745-55-51 of the Administrative Code as such regulations were constituted on the date shown immediately below.

[Signature(s) and title(s) of official(s) of issuing institution] [Date]

This credit is subject to [insert "the most recent edition of the Uniform Customs and Practice for Documentary Credits, published and copyrighted by the International Chamber of Commerce" or "the Uniform Commercial Code"]."

[Comment: In the event that the owner or operator ceases to exist, any unused portion of the credit will be available for one hundred twenty days after the date of receipt by the director, as shown on the signed returned receipt.]

(E) A certificate of insurance, as specified in paragraph (E) of rule 3745-55-43, paragraph

(E) of rule 3745-55-45, paragraph (D) of rule 3745-66-43, or paragraph (D) of rule 3745-66-45 of the Administrative Code, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

"Certificate of Insurance for Closure or Post-Closure Care

Name and address of Insurer (herein called the "Insurer"): _____

Name and address of Insured (herein called the "Insured"): _____

Facilities covered: [list for each facility: the U.S. EPA identification number, name, address, ~~Ohio permit number~~, and the amount of insurance for closure and/or the amount for post-closure care (these amounts for all facilities covered shall total the face amount shown below).]

Face amount: _____

Policy number: _____

Effective date: _____

The Insurer hereby certifies that it has issued to the Insured the policy of insurance identified above to provide financial assurance for [insert "closure" or "closure and post-closure care" or "post-closure care"] for the facilities identified above. The Insurer further warrants that such policy conforms in all respects with the requirements of paragraph (E) of ~~rules~~rule 3745-55-43 and paragraph (E) of rule 3745-55-45, and paragraph (D) of ~~rules~~rule 3745-66-43 and paragraph (D) of rule 3745-66-45 of the Administrative Code, as applicable and as such regulations were constituted on the date shown immediately below. It is agreed that any provision of the policy inconsistent with such regulations is hereby amended to eliminate such inconsistency.

Whenever requested by the director ~~of the Ohio Environmental Protection Agency~~, the Insurer agrees to furnish to the director a duplicate original of the policy listed above, including all endorsements thereon.

I hereby certify that the wording of this certificate is identical to the wording specified in paragraph (E) of rule 3745-55-51 of the Administrative Code as such regulations were constituted on the date shown immediately below.

[Authorized signature for Insurer] _____

[Name of person signing] _____

[Title of person signing] _____

Signature of witness or notary: _____

[Date] _____ "

- (F) A letter from the chief financial officer, as specified in paragraph (F) of rule 3745-55-43, or paragraph (F) of rule 3745-55-45, or paragraph (E) of rule 3745-66-43, or paragraph (E) of rule 3745-66-45 of the Administrative Code, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

"Letter from Chief Financial Officer

[Address to Director, Ohio Environmental Protection Agency.]

I am the chief financial officer of [name and address of firm]. This letter is in support of this firm's use of the financial test to demonstrate financial assurance for closure and/or post-closure costs, as specified in rules 3745-55-40 to 3745-55-51 and 3745-66-40 to 3745-66-48 of the Administrative Code.

[Fill out the following five paragraphs regarding facilities and associated cost estimates. If your firm has no facilities that belong in a particular paragraph, write "none" in the space indicated. For each facility, include its U.S. EPA identification number, name, address, ~~Ohio EPA permit number~~, and current closure and/or post-closure cost estimates. Identify each cost estimate as to whether it is for closure or post-closure care.]

1. This firm is the owner or operator of the following facilities for which financial assurance for closure or post-closure care is demonstrated through the financial test specified in rules 3745-55-40 to 3745-55-51 and 3745-66-40 to 3745-66-48 of the Administrative Code. The current closure and/or post-closure cost estimates covered by the test are shown for each facility: _____

2. This firm guarantees, through the guarantee specified in rules 3745-55-40 to 3745-55-51 and 3745-66-40 to 3745-66-48 of the Administrative Code, the closure or post-closure care of the following facilities owned or operated by the guaranteed party. The current cost estimates for the closure or post-closure care so guaranteed are shown for each facility: _____. The firm identified above is [insert one or more: (1) the direct or higher-tier parent corporation of the owner or operator; or (2) owned by the same parent corporation as the parent corporation of the owner or operator, and receiving the following value in consideration of this guarantee _____; or (3) engaged in the following substantial business relationship with the owner or operator _____, and receiving the following value in consideration of this guarantee _____. [Attach a written description of the business relationship or a copy of the contract establishing such relationship to this letter.]

3. This firm, as owner or operator or guarantor, is demonstrating financial assurance for the closure or post-closure care of the following facilities through the use of a test equivalent or substantially equivalent to the financial test specified in rules 3745-55-40 to 3745-55-51 and 3745-66-40 to 3745-66-48 of the Administrative Code. The current closure and/or post-closure cost estimates covered by such a test are shown for each facility: _____

4. This firm is the owner or operator of the following hazardous waste management facilities for which financial assurance for closure or, if a disposal facility, post-closure care, is not demonstrated to Ohio EPA through the financial test or any other financial assurance mechanism specified in rules 3745-55-40 to 3745-55-51 and 3745-66-40 to 3745-66-48 of the Administrative Code or equivalent or substantially equivalent state mechanisms. The current closure and/or post-closure cost estimates not covered by such financial assurance are shown for each facility:

5. This firm is the owner or operator of the following UIC facilities for which financial assurance for plugging and abandonment is required under Chapter 3745-34 of the Administrative Code. The current closure cost estimates as required by Chapters 3745-34, 3745-55, and 3745-66 of the Administrative Code are shown for each facility: _____

This firm [insert "is required" or "is not required"] to file a Form 10K with the securities and exchange commission (SEC) for the latest fiscal year.

The fiscal year of this firm ends on [month, day]. The figures for the following items marked with an asterisk are derived from this firm's independently audited, year-end financial statements for the latest completed fiscal year, ended [date].

[Fill in Alternative I if the criteria of paragraph (F)(1)(a) of rule 3745-55-43 or paragraph (F)(1)(a) of rule 3745-55-45 of the Administrative Code are used, or if the criteria of paragraph (E)(1)(a) of rule 3745-66-43 or paragraph (E)(1)(a) of rule 3745-66-45 of the Administrative Code are used. Fill in Alternative II if the criteria of paragraph (F)(1)(b) of rule 3745-55-43 or paragraph (F)(1)(b) of rule 3745-55-45 of the Administrative Code are used, or if the criteria of paragraph (E)(1)(b) of rule 3745-66-43 or paragraph (E)(1)(b) of rule 3745-66-45 of the Administrative Code are used.]

Alternative I

1. Sum of current closure and post-closure cost estimates [total of all cost estimates shown in the five paragraphs above] \$ _____

*2. Total liabilities [if any portion of the closure or post-closure cost estimates is included in total liabilities, you may deduct the amount of that portion from this line and add that amount to lines 3 and 4] \$ _____

- *3. Tangible net worth \$ _____
- *4. Net worth \$ _____
- *5. Current assets \$ _____
- *6. Current liabilities \$ _____
- 7. Net working capital [line 5 minus line 6] \$ _____
- *8. The sum of net income plus depreciation, depletion, and amortization \$ _____
- *9. Total assets in U.S. [required only if less than 90% of firm's assets are located in the U.S.] \$ _____
- 10. Is line 3 at least \$10 million? [Yes/No] _____
- 11. Is line 3 at least 6 times line 1? [Yes/No] _____
- 12. Is line 7 at least 6 times line 1? [Yes/No] _____
- *13. Are at least 90% of firm's assets located in the U.S.? If not, complete line 14. [Yes/No] _____
- 14. Is line 9 at least 6 times line 1? [Yes/No] _____
- 15. Is line 2 divided by line 4 less than 2.0? [Yes/No] _____
- 16. Is line 8 divided by line 2 greater than 0.1? [Yes/No] _____
- 17. Is line 5 divided by line 6 greater than 1.5? [Yes/No] _____

Alternative II

- 1. Sum of current closure and post-closure cost estimates [total of all cost estimates shown in the five paragraphs above] \$ _____
- 2. Current bond rating of most recent issuance of this firm and name of rating service _____
- 3. Date of issuance of bond _____
- 4. Date of maturity of bond _____
- *5. Tangible net worth [if any portion of the closure and post-closure cost estimates is included in "total liabilities" on your firm's financial statements, you may add the amount of that portion to this line] \$ _____

*6. Total assets in U.S. [required only if less than 90% of firm's assets are located in the U.S.] \$ _____

7. Is line 5 at least \$10 million? [Yes/No] _____

8. Is line 5 at least 6 times line 1? [Yes/No] _____

*9. Are at least 90% of firm's assets located in the U.S.? If not, complete line 10. [Yes/No] _____

10. Is line 6 at least 6 times line 1? [Yes/No] _____

I hereby certify that the wording of this letter is identical to the wording specified in paragraph (F) of rule 3745-55-51 of the Administrative Code as such regulations were constituted on the date shown immediately below.

[Signature] _____

[Name] _____

[Title] _____

[Date] _____ "

- (G) A letter from the chief financial officer, as specified in paragraph (F) of rule 3745-55-47 or paragraph (F) of rule 3745-66-47 of the Administrative Code, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

"Letter from chief financial officer (to demonstrate liability coverage or to demonstrate both liability coverage and assurance of closure or post-closure care).

[Address to Director, Ohio Environmental Protection Agency.]

I am the chief financial officer of [firm's name and address]. This letter is in support of the use of the financial test to demonstrate financial responsibility for liability coverage [insert "and closure and/or post-closure care" if applicable] as specified in rules 3745-55-40 to 3745-55-51 and 3745-66-40 to 3745-66-48 of the Administrative Code.

[Fill out the following paragraphs regarding facilities and liability coverage. If there are no facilities that belong in a particular paragraph, write "none" in the space indicated. For each facility, include its U.S. EPA identification number, ~~Ohio permit number~~, name, and address.]

The firm identified above is the owner or operator of the following facilities for

which liability coverage for [insert "sudden" or "nonsudden" or "both sudden and nonsudden"] accidental occurrences is being demonstrated through the financial test specified in rules 3745-55-40 to 3745-55-51 and 3745-66-40 to 3745-66-48 of the Administrative Code: _____

The firm identified above guarantees, through the guarantee specified in rules 3745-55-40 ~~through~~ 3745-55-51 and 3745-66-40 ~~through~~ 3745-66-48 of the Administrative Code, liability coverage for [insert "sudden" or "nonsudden" or "both sudden and nonsudden"] accidental occurrences at the following facilities owned or operated by the following: _____ The firm identified above is [insert one or more: (1) the direct or higher-tier parent corporation of the owner or operator; (2) owned by the same parent corporation as the parent corporation of the owner or operator, and receiving the following value in consideration of this guarantee _____; or (3) engaged in the following substantial business relationship with the owner or operator _____, and receiving the following value in consideration of this guarantee _____] [Attach a written description of the business relationship or a copy of the contract establishing such relationship to this letter.]

[If you are using the financial test to demonstrate coverage of both liability and closure and post-closure care, fill in the following five paragraphs regarding facilities and associated closure and post-closure cost estimates. If there are no facilities that belong in a particular paragraph, write "none" in the space indicated. For each facility, include its U.S. EPA identification number, name, address, ~~Ohio permit number~~, and current closure and/or post-closure cost estimates. Identify each cost estimate as to whether it is for closure or post-closure care.]

1. The firm identified above owns or operates the following facilities for which financial assurance for closure or post-closure care or liability coverage is demonstrated through the financial test specified in rules 3745-55-40 to 3745-55-51 and 3745-66-40 to 3745-66-48 of the Administrative Code. The current closure and/or post-closure cost estimate covered by the test are shown for each facility:

2. The firm identified above guarantees, through the guarantee specified in rules 3745-55-40 to 3745-55-51 and 3745-66-40 to 3745-66-48 of the Administrative Code, the closure and post-closure care or liability coverage of the following facilities owned or operated by the guaranteed party. The current cost estimates for the closure or post-closure care so guaranteed are shown for each facility:

3. The firm identified above is demonstrating financial assurance for the closure or post-closure care of the following facilities through the use of a test equivalent or substantially equivalent to the financial test specified in rules 3745-55-40 to 3745-55-51 and 3745-66-40 to 3745-66-48 of the Administrative Code. The current

closure and/or post-closure cost estimates covered by such a test are shown for each facility: _____

4. The firm identified above owns or operates the following hazardous waste management facilities for which financial assurance for closure or, if a disposal facility, post-closure care, is not demonstrated to the director through the financial test or any other financial assurance mechanisms specified in rules 3745-55-40 to 3745-55-51 and 3745-66-40 to 3745-66-48 of the Administrative Code. The current closure and/or post-closure cost estimates not covered by such financial assurance are shown for each facility: _____

5. This firm is the owner or operator of the following UIC facilities for which financial assurance for plugging and abandonment is required under Chapter 3745-34 of the Administrative Code and is assured through a financial test. The current closure cost estimates as required by Chapters 3745-34, 3745-55, and 3745-66 of the Administrative Code are shown for each facility: _____

This firm [insert "is required" or "is not required"] to file a Form 10K with the securities and exchange commission (SEC) for the latest fiscal year.

The fiscal year of this firm ends on [month, day]. The figures for the following items marked with an asterisk are derived from this firm's independently audited, year-end financial statements for the latest completed fiscal year, ended [date].

[Fill in Part A if you are using the financial test to demonstrate coverage only for the liability requirements.]

Part A. Liability Coverage for Accidental Occurrences

[Fill in Alternative I if the criteria of paragraph (F)(1)(a) of rule 3745-55-47 or paragraph (F)(1)(a) of rule 3745-66-47 of the Administrative Code are used. Fill in Alternative II if the criteria of paragraph (F)(1)(b) of rule 3745-55-47 or paragraph (F)(1)(b) of rule 3745-66-47 of the Administrative Code are used.

Alternative I

1. Amount of annual aggregate liability coverage to be demonstrated \$ _____

*2. Current assets \$ _____

*3. Current liabilities \$ _____

4. Net working capital (line 2 minus line 3) \$ _____

*5. Tangible net worth \$ _____

*6. If less than 90% of assets are located in the U.S., give total U.S. assets \$ _____

7. Is line 5 at least \$10 million? [Yes/No] _____

8. Is line 4 at least 6 times line 1? [Yes/No] _____

9. Is line 5 at least 6 times line 1? [Yes/No] _____

*10. Are at least 90% of assets located in the U.S.? [Yes/No] _____ If not, complete line 11.

11. Is line 6 at least 6 times line 1? [Yes/No] _____

Alternative II

1. Amount of annual aggregate liability coverage to be demonstrated \$ _____

2. Current bond rating of most recent issuance and name of rating service _____

3. Date of issuance of bond _____

4. Date of maturity of bond _____

*5. Tangible net worth \$ _____

*6. Total assets in U.S. (required only if less than 90% of assets are located in the U.S.) \$ _____

7. Is line 5 at least \$10 million? [Yes/No] _____

8. Is line 5 at least 6 times line 1? [Yes/No] _____

*9. Are at least 90% of assets located in the U.S.? [Yes/No] _____ If not, complete line 10.

10. Is line 6 at least 6 times line 1? [Yes/No] _____

[Fill in Part B if you are using the financial test to demonstrate assurance of both liability coverage and closure or post-closure care.]

Part B. Closure or Post-Closure Care and Liability Coverage

[Fill in Alternative I if the criteria of paragraph (F)(1)(a) of rule 3745-55-43 or paragraph (F)(1)(a) of rule 3745-55-45 and paragraph (F)(1)(a) of rule 3745-55-47 of the Administrative Code are used or if the criteria in paragraph (E)(1)(a) of rule 3745-66-43 or paragraph (E)(1)(a) of rule 3745-66-45 and paragraph (F)(1)(a) of

rule 3745-66-47 of the Administrative Code are used. Fill in Alternative II if the criteria of paragraph (F)(1)(b) of rule 3745-55-43 or paragraph (F)(1)(b) of rule 3745-55-45 and paragraph (F)(1)(b) of rule 3745-55-47 of the Administrative Code are used or if the criteria of paragraph (E)(1)(a) of rule 3745-66-43 or paragraph (E)(1)(a) of rule 3745-66-45 and paragraph (F)(1)(b) of rule 3745-66-47 of the Administrative Code are used.]

Alternative I

1. Sum of current closure and post-closure cost estimates (total of all cost estimates listed above) \$ _____

2. Amount of annual aggregate liability coverage to be demonstrated \$ _____

3. Sum of lines 1 and 2 \$ _____

*4. Total liabilities (if any portion of your closure or post-closure cost estimates is included in your total liabilities, you may deduct that portion from this line and add that amount to lines 5 and 6) \$ _____

*5. Tangible net worth \$ _____

*6. Net worth \$ _____

*7. Current assets \$ _____

*8. Current liabilities \$ _____

9. Net working capital (line 7 minus line 8) \$ _____

*10. The sum of net income plus depreciation, depletion, and amortization \$ _____

*11. Total assets in U.S. (required only if less than 90% of assets are located in the U.S.) \$ _____

12. Is line 5 at least \$10 million? [Yes/No] _____

13. Is line 5 at least 6 times line 3? [Yes/No] _____

14. Is line 9 at least 6 times line 3? [Yes/No] _____

*15. Are at least 90% of assets located in the U.S.? [Yes/No] _____ If not, complete line 16.

16. Is line 11 at least 6 times line 3? [Yes/No] _____

17. Is line 4 divided by line 6 less than 2.0? [Yes/No] _____
18. Is line 10 divided by line 4 greater than 0.1? [Yes/No] _____
19. Is line 7 divided by line 8 greater than 1.5? [Yes/No] _____

Alternative II

1. Sum of current closure and post-closure cost estimates (total of all cost estimates listed above \$ _____
2. Amount of annual aggregate liability coverage to be demonstrated \$ _____
3. Sum of lines 1 and 2 \$ _____
4. Current bond rating of most recent issuance and name of rating service _____
5. Date of issuance of bond _____
6. Date of maturity bond _____
- *7. Tangible net worth (if any portion of the closure or post-closure cost estimates is included in "total liabilities" on your financial statements you may add that portion to this line) \$ _____
- *8. Total assets in the U.S. (required only if less than 90% of assets are located in the U.S.) \$ _____
9. Is line 7 at least \$10 million? [Yes/No] _____
10. Is line 7 at least 6 times line 3? [Yes/No] _____
- *11. Are at least 90% of assets located in the U.S.? [Yes/No] _____ If not, complete line 12.
12. Is line 8 at least 6 times line 3? [Yes/No] _____

I hereby certify that the wording of this letter is identical to the wording specified in paragraph (G) of rule 3745-55-51 of the Administrative Code as such regulations were constituted on the date shown immediately below.

[Signature] _____

[Name] _____

[Title] _____

[Date] _____ "

(H)

- (1) A guarantee, as specified in paragraph (F) of rule 3745-55-43 or paragraph (F) of rule 3745-55-45 of the Administrative Code or paragraph (E) of rule 3745-66-43 or paragraph (E) of rule 3745-66-45 of the Administrative Code, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

"Guarantee for Closure or Post-Closure Care

Guarantee made this [date] by [name of guaranteeing entity], a business corporation organized under the laws of the State of [insert name of State], herein referred to as guarantor. This guarantee is made on behalf of the [owner or operator] of [business address], which is [one of the following: "our subsidiary"; "a subsidiary of [name and address of common parent corporation], of which guarantor is a subsidiary"; or "an entity with which guarantor has a substantial business relationship, as defined in paragraph (D) of rule 3745-55-41 of the Administrative Code" to the Ohio EPA.

Recitals

1. Guarantor meets or exceeds the financial test criteria and agrees to comply with the reporting requirements for guarantors as specified in paragraph (F) of ~~rules~~rule 3745-55-43 and paragraph (F) of rule 3745-55-45 of the Administrative Code and paragraph (E) of ~~rules~~rule 3745-66-43 and paragraph (E) of rule 3745-66-45 of the Administrative Code.
2. [Owner or operator] owns or operates the following hazardous waste management facility(ies) covered by this guarantee: [list for each facility: U.S. EPA identification number, name, ~~Ohio permit number~~, and address. Indicate for each whether guarantee is for closure, post-closure care, or both.]
3. "Closure plans" and "post-closure plans" as used below refer to the plans maintained as required by rules 3745-55-40 to 3745-55-51 and 3745-66-40 to 3745-66-48 of the Administrative Code for the closure and post-closure care of facilities as identified above.
4. For value received from [owner or operator], guarantor guarantees to Ohio EPA that in the event that [owner or operator] fails to perform [insert "closure," "post-closure care" or "closure and post-closure care"] of the above facility(ies) in accordance with the closure or post-closure plans and other permit requirements or requirements in Chapters 3745-65 to 3745-69 and 3745-256 of the Administrative Code whenever required to do so, the

guarantor shall do so or establish a trust fund as specified in rules 3745-55-40 to 3745-55-51 of the Administrative Code or rules 3745-66-40 to 3745-66-48 of the Administrative Code, as applicable, in the name of [owner or operator] in the amount of the current closure or post-closure cost estimates as specified in rules 3745-55-40 to 3745-55-51 and 3745-66-40 to 3745-66-48 of the Administrative Code.

5. Guarantor agrees that if, at the end of any fiscal year before termination of this guarantee, the guarantor fails to meet the financial test criteria, guarantor shall send within ninety days, by certified mail, notice to the director, Ohio EPA and to [owner or operator] that he intends to provide alternate financial assurance as specified in rules 3745-55-40 to 3745-55-51 or rules 3745-66-40 to 3745-66-48 of the Administrative Code, as applicable, in the name of [owner or operator]. Within one hundred twenty days after the end of such fiscal year, the guarantor shall establish such financial assurance unless [owner or operator] has done so.

6. The guarantor agrees to notify the director by certified mail, of a voluntary or involuntary proceeding under "Title XI (Bankruptcy)", U.S. Code, naming guarantor as debtor, within ten days after commencement of the proceeding.

7. Guarantor agrees that within thirty days after being notified by the director of a determination that guarantor no longer meets the financial test criteria or that he is disallowed from continuing as a guarantor of closure or post-closure care, he shall establish alternate financial assurance as specified in rules 3745-55-40 to 3745-55-51 or rules 3745-66-40 to 3745-66-48 of the Administrative Code, as applicable, in the name of [owner or operator] unless [owner or operator] has done so.

8. Guarantor agrees to remain bound under this guarantee notwithstanding any or all of the following: amendment or modification of the closure or post-closure plan, amendment or modification of the permit, the extension or reduction of the time of performance of closure or post-closure, or any other modification or alteration of an obligation of the owner or operator pursuant to Chapters 3745-54 to 3745-57 and 3745-205, or Chapters 3745-65 to 3745-69 and 3745-256 of the Administrative Code.

9. Guarantor agrees to remain bound under this guarantee for so long as [owner or operator] must comply with the applicable financial assurance requirements of rules 3745-55-40 to 3745-55-51 and 3745-66-40 to 3745-66-48 of the Administrative Code for the above listed facilities, except as provided in paragraph 10 of this agreement.

10. [Insert the following language if the guarantor is (a) a direct or higher-tier corporate parent, or (b) a firm whose parent corporation is also the parent

corporation of the owner or operator]:

Guarantor may terminate this guarantee by sending notice by certified mail to the director and to [owner and operator]; provided that this guarantee may not be terminated unless and until [the owner or operator] obtains, and the director approves, alternate closure and/or post-closure care coverage complying with rules 3745-55-43, 3745-55-45, 3745-66-43, and/or 3745-66-45 of the Administrative Code.

[Insert the following language if the guarantor is a firm qualifying as a guarantor due to its "substantial business relationship" with its owner or operator.]

[Guarantor may terminate this guarantee one hundred twenty days following the receipt of notification, through certified mail, by Ohio EPA and by [the owner or operator].

11. Guarantor agrees that if [owner or operator] fails to provide alternate financial assurance as specified in rules 3745-55-40 to 3745-55-51 or rules 3745-66-40 to 3745-66-48 of the Administrative Code, as applicable, and obtain written approval of such assurance from the director within ninety days after a notice of cancellation by the guarantor is received by the director from guarantor, guarantor shall provide such alternate financial assurance in the name of [owner or operator].

12. Guarantor expressly waives notice of acceptance of this guarantee by the Ohio EPA or by [owner or operator]. Guarantor also expressly waives notice of amendments or modifications of the closure and/or post-closure plan and of amendments or modifications of the facility permit(s).

I hereby certify that the wording of this guarantee is identical to the wording specified in paragraph (H) of rule 3745-55-51 of the Administrative Code as such regulations were constituted on the date first above written.

Effective date: _____

[Name of guarantor] _____

[Authorized signature for guarantor] _____

[Name of person signing] _____

[Title of person signing] _____

Signature of witness or notary: _____ "

- (2) A guarantee, as specified in paragraph (G) of rule 3745-55-47 or in paragraph (G) of rule 3745-66-47 of the Administrative Code must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

"Guarantee for liability coverage

Guarantee made this [date] by [name of guaranteeing entity], a business corporation organized under the laws of [if incorporated within the United States insert "the State of ____" and insert name of state; if incorporated outside the United States insert the name of the country in which incorporated, the principal place of business within the United States, and the name and address of the registered agent in the state of the principal place of business], herein referred to as guarantor. This guarantee is made on behalf of [owner or operator] of [business address], which is one of the following: "our subsidiary;" "a subsidiary of [name and address of common parent corporation], of which guarantor is a subsidiary;" or "an entity with which guarantor has a substantial business relationship, as defined in paragraph (D) of rule 3745-55-41 of the Administrative Code", to any and all third parties who have sustained or may sustain bodily injury or property damage caused by [sudden and/or nonsudden] accidental occurrences arising from operation of the facility(ies) covered by this guarantee.

Recitals

1. Guarantor meets or exceeds the financial test criteria and agrees to comply with the reporting requirements for guarantors as specified in paragraph (G) of rule 3745-55-47 and paragraph (G) of rule 3745-66-47 of the Administrative Code.
2. [Owner or operator] owns or operates the following hazardous waste management facility(ies) covered by this guarantee: [list for each facility: PA identification number, name, and address; and if guarantor is incorporated outside the United States list the name and address of the guarantor's registered agent in each state]. This guarantee satisfies the third-party liability requirements for [insert "sudden" or "nonsudden" or "both sudden and nonsudden"] accidental occurrences in above-named owner or operator facilities for coverage in the amount of [insert dollar amount] for each occurrence and [insert dollar amount] annual aggregate.
3. For value received from [owner or operator], guarantor guarantees to any and all third parties who have sustained or may sustain bodily injury or property damage caused by [sudden and/or nonsudden] accidental occurrences arising from operations of the facility(ies) covered by this guarantee that in the event that [owner or operator] fails to satisfy a judgment

or award based on a determination of liability for bodily injury or property damage to third parties caused by [sudden and/or nonsudden] accidental occurrences, arising from the operation of the above-named facilities, or fails to pay an amount agreed to in settlement of a claim arising from or alleged to arise from such injury or damage, the guarantor will satisfy such judgment(s), award(s) or settlement agreement(s) up to the limits of coverage identified above.

4. Such obligation does not apply to any of the following:

(a) Bodily injury or property damage for which [insert owner or operator] is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that [insert owner or operator] would be obligated to pay in the absence of the contract or agreement.

(b) Any obligation of [insert owner or operator] under a workers' compensation, disability benefits, or unemployment compensation law or any similar law.

(c) Bodily injury to:

(1) An employee of [insert owner or operator] arising from, and in the course of, employment by [insert owner or operator]; or

(2) The spouse, child, parent, brother, or sister of that employee as a consequence of or arising from, and in the course of employment by [insert owner or operator]. This exclusion applies:

(A) Whether [insert owner or operator] may be liable as an employer or in any other capacity; and

(B) To any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in paragraphs (1) and (2).

(d) Bodily injury or property damage arising out of the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle or watercraft.

(e) Property damage to:

(1) Any property owned, rented, or occupied by [insert owner or operator];

(2) Premises that are sold, given away or abandoned by [insert owner or operator] if the property damage arises out of any part of those premises;

- (3) Property loaned to [insert owner or operator];
 - (4) Personal property in the care, custody or control of [insert owner or operator];
 - (5) That particular part of real property on which [insert owner or operator] or any contractors or subcontractors working directly or indirectly on behalf of [insert owner or operator] are performing operations, if the property damage arises out of these operations.
5. Guarantor agrees that if, at the end of any fiscal year before termination of this guarantee, the guarantor fails to meet the financial test criteria, guarantor shall send within 90 days, by certified mail, notice to the director and to [owner or operator] that he intends to provide alternate liability coverage as specified in rules 3745-55-47 and 3745-66-47 of the Administrative Code, as applicable, in the name of [owner or operator]. Within 120 days after the end of such fiscal year, the guarantor shall establish such liability coverage unless [owner or operator] has done so.
 6. The guarantor agrees to notify the director by certified mail of a voluntary or involuntary proceeding under "Title 11 (Bankruptcy)," U.S. Code, naming guarantor as debtor, within 10 days after commencement of the proceeding.
 7. Guarantor agrees that within 30 days after being notified by the director of a determination that guarantor no longer meets the financial test criteria or that he is disallowed from continuing as a guarantor, he shall establish alternate liability coverage as specified in rule 3745-55-47 or 3745-66-47 of the Administrative Code in the name of [owner or operator], unless [owner or operator] has done so.
 8. Guarantor reserves the right to modify this agreement to take into account amendment or modification of the liability requirements set by rules 3745-55-47 and 3745-66-47 of the Administrative Code, provided that such modification shall become effective only if the director does not disapprove the modification with 30 days of receipt of notification of the modification.
 9. Guarantor agrees to remain bound under this guarantee for so long as [owner or operator] must comply with the applicable requirements of rules 3745-55-47 and 3745-66-47 of the Administrative Code for the above-listed facility(ies), except as provided in paragraph 10 of this agreement.
 10. [Insert the following language if the guarantor is (a) a direct or higher-tier corporate parent, or (b) a firm whose parent corporation is also the parent corporation of the owner or operator]:

Guarantor may terminate this guarantee by sending notice by certified mail to

the director and to [owner or operator], provided that this guarantee may not be terminated unless and until [the owner or operator] obtains, and the director approves, alternate liability coverage complying with rule 3745-55-47 and/or 3745-66-47 of the Administrative Code.

[Insert the following language if the guarantor is a firm qualifying as a guarantor due to its "substantial business relationship" with the owner or operator]:

Guarantor may terminate this guarantee one hundred twenty days following receipt of notification, through certified mail, by the director and by [the owner or operator].

11. Guarantor hereby expressly waives notice of acceptance of this guarantee by any party.

12. Guarantor agrees that this guarantee is in addition to and does not affect any other responsibility or liability of the guarantor with respect to the covered facilities.

13. The guarantor shall satisfy a third-party liability claim only on receipt of one of the following documents:

(a) Certification from the principal and the third-party claimant(s) that the liability claim should be paid. The certification shall be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

"Certification of Valid Claim

The undersigned, as parties [insert Principal] and [insert name and address of third-party claimant(s)], hereby certify that the claim of bodily injury and/or property damage caused by a [sudden or nonsudden] accidental occurrence arising from operating [principal's] hazardous waste treatment, storage, or disposal facility should be paid in the amount of \$[_____].

[Signatures] _____

Principal _____

(Notary) _____ Date _____

[Signatures] _____

Claimant(s) _____

(Notary) _____ Date _____

(b) A valid final court order establishing a judgment against the Principal for bodily injury or property damage caused by sudden or nonsudden accidental occurrences arising from the operation of the Principal's facility or group of facilities.

14. In the event of combination of this guarantee with another mechanism to meet liability requirements, this guarantee will be considered [insert "primary" or "excess"] coverage.

I hereby certify that the wording of the guarantee is identical to the wording specified in paragraph (H)(2) of rule 3745-55-51 of the Administrative Code as such regulations were constituted on the date shown immediately below.

Effective date: _____

[Name of guarantor] _____

[Authorized signature for guarantor] _____

[Name of person signing] _____

[Title of person signing] _____

Signature of witness or notary: _____ "

- (I) A hazardous waste facility liability endorsement as required in rules 3745-55-47 and 3745-66-47 of the Administrative Code must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

"Hazardous Waste Facility Liability Endorsement

1. This endorsement certifies that the policy to which the endorsement is attached provides liability insurance covering bodily injury and property damage in connection with the insured's obligation to demonstrate financial responsibility under rules 3745-55-47 and 3745-66-47 of the Administrative Code. The coverage applies at [list U.S. EPA identification number, name, and address ~~and Ohio permit number~~ for each facility] for [insert "sudden accidental occurrences," "nonsudden accidental occurrences," or "sudden and nonsudden accidental occurrences;" if coverage is for multiple facilities and the coverage is different for different facilities, indicate which facilities are insured for sudden accidental occurrences, which are insured for nonsudden accidental occurrences, and which are insured for both]. The limits of liability are [insert the dollar amount of the "each occurrence" and "annual aggregate" limits of the insurer's liability], exclusive of legal defense

costs.

2. The insurance afforded with respect to such occurrences is subject to all of the terms and conditions of the policy; provided, however, that any provisions of the policy inconsistent with subsections (a) through (e) of this paragraph 2 are hereby amended to conform with subsections (a) through (e):

(a) Bankruptcy or insolvency of the insured shall not relieve the Insurer of its obligations under the policy to which this endorsement is attached.

(b) The Insurer is liable for the payment of amounts within any deductible applicable to the policy, with a right to reimbursement by the insured for any such payment made by the Insurer. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated as specified in paragraph (F) of rule 3745-55-47 and paragraph (F) of rule 3745-66-47 of the Administrative Code.

(c) Whenever requested by the director, the Insurer agrees to furnish to the director a signed duplicate original of the policy and all endorsements.

(d) Cancellation of this endorsement, whether by the Insurer, the insured, a parent corporation providing insurance coverage for its subsidiary, or by a firm having an insurable interest in and obtaining liability insurance on behalf of the owner or operator of the hazardous waste management facility, will be effective only upon written notice and only after the expiration of sixty days after a copy of such written notice is received by the director.

(e) Any other termination of this endorsement will be effective only upon written notice and only after the expiration of thirty days after a copy of such written notice is received by the director.

Attached to and forming part of policy no. _____ issued by [name of Insurer], herein called the Insurer, of [address of Insurer] to [name of insured] of [address] this ____ day of ____, _____. The effective date of said policy is ____ day of ____, _____.

I hereby certify that the wording of this endorsement is identical to the wording specified in paragraph (I) of rule 3745-55-51 of the Administrative Code as such regulation was constituted on the date first above written, and that the Insurer is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

[Signature of authorized representative of Insurer] _____

[Type name] _____

[Title], authorized representative of [name of Insurer] _____

[Address of representative] _____ "

- (J) A certificate of liability insurance as required in ~~rules~~rule 3745-55-47 or 3745-66-47 of the Administrative Code must be worded as follows, except that the instructions in brackets are to be replaced with the relevant information and the brackets deleted:

"Hazardous Waste Facility Certificate of Liability Insurance

1. [Name of Insurer], (the "Insurer"), of [address of Insurer] hereby certifies that it has issued liability insurance covering bodily injury and property damage to [name of insured], (the "insured"), of [address of insured] in connection with the insured's obligation to demonstrate financial responsibility under rules 3745-55-47 or 3745-66-47 of the Administrative Code. The coverage applies at [list U.S. EPA identification number, name, ~~Ohio permit number~~ and address for each facility] for [insert "sudden accidental occurrences," "nonsudden accidental occurrences," or "sudden and nonsudden accidental occurrences;" if coverage is for multiple facilities and the coverage is different for different facilities, indicate which facilities are insured for sudden accidental occurrences, which are insured for nonsudden accidental occurrences, and which are insured for both]. The limits of liability are [insert the dollar amount of the "each occurrence" and "annual aggregate" limits of the Insurer's liability], exclusive of legal defense costs. The coverage is provided under policy number _____, issued on [date]. The effective date of said policy is [date].

2. The Insurer further certifies the following with respect to the insurance described in Paragraph 1:

(a) Bankruptcy or insolvency of the insured shall not relieve the Insurer of its obligations under the policy.

(b) The Insurer is liable for the payment of amounts within any deductible applicable to the policy, with a right of reimbursement by the insured for any such payment made by the Insurer. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated as specified in paragraph (F) of rule 3745-55-47 or paragraph (F) of rule 3745-66-47 of the Administrative Code.

(c) Whenever requested by the director of the Ohio Environmental Protection Agency, the Insurer agrees to furnish to the director a signed duplicate original of the policy and all endorsements.

(d) Cancellation of the insurance, whether by the Insurer, the insured, a parent corporation providing insurance coverage for its subsidiary, or by a firm having an insurable interest in and obtaining liability insurance on behalf of the owner or

operator of the hazardous waste management facility, will be effective only upon written notice and only after the expiration of sixty days after a copy of such written notice is received by the director.

(e) Any other termination of the insurance will be effective only upon written notice and only after the expiration of thirty days after a copy of such written notice is received by the director.

I hereby certify that the wording of this instrument is identical to the wording specified in paragraph (J) of 3745-55-51 of the Administrative Code as such regulation was constituted on the date first above written, and that the Insurer is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

[Signature of authorized representative of Insurer] _____

[Type name] _____

[Title], authorized representative of [name of Insurer] _____

[Address of representative] _____"

- (K) A letter of credit, as specified in paragraph (H) of rule 3745-55-47 or paragraph (H) of rule 3745-66-47 of the Administrative Code, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

"Irrevocable Standby Letter of Credit

Name and Address of Issuing Institution _____

Director _____

Ohio EPA _____

Dear Sir or Madam: We hereby establish our Irrevocable Standby Letter of Credit No. _____ in the favor of ["any and all third-party liability claimants", or insert name of trustee of the standby trust fund], at the request and for the account of [owner's or operator's name and address] for third-party liability awards or settlements up to [in words] U.S. dollars \$_____ per occurrence and the annual aggregate amount of [in words] U.S. dollars \$_____, for sudden accidental occurrences and/or for third-party liability awards or settlements up to the amount of [in words] U.S. dollars \$_____ per occurrence and the annual aggregate amount of [in words] U.S. dollars \$_____, for nonsudden accidental occurrences available upon presentation of a sight draft, bearing reference to this letter of credit No. _____, and [insert the following

language if the letter of credit is being used without a standby trust fund: "(1) a signed certificate reading as follows:

Certification of Valid Claim

The undersigned, as parties [insert Principal] and [insert name and address of third-party claimants], hereby certify that the claim of bodily injury [and/or] property damage caused by a [sudden or nonsudden] accidental occurrence arising from operations of [Principal's] hazardous waste treatment, storage, or disposal facility should be paid in the amount of \$ _____. We hereby certify that the claim does not apply to any of the following:

(a) Bodily injury or property damage for which [insert Principal] is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that [insert Principal] would be obligated to pay in the absence of the contract or agreement.

(b) Any obligation of [insert Principal] under a workers' compensation, disability benefits, or unemployment compensation law or any similar law.

(c) Bodily injury to:

(1) An employee of [insert Principal] arising from, and in the course of, employment by [insert Principal]; or

(2) The spouse, child, parent, brother, or sister of that employee as a consequence of, or arising from, and in the course of employment by [insert Principal]. This exclusion applies:

(A) Whether [insert Principal] may be liable as an employer or in any other capacity; and

(B) To any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in paragraphs (1) and (2).

(d) Bodily injury or property damage arising out of the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle, or watercraft.

(e) Property damage to:

(1) Any property owned, rented, or occupied by [insert Principal];

(2) Premises that are sold, given away or abandoned by [insert Principal] if the property damage arises out of any part of those premises;

(3) Property loaned to [insert Principal];

(4) Personal property in the care, custody or control of [insert Principal];

(5) That particular part of real property on which [insert ~~principal~~Principal] or any contractors or subcontractors working directly or indirectly on behalf of [insert Principal] are performing operations, if the property damage arises out of these operations.

[Signatures]

Principal _____

[Signatures]

Claimant(s) _____

Or (2) a valid final court order establishing a judgment against the grantor for bodily injury or property damage caused by a sudden or nonsudden accidental occurrence arising from operation of the grantor's facility or group of facilities.

This letter of credit is effective as of [date] and shall expire on [date at least one year later], but such expiration date shall be automatically extended for a period of [at least one year] on [date] and on each successive expiration date, unless, at least one hundred twenty days before the current expiration date, we notify you, the director, and [owner's or operator's name] by certified mail that we have decided not to extend this letter of credit beyond the current expiration date.

Whenever this letter of credit is drawn on, under and in compliance with the terms of this credit, we shall duly honor such draft upon presentation to us.

[Insert the following language if a standby trust fund is not being used:] In the event that this letter of credit is used in combination with another mechanism for liability coverage, this letter of credit shall be considered [insert "primary" or "excess"] coverage.

We certify that the wording of this letter of credit is identical to the wording specified in paragraph (K) of rule 3745-55-51 of the Administrative Code as such regulations were constituted on the date shown immediately below.

[Signature(s) and title(s) of official(s) of issuing institution]

[Date]

This credit is subject to [insert "the most recent edition of the Uniform Customs and Practice for Documentary Credits, published and copyrighted by the International Chamber of Commerce" or "the Uniform Commercial Code"]."

(L) A surety bond, as specified in paragraph ~~(H)~~(I) of rule 3745-55-47 or paragraph ~~(H)~~(I) of rule 3745-66-47 of the Administrative Code, must be worded as follows except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

"Payment Bond

Surety Bond No. [insert number]

Parties [insert name and address of owner or operator]. Principal, incorporated in [insert State of incorporation] of [insert city and State of principal place of business] and [insert name and address of surety company(ies)]. Surety company(ies), of [insert Surety(ies) place of business]. U.S. EPA identification number, name, and address for each facility guaranteed by this bond: _____

	Sudden accidental occurrences	Nonsudden accidental occurrences
Penal Sum Per Occurrence	[insert amount]	[insert amount]
Annual Aggregate	[insert amount]	[insert amount]

Purpose: This is an agreement between the surety(ies) and the Principal under which the Surety(ies), its (their) successors and assignees, agree to be responsible for the payment of claims against the Principal for bodily injury and/or property damage to third parties caused by ["sudden" and/or "nonsudden"] accidental occurrences arising from operations of the facility or group of facilities in the sums prescribed herein; subject to the governing provisions and the following conditions.

Governing Provisions:

- (1) Section 3004 of the Resource Conservation and Recovery Act of 1976, as amended.
- (2) Rules and regulations of the Ohio Environmental Protection Agency particularly rule 3745-55-47 or rule 3745-66-47 of the Administrative Code (if applicable).

Conditions:

- (1) The Principal is subject to applicable governing provisions that require the Principal to have and maintain liability coverage for bodily injury and property damage to third parties caused by ["sudden" and/or "nonsudden"] accidental occurrences arising from operations of the facility or group of facilities. Such

obligation does not apply to any of the following:

(a) Bodily injury or property damage for which [insert Principal] is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that [insert Principal] would be obligated to pay in the absence of the contract or agreement.

(b) Any obligation of [insert Principal] under a workers' compensation, disability benefits, or unemployment compensation law or similar law.

(c) Bodily injury to:

(1) An employee of [insert Principal] arising from, and in the course of, employment by [insert Principal]; or

(2) The spouse, child, parent, brother or sister of that employee as a consequence of, or arising from, and in the course of employment by [insert Principal]. This exclusion applies:

(A) Whether [insert Principal] may be liable as an employer or in any other capacity; and

(B) To any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in paragraphs (1) and (2).

(d) Bodily injury or property damage arising out of the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle, or watercraft.

(e) Property damage to:

(1) Any property owned, rented, or occupied by [insert Principal]:

(2) Premises that are sold, given away or abandoned by [insert Principal] if the property damage arises out of any part of those premises:

(3) Property loaned to [insert Principal]:

(4) Personal property in the care, custody or control of [insert Principal]:

(5) That particular part of real property on which [insert Principal] or any contractors or subcontractors working directly or indirectly on behalf of [insert Principal] are performing operations, if the property damage arises out of these operations.

(2) This bond assures that the Principal will satisfy valid third party liability claims, as described in condition 1.

(3) If the Principal fails to satisfy a valid third party liability claim, as described above, the Surety(ies) becomes liable on this bond obligation.

(4) The Surety(ies) shall satisfy a third party liability claim only upon the receipt of one of the following documents:

(a) Certification from the Principal and the third party claimant(s) that the liability claim should be paid. The certification shall be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

"Certification of Valid Claim

The undersigned, as parties [insert name of Principal] and [insert name and address of third party claimant(s)], hereby certify that the claim of bodily injury and/or property damage caused by a [sudden or nonsudden] accidental occurrence arising from operating [Principal's] hazardous waste treatment, storage, or disposal facility should be paid in the amount of \$[_____].

[Signature]

Principal _____

[Notary] _____ Date _____

[Signature(s)]

Claimant(s) _____

[Notary] _____ Date _____

Or (b) A valid court order establishing a judgment against the Principal for bodily injury or property damage caused by sudden or nonsudden accidental occurrences arising from the operation of the Principal's facility or group of facilities.

(5) In the event of combination of this bond with another mechanism for liability coverage, this bond will be considered [insert "primary" or "excess"] coverage.

(6) The liability of the Surety(ies) shall not be discharged by any payment or succession of payments hereunder, unless and until such payment or payments shall amount in the aggregate to the penal sum of the bond. In no event shall the obligation of the Surety(ies) hereunder exceed the amount of said annual aggregate penal sum, provided that the Surety(ies) furnish(es) notice to the director forthwith of all claims filed and payments made by the Surety(ies) under this bond.

(7) The Surety(ies) may cancel the bond by sending notice of cancellation by

certified mail to the Principal and the director, provided, however, that cancellation shall not occur during the one hundred twenty days beginning on the date of receipt of the notice of cancellation by the Principal and the director, as evidenced by the return receipt.

(8) The Principal may terminate this bond by sending written notice to the Surety(ies) and to the director.

(9) The Surety(ies) hereby waive(s) notification of amendments to applicable laws, statutes, rules and regulations and agree(s) that no such amendment shall in any way alleviate its (their) obligation on this bond.

(10) This bond is effective from [insert date] (12:01 a.m., standard time, at the address of the Principal as stated herein) and shall continue in force until terminated as described above.

In Witness Whereof, the Principal and Surety(ies) have executed this Bond and have affixed their seals on the date set forth above.

The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the Principal and

Surety(ies) and that the wording of this surety bond is identical to the wording specified in paragraph (L) of rule 3745-55-51 of the Administrative Code, as such regulations were constituted on the date this Bond was executed.

PRINCIPAL

[Signature(s)]

[Name(s)] _____

[Title(s)] _____

[Corporate seal]

CORPORATE SURETY(IES)

[Name and address] _____

State of incorporation: _____

Liability Limit: \$ _____

[Signature(s)] _____

[Name(s) and title(s)] _____

[Corporate seal]

[For every co-surety, provide signature(s), corporate seal, and other information in the same manner as for Surety above.]

Bond premium: \$ _____ "

(M)

- (1) A trust agreement, as specified in paragraph (J) of rule 3745-55-47 or paragraph (J) of rule 3745-66-47 of the Administrative Code, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

"Trust Agreement

Trust Agreement, the "Agreement" entered into as of [date] by and between [name of the owner or operator] a [name of state] [insert "corporation," "partnership," "associations," or "proprietorship"] the "Grantor", and [name of corporate trustee], [insert "incorporated in the State of _____" or "a national bank"], the "trustee".

Whereas, the Ohio Environmental Protection Agency, "Ohio EPA," an agency of the state of Ohio has established certain regulations applicable to the Grantor requiring that an owner or operator of a hazardous waste management facility or group of facilities shall demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden accidental and/or nonsudden accidental occurrences arising from operations of the facility or group of facilities.

Whereas, the Grantor has elected to establish a trust to assure all or part of such financial responsibility for the facilities identified herein.

Whereas, the Grantor acting through its duly authorized officers, has selected the Trustee to be the trustee under this Agreement, and the Trustee is willing to act as trustee.

Now, therefore, the Grantor and the Trustee agree as follows:

Section 1. Definitions as used in this Agreement:

- (a) The term "Grantor" means the owner or operator who enters into this Agreement and any successors or assigns of the Grantor.

(b) The term "Trustee" means the Trustee who enters into this Agreement and any successor Trustee.

Section 2. Identification of facilities. This agreement pertains to the facilities identified on attached schedule A [on schedule A, for each facility list the U.S. EPA identification number, name, and address of the facility(ies) and the amount of liability coverage, or portions thereof, if more than one instrument affords combined coverage as demonstrated by this Agreement].

Section 3. Establishment of Fund. The Grantor and the Trustee hereby establish a trust fund, hereinafter the "Fund" for the benefit of any and all third parties injured or damaged by [sudden and/or nonsudden] accidental occurrences arising from operation of the facility(ies) covered by this guarantee, in the amounts of _____ [up to \$1 million] per occurrence and _____ [up to \$2 million] annual aggregate for sudden accidental occurrences and _____ [up to \$3 million] per occurrence and _____ [up to \$6 million] annual aggregate for nonsudden occurrences, except that the Fund is not established for the benefit of third parties for the following:

(a) Bodily injury or property damage for which [insert Grantor] is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that [insert Grantor] would be obligated to pay in the absence of the contract or agreement.

(b) Any obligation of [insert Grantor] under a workers' compensation, disability benefits, or unemployment compensation law or any similar law.

(c) Bodily injury to:

(1) An employee of [insert Grantor] arising from, and in the course of employment by [insert Grantor]; or

(2) The spouse, child, parent, brother or sister of that employee as a consequence of or arising from, and in the course of employment by [insert Grantor].

This exclusion applies:

(A) Whether [insert Grantor] may be liable as an employer or in any other capacity; and

(B) To any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in paragraphs (1) and (2).

(d) Bodily injury or property damage arising out of the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle, or watercraft.

(e) Property damage to:

- (1) Any property owned, rented, or occupied by [insert Grantor];
- (2) Premises that are sold, given away or abandoned by [insert Grantor] if the property damage arises out of any part of those premises;
- (3) Property loaned to [insert Grantor];
- (4) Personal property in the care, custody or control of [insert Grantor];
- (5) That particular part of real property on which [insert Grantor] or any contractors or subcontractors working directly or indirectly on behalf of [insert Grantor] are performing operations, if the property damage arises out of these operations.

In the event of combination with another mechanism for liability coverage, the fund shall be considered [insert "primary" or "excess"] coverage.

The Fund is established initially as consisting of the property, which is acceptable to the Trustee, described in schedule B attached hereto. Such property and any other property subsequently transferred to the Trustee is referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, in trust, as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor, any payments necessary to discharge any liabilities of the Grantor established by Ohio EPA.

Section 4. Payment for Bodily Injury or Property Damage. The Trustee shall satisfy a third party liability claim by making payments from the Fund only upon receipt of one of the following documents:

(a) Certification from the Grantor and the third party claimant(s) that the liability claim should be paid. The certification shall be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

"Certification of Valid Claim

The undersigned, as parties [insert Grantor] and [insert name and address of

third party claimant(s)], hereby certify that the claim of bodily injury and/or property damage caused by a [sudden or nonsudden] accidental occurrence arising from operating [Grantor's] hazardous waste treatment, storage, or disposal facility should be paid in the amount of \$[___].

[Signatures]

Grantor _____

[Signatures]

Claimant(s) _____

(b) A valid final court order establishing a judgment against the Grantor for bodily injury or property damage caused by sudden or nonsudden accidental occurrences arising from the operation of the Grantor's facility or group of facilities.

Section 5. Payments Comprising the Fund. Payments made to the Trustee for the Fund shall consist of cash or securities acceptable to the Trustee.

Section 6. Trustee Management. The Trustee shall invest and reinvest the principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this section. In investing, reinvesting, exchanging, selling, and managing the Fund the Trustee shall discharge his duties with respect to the trust fund solely in the interest of the beneficiary and with the care, skill, prudence, and diligence under the circumstance then prevailing which persons of prudence acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; except that:

(i) Securities or other obligations of the Grantor, or any other owner or operator of the facilities, or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 U.S.C. 80a-2.(a), shall not be acquired or held unless they are securities or other obligations of the federal or a state government;

(ii) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the federal or state government; and

(iii) The Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

Section 7. Commingling and Investment. The Trustee is expressly authorized in its discretion:

(a) To transfer from time to time any or all of the assets of the Fund to any common commingled, or collective trust fund created by the Trustee in which the fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and

(b) To purchase shares in any investment company registered under the Investment Company Act of 1940, 15 U.S.C. 81a-1 et seq., including one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 8. Express Powers of Trustee. Without in any way limiting the powers and discretions conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

(a) To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee shall be bound to see to the application of the purchase money or to inquire into the validity or expediency of any such sale or other disposition;

(b) To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;

(c) To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central ~~depository~~depository even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such ~~depository~~depository with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality thereof, with a Federal Reserve bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund;

(d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the Federal or State government; and

(e) To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. Taxes and Expenses. All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust including fees for legal services rendered to the Trustee, the compensation of the trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee shall be paid from the Fund.

Section 10. Annual Valuations. The Trustee shall annually, at least thirty days prior to the anniversary date of establishment of the Fund, furnish to the Grantor and to the director a statement confirming the value of the Trust. Any securities in the Fund shall be valued at market value as of no more than sixty days prior to the anniversary date of establishment of the Fund. The failure of the Grantor to object in writing to the Trustee within ninety days after the statement has been furnished to the Grantor and the director shall constitute a conclusively binding assent by the Grantor barring the Grantor from asserting any claim or liability against the Trustee with respect to matters disclosed in the statement.

Section 11. Advice of Counsel. The Trustee may from time to time consult with counsel, who may be counsel to the Grantor with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law in acting upon the advice of counsel.

Section 12. Trustee Compensation. The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing from time to time with the Grantor.

Section 13. Successor Trustee. The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor trustee and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the appointment, the Trustee shall assign, transfer, and pay over to the successor trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it assumes administration of the trust in writing sent to the Grantor, the director and the present Trustee by certified mail ten days before such change becomes effective. Any expenses

incurred by the Trustee as a result of any of the acts contemplated by this section shall be paid as provided in Section 9.

Section 14. Instructions to the Trustee. All orders, requests, and instructions by the Grantor to the Trustee shall be in writing, signed by such persons as are designated in the attached Exhibit A or such other designees as the Grantor may designate by amendments to Exhibit A. The Trustee shall be fully protected in acting without inquiry in accordance with the Grantor's orders, requests, and instructions. All orders, requests, and instructions by the director to the Trustee shall be in writing, signed by the director of the Ohio EPA, or his designees, and the Trustee shall act and shall be fully protected in acting in accordance with such orders, requests, and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor or Ohio EPA hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instructions from the Grantor and/or Ohio EPA, except as provided for herein.

Section 15. Notice of Nonpayment. If a payment for bodily injury or property damage is made under Section 4 of this trust, the Trustee shall notify the Grantor of such payment and the amount(s) thereof within five working days. The Grantor shall on or before the anniversary date of the establishment of the Fund following such notice, either make payments to the Trustee in amounts sufficient to cause the trust to return to its value immediately prior to the payment of claims under Section 4, or shall provide written proof to the Trustee that other financial assurance for liability coverage has been obtained equalling the amount necessary to return the trust to its value prior to the payment of claims. If the Grantor does not either make payments to the Trustee or provide the Trustee with such proof, the Trustee shall within ten working days after the anniversary date of the establishment of the Fund provide a written notice of nonpayment to the director.

Section 16. Amendment of Agreement. This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, and the director, or by the Trustee and the director if the Grantor ceases to exist.

Section 17. Irrevocability and Termination. Subject to the right of the parties to amend this Agreement as provided in Section 16, this Trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, and the director, or by the Trustee and the director, if the Grantor ceases to exist. Upon termination of the Trust all remaining trust property, less final trust administration expenses shall be delivered to the Grantor.

The director will agree to termination of the Trust when the owner or operator substitutes alternate financial assurance as specified in this section.

Section 18. Immunity and Indemnification. The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of the Trust or in carrying out any directions by the Grantor or the director issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor or from the Trust Fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense.

Section 19. Choice of Law. This Agreement shall be administered, construed, and enforced according to the laws of the state of Ohio.

Section 20. Interpretation. As used in this Agreement words in the singular include the plural and words in the plural include the singular. The descriptive headings for each section of this Agreement shall not affect the interpretation or the legal efficacy of this Agreement.

In Witness Whereof the parties have caused the Agreement to be executed by their respective officers duly authorized and their corporate seals to be hereunto affixed and attested as of the date first above written. The parties below certify that the wording of this Agreement is identical to the wording specified in paragraph (M) of rule 3745-55-51 of the Administrative Code as such regulations were constituted on the date first above written.

[Signature of Grantor] _____

[Title] _____

Attest: _____

[Title] _____

[Seal]

[Signature of Trustee] _____

Attest: _____

[Title] _____

[Seal]"

- (2) The following is an example of the certification of acknowledgement which must accompany the trust agreement for a trust fund as specified in paragraph (J) of rule 3745-55-47 or paragraph (J) of rule 3745-66-47 of the Administrative Code.

"State of _____

County of _____

On this [date], before me personally came [owner or operator] to me known, who, being by me duly sworn, did depose and say that she/he resides at [address], that she/he is [title] of [corporation], the corporation described in and which executed the above instrument; that she/he knows the seal of said corporation; that the seal affixed to such instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that she/he signed her/his name thereto by like order.

[Signature of Notary Public]"

(N)

- (1) A standby trust agreement, as specified in paragraph (H) of rule 3745-55-47 or paragraph (H) of rule 3745-66-47 of the Administrative Code, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

"Standby Trust Agreement

Trust Agreement, the "Agreement," entered into as of [date] by and between [name of the owner or operator] a [name of a state] [insert "corporation," "partnership," "association," or "proprietorship"], the "Grantor," and [name of corporate trustee], [insert, "incorporated in the state of _____" or "a national bank"], the "trustee."

Whereas Ohio EPA has established certain regulations applicable to the Grantor, requiring that an owner or operator of a hazardous waste management facility or group of facilities shall demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden and/or nonsudden accidental occurrences arising from operations of the facility or group of facilities.

Whereas, the Grantor has elected to establish a standby trust into which the proceeds from a letter of credit may be deposited to assure all or part of such

financial responsibility for the facilities identified herein.

Whereas, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this agreement, and the Trustee is willing to act as trustee.

Now, therefore, the Grantor and the Trustee agree as follows:

Section 1. Definitions. As used in this Agreement:

(a) The term "Grantor" means the owner or operator who enters into this Agreement and any successors or assign of the Grantor.

(b) The term "Trustee" means the Trustee who enters into this Agreement and any successor Trustee.

Section 2. Identification of Facilities. This agreement pertains to the facilities identified on attached schedule A [on schedule A, for each facility list the U.S. EPA identification number, name and address of the facility(ies), ~~Ohio permit number~~, and the amount of liability coverage, or portion thereof, if more than one instrument affords combined coverage as demonstrated by this Agreement].

Section 3. Establishment of Fund. The Grantor and the Trustee hereby establish a standby trust fund, hereafter the "Fund," for the benefit of any and all third parties injured or damaged by [sudden and/or nonsudden] accidental occurrences arising from operation of the facility(ies) covered by this guarantee, in the amount of _____ [up to \$1 million] per occurrence and _____ [up to \$2 million] annual aggregate for sudden accidental occurrences and _____ [up to \$3 million] per occurrence and _____ [up to \$6 million] annual aggregate for nonsudden occurrences, except that the Fund is not established for the benefit of third parties for the following:

(a) Bodily injury or property damage for which [insert Grantor] is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that [insert Grantor] would be obligated to pay in the absence of the contract or agreement.

(b) Any obligation of [insert Grantor] under a workers' compensation, disability benefits, or unemployment compensation law or any similar law.

(c) Bodily injury to:

(1) An employee of [insert Grantor] arising from, and in the course of, employment by [insert Grantor]; or

(2) The spouse, child, parent, brother, or sister of that employee as a consequence of or arising from, and in the course of employment by [insert Grantor].

This exclusion applies:

(A) Whether [insert Grantor] may be liable as an employer or in any other capacity; and

(B) To any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in paragraphs (1) and (2).

(d) Bodily injury or property damage arising out of the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle, or watercraft.

(e) Property damage to:

(1) Any property owned, rented, or occupied by [insert Grantor];

(2) Premises that are sold, given away or abandoned by [insert Grantor] if the property damage arises out of any part of those premises;

(3) Property loaned ~~to~~by [insert Grantor];

(4) Personal property in the care, custody or control of [insert Grantor];

(5) That particular part of real property on which [insert Grantor] or any contractors or subcontractors working directly or indirectly on behalf of [insert Grantor] are performing operations, if the property damage arises out of these operations.

In the event of combination with another mechanism for liability coverage, the fund shall be considered [insert "primary" or "excess"] coverage.

The Fund is established initially as consisting of the proceeds of the letter of credit deposited into the Fund. Such proceeds and any other property subsequently transferred to the Trustee is referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, in trust, as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor, any payments necessary to discharge any liabilities of the Grantor established by Ohio EPA.

Section 4. Payment for Bodily Injury or Property Damage. The Trustee shall satisfy a third party liability claim by drawing on the letter of credit described in Schedule B and by making payments from the Fund only upon receipt of one of the following documents:

(a) Certification from the Grantor and the third party claimant(s) that the liability claim should be paid. The certification shall be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Certification of Valid Claim

The undersigned, as parties [insert Grantor] and [insert name and address of third party claimant(s)], hereby certify that the claim of bodily injury and/or property damage caused by a [sudden or nonsudden] accidental occurrence arising from operating [Grantor's] hazardous waste treatment, storage, or disposal facility should be paid in the amount of \$[_____].

[Signature] _____

Grantor _____

[Signatures] _____

Claimant(s) _____

(b) A valid court order establishing a judgment against the Grantor for bodily injury or property damage caused by sudden or nonsudden accidental occurrences arising from the operation of the Grantor's facility or group of facilities.

Section 5. Payments Comprising the Fund. Payments made to the Trustee for the Fund shall consist of the proceeds from the letter of credit drawn upon by the Trustee in accordance with the requirements of paragraph (K) of rule 3745-55-51 of the Administrative Code and Section 4 of this Agreement.

Section 6. Trustee Management. The Trustee shall invest and reinvest the principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this Section. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall discharge his duties with respect to the trust fund solely in the interest of the beneficiary and with the care, skill, prudence, and diligence under the circumstances then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; except that:

(i) Securities or other obligations of the Grantor, or any other owner or operator of the facilities, or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 U.S.C. 80a-2(a), shall not be acquired or held, unless they are securities or other obligations of the federal or a state government;

(ii) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the federal or a state government; and

(iii) The Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

Section 7. Commingling and Investment. The Trustee is expressly authorized in its discretion:

(a) To transfer from time to time any or all of the assets of the Fund to any common, commingled, or collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and

(b) To purchase shares in any investment company registered under the Investment Company Act of 1940, 15 U.S.C. 80a-1 et seq., including one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 8. Express Powers of Trustee. Without in any way limiting the powers and discretions conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

(a) To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee shall be bound to see to the application of the purchase money or to inquire into the validity or expediency of any such sale or other disposition;

(b) To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;

(c) To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same

issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depository even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depository with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the United States government, or any agency or instrumentality thereof, with a Federal Reserve bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund;

(d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the federal or state government; and

(e) To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. Taxes and Expenses. All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements to the Trustee shall be paid from the Fund.

Section 10. Advice of Counsel. The Trustee may from time to time consult with counsel, who may be counsel to the Grantor, with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 11. Trustee Compensation. The Trustee must be entitled to reasonable compensation for its services as agreed upon in writing from time to time with the Grantor.

Section 12. Successor Trustee. The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor trustee and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the appointment, the Trustee shall assign, transfer, and pay over to the successor trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent

jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it assumes administration of the trust in a writing sent to the Grantor, the director, and the present Trustee by certified mail ten days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this Section shall be paid as provided in Section 9.

Section 13. Instructions to the Trustee. All orders, requests, certifications of valid claims, and instructions to the Trustee shall be in writing, signed by such persons as are designated in the attached Exhibit A or such other designees as the Grantor may designate by amendment to Exhibit A. The Trustee shall be fully protected in acting without inquiry in accordance with the Grantor's orders, requests, and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor or the director hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instructions from the Grantor and/or the director except as provided for herein.

Section 14. Amendment of Agreement. This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, and the director, or by the Trustee and the director if the Grantor ceases to exist.

Section 15. Irrevocability and Termination. Subject to the right of the parties to amend this Agreement as provided in Section 14, this Trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, and the director, or by the Trustee and the director if the Grantor ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, shall be delivered to the Grantor.

The director will agree to termination of the Trust when the owner or operator substitutes alternative financial assurance as specified in this section.

Section 16. Immunity and Indemnification. The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor and the director issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor or from the Trust Fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense.

Section 17. Choice of Law. This Agreement shall be administered, construed, and enforced according to the laws of the state of Ohio.

Section 18. Interpretation. As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each section of this Agreement shall not affect the interpretation or the legal efficacy of this Agreement.

In witness whereof the parties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals to be hereunto affixed and attested as of the date first above written: The parties below certify that the wording of this Agreement is identical to the wording specified in paragraph (N)(1) of rule 3745-55-51 of the Administrative Code as such regulations were constituted on the date first above written.

[Signature of grantor]

[Title]

Attest:

[Title]

[Seal]

[Signature of trustee]

Attest:

[Title]

[Seal]"

- (2) The following is an example of the certification of acknowledgment, which must accompany the trust agreement for a standby trust fund as specified in paragraph (H) of rule 3745-55-47 or paragraph (H) of rule 3745-66-47 of the Administrative Code:

"State of _____

County of _____

On this [date], before me personally came [owner or operator] to me known, who, being by me duly sworn, did depose and say that she/he resides at [address], that she/he is [title] of [corporation], the corporation described in and which executed the above instrument; that she/he knows the seal of said

corporation; that the seal affixed to such instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that she/he signed her/his name thereto by like order.

[Signature of notary public]"

~~[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules, and federal statutory provisions referenced in this rule, see rule 3745-50-11 of the Administrative Code titled "Incorporated by reference."]~~

[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules, and federal statutory provisions referenced in this rule, see rule 3745-50-11 of the Administrative Code titled "Incorporated by reference."]

Effective: 09/05/2010

R.C. 119.032 review dates: 04/14/2010 and Exempt

CERTIFIED ELECTRONICALLY

Certification

07/23/2010

Date

Promulgated Under: 119.03
Statutory Authority: 3734.12
Rule Amplifies: 3734.12
Prior Effective Dates: 08/26/1983 (Emer.), 11/29/1983, 05/29/1985 (Emer.),
08/29/1985, 12/08/1988, 12/30/1989, 06/29/1990,
02/11/1992, 09/02/1997, 12/07/2000, 12/07/2004

3745-55-70

Applicability - use and management of containers.

Rules 3745-55-70 to 3745-55-78 of the Administrative Code apply to owners and operators of all hazardous waste facilities that store ~~containers of hazardous waste~~ in containers, except as rule 3745-54-01 of the Administrative Code provides otherwise.

[Comment: Under rule 3745-51-07 of the Administrative Code and paragraph (C) of rule 3745-51-33 of the Administrative Code, if a hazardous waste is emptied from a container the residue remaining in the container is not considered a hazardous waste if the container is "empty" as defined in rule 3745-51-07 of the Administrative Code. In that event, management of the container is exempt from ~~the requirements of~~ rules 3745-55-70 to 3745-55-78 of the Administrative Code.]

Effective: 10/5/2020

Five Year Review (FYR) Dates: Exempt

CERTIFIED ELECTRONICALLY

Certification

09/21/2020

Date

Promulgated Under: 119.03
Statutory Authority: 3734.12
Rule Amplifies: 3734.12
Prior Effective Dates: 01/07/1983, 05/29/1985 (Emer.), 08/29/1985

3745-55-71 Condition of containers.

If a container holding hazardous waste is not in good condition (e.g., severe rusting, apparent structural defects) or if it begins to leak, the owner or operator must transfer the hazardous waste from such container to a container that is in good condition or manage the waste in some other way that complies with the requirements of Chapters 3745-54 to 3745-57 and 3745-205 of the Administrative Code.

Effective: 12/07/2004

119.032 review dates: Exempt

Promulgated under: 119.03

Statutory authority: 3734.12

Rule amplifies: 3734.12

Prior effective dates: 01/07/1983, 12/07/2000

3745-55-72 Compatibility of waste with containers.

The owner or operator must use a container made of or lined with materials which will not react with, and are otherwise compatible with, the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired.

Effective: 01/07/1983
119.032 review dates: Exempt
Promulgated under: 119.03
Statutory authority: 3734.12
Rule amplifies: 3734.12
Prior effective dates: None

3745-55-73

Management of containers.

(A) A container holding hazardous waste ~~must~~shall always be closed during storage, except when it is necessary to add or remove waste.

(B) A container holding hazardous waste ~~must~~shall not be opened, handled, or stored in a manner which may rupture the container or cause ~~it~~the container to leak.

~~[Comment: Reuse of containers in transportation is governed by U.S. department of transportation regulations including those set forth in 49 CFR Section 173.28.]~~

[Comment 1: Reuse of containers in transportation is governed by U.S. department of transportation regulations including those in 49 CFR 173.28.]

[Comment 2: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules, and federal statutory provisions referenced in this rule, see rule 3745-50-11 of the Administrative Code titled "Incorporated by reference."]

Effective: 10/23/2022

Five Year Review (FYR) Dates: Exempt

CERTIFIED ELECTRONICALLY

Certification

10/11/2022

Date

Promulgated Under: 119.03
Statutory Authority: 3734.12
Rule Amplifies: 3734.12
Prior Effective Dates: 01/07/1983

3745-55-74

Inspections- containers.

At least once during each period from Sunday to Saturday, the owner or operator shall inspect areas where containers are stored. The owner or operator shall look for leaking containers and for deterioration of containers and the containment system caused by corrosion or other factors. See paragraph (C) of rule 3745-54-15 and rule 3745-55-71 of the Administrative Code for remedial action required if deterioration or leaks are detected.

~~[Comment: See paragraph (C) of rule 3745-54-15 and rule 3745-55-71 of the Administrative Code for remedial action required if deterioration or leaks are detected.]~~

Effective: 10/5/2020
Five Year Review (FYR) Dates: 7/13/2020 and Exempt

CERTIFIED ELECTRONICALLY

Certification

09/21/2020

Date

Promulgated Under: 119.03
Statutory Authority: 3734.12
Rule Amplifies: 3734.12
Prior Effective Dates: 01/07/1983, 03/17/2012, 02/12/2018

3745-55-75

Containment- containers.

(A) Container storage areas ~~must~~shall have a containment system that is designed and operated in accordance with paragraph (B) of this rule, except as otherwise provided by paragraph (C) of this rule.

(B) A containment system ~~must~~shall be designed and operated as follows:

- (1) A base ~~must~~shall underlie the containers which is free of cracks or gaps and ~~is~~ sufficiently impervious to contain leaks, spills, and accumulated precipitation until the collected material is detected and removed;
- (2) The base ~~must~~shall be sloped or the containment system ~~must~~shall be otherwise designed and operated to drain and remove liquids resulting from leaks, spills, or precipitation, unless the containers are elevated or are otherwise protected from contact with accumulated liquids;
- (3) The containment system ~~must~~shall have sufficient capacity to contain ten per cent of the volume of containers or the volume of the largest container, whichever is greater. Containers that do not contain free liquids need not be considered in this determination;
- (4) Run-on into the containment system ~~must~~shall be prevented unless the collection system has sufficient excess capacity in addition to that required in paragraph (B)(3) of this rule to contain any run-on which might enter the system; and
- (5) Spilled or leaked waste and accumulated precipitation ~~must~~shall be removed from the sump or collection area in as timely a manner as is necessary to prevent overflow of the collection system.

[Comment: If the collected material is a hazardous waste under Chapter 3745-51 of the Administrative Code, such material ~~must~~shall be managed as a hazardous waste in accordance with all applicable requirements of Chapters 3745-52, 3745-53, 3745-54 to 3745-57, 3745-65 to 3745-69, 3745-205, 3745-256, and 3745-266 of the Administrative Code. If the collected material is discharged through a point source to waters of the United States, ~~it~~the collected material is subject to the requirements of Section 402 of the Clean Water Act.]

(C) Storage areas that store containers holding only wastes that do not contain free liquids need not have a containment system described in paragraph (B) of this rule, except as provided by paragraph (D) of this rule or provided that:

- (1) The storage area is sloped or is otherwise designed and operated to drain and remove liquid resulting from precipitation; or

(2) The containers are elevated or are otherwise protected from contact with accumulated liquid.

(D) Storage areas that store containers holding the wastes listed in paragraph (D)(1) of this rule that do not contain free liquids ~~must~~shall have a containment system described in paragraph (B) of this rule:

(1) F020, F021, F022, F023, F026, and F027.

(2) [Reserved.]

[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules, and federal statutory provisions referenced in this rule, see rule 3745-50-11 of the Administrative Code titled "Incorporated by reference."]

Effective: 9/29/2021

Five Year Review (FYR) Dates: Exempt

CERTIFIED ELECTRONICALLY

Certification

09/14/2021

Date

Promulgated Under: 119.03
Statutory Authority: 3734.12
Rule Amplifies: 3734.12
Prior Effective Dates: 01/07/1983, 01/30/1986, 06/29/1990, 10/20/1998,
12/07/2000, 03/13/2002, 12/07/2004, 03/17/2012

3745-55-76 Special requirements for ignitable or reactive waste.

Containers holding ignitable or reactive waste must be located at least fifteen meters (fifty feet) from the facility's property line.

[Comment: See paragraph (A) of rule 3745-54-17 of the Administrative Code for additional requirements.]

Effective: 01/07/1983
119.032 review dates: Exempt
Promulgated under: 119.03
Statutory authority: 3734.12
Rule amplifies: 3734.12
Prior effective dates: None

3745-55-77 Special requirements for incompatible wastes.

- (A) Incompatible wastes, or incompatible wastes and materials (see the appendix to rule 3745-55-99 of the Administrative Code for examples), shall not be placed in the same container, unless paragraph (B) of rule 3745-54-17 of the Administrative Code is complied with.
- (B) Hazardous waste shall not be placed in an unwashed container that previously held an incompatible waste or material.

[Comment: As required by rule 3745-54-13 of the Administrative Code, the waste analysis plan shall include analyses needed to comply with this rule. Also, paragraph (C) of rule 3745-54-17 of the Administrative Code requires waste analyses, trial tests, or other documentation to assure compliance with paragraph (B) of rule 3745-54-17 of the Administrative Code. As required by rule 3745-54-73 of the Administrative Code, the owner or operator shall place the results of each waste analysis and trial test, and any documented information, in the operating record of the facility.

- (C) A storage container holding a hazardous waste that is incompatible with any waste or other materials stored nearby in other containers, piles, open tanks, or surface impoundments shall be separated from the other materials or protected from them by means of a dike, berm, wall, or other device.

[Comment: The purpose of this rule is to prevent fires, explosions, gaseous emission, leaching, or other discharge of hazardous waste or hazardous waste constituents which could result from the mixing of incompatible wastes or materials if containers break or leak.]

Effective: 02/14/1995
119.032 review dates: Exempt
Promulgated under: 119.03
Statutory authority: 3734.12
Rule amplifies: 3734.12
Prior effective dates: 01/07/1983

Rule **3745-55-77** is amended as follows:

Page	Location	Change	Reason

3745-55-78 Closure.

At closure, all hazardous waste and hazardous waste residues must be removed from the containment system. Remaining containers, liners, bases, and soil containing or contaminated with hazardous waste or hazardous waste residues must be decontaminated or removed.

[Comment: At closure, as throughout the operating period, unless the owner or operator can demonstrate in accordance with paragraph (D) of rule 3745-51-03 of the Administrative Code that the waste removed from the containment system is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of Chapters 3745-52, 3745-53, 3745-54 to 3745-57, 3745-65 to 3745-69, 3745-205, 3745-256, and 3745-266 of the Administrative Code.]

Effective: 12/07/2004
119.032 review dates: Exempt
Promulgated under: 119.03
Statutory authority: 3734.12
Rule amplifies: 3734.12
Prior effective dates: 01/07/1983

3745-55-90 Applicability- tank system.

The requirements of rules 3745-55-90 to 3745-55-99 of the Administrative Code apply to owners and operators of facilities that use tank systems for storing or treating hazardous waste except as otherwise provided in paragraphs (A), (B), and (C) of this rule or in rule 3745-54-01 of the Administrative Code.

- (A) Tank systems that are used to store or treat hazardous waste which contains no free liquids and are situated inside a building with an impermeable floor are exempted from the requirements in rule 3745-55-93 of the Administrative Code. To demonstrate the absence or presence of free liquids in the stored/treated waste, the following test must be used: method ~~9095~~9095B ("Paint Filter Liquids Test") as described in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," U.S.EPA publication SW-846.
- (B) Tank systems, including sumps, as defined in rule 3745-50-10 of the Administrative Code, that serve as part of a secondary containment system to collect or contain releases of hazardous wastes are exempted from the requirements in paragraph (A) of rule 3745-55-93 of the Administrative Code.
- (C) Tanks, sumps, and other such collection devices or systems used in conjunction with drip pads, as defined in rule 3745-50-10 of the Administrative Code and regulated under rules 3745-57-80 to 3745-57-85 of the Administrative Code, must meet the requirements of rules 3745-55-90 to 3745-55-99 of the Administrative Code.

[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules, and federal statutory provisions referenced in this rule, see rule 3745-50-11 of the Administrative Code titled "Incorporated by reference."]

Effective: 02/16/2009

R.C. 119.032 review dates: Exempt

CERTIFIED ELECTRONICALLY

Certification

01/13/2009

Date

Promulgated Under: 119.03
Statutory Authority: 3734.12
Rule Amplifies: 3734.12
Prior Effective Dates: 01/07/1983, 12/08/1988, 06/29/1990, 02/11/1992,
09/02/1997, 12/07/2004

3745-55-91

Assessment of existing tank systems'system's integrity.

- (A) For each existing tank system that does not have secondary containment ~~meeting the requirements of~~ that is in compliance with rule 3745-55-93 of the Administrative Code, the owner or operator ~~must~~shall determine that the tank system is not leaking or is ~~unfit~~ for use. Except as provided in paragraph (C) of this rule, within thirty days after December 8, 1988, the owner or operator ~~must~~shall obtain and keep on file at the facility a written assessment that has been reviewed and certified by a qualified professional engineer, in accordance with paragraph (D) of rule 3745-50-42 of the Administrative Code, that attests to the tank system's integrity ~~within thirty days after December 8, 1988.~~
- (B) This assessment ~~must~~shall determine that the tank system is adequately designed and has sufficient structural strength and compatibility with the ~~waste(s)~~wastes to be stored or treated, to ensure that ~~it will~~the tank system shall not collapse, rupture, or fail. At a minimum, this assessment ~~must~~shall consider all of the following:
- (1) Design ~~standard(s)~~standards, if available, according to which the tank and ancillary equipment were constructed~~;~~;
 - (2) Hazardous characteristics of the ~~waste(s)~~wastes that have been and ~~will~~shall be handled~~;~~;
 - (3) Existing corrosion protection measures~~;~~;
 - (4) Documented age of the tank system, if available (otherwise, an estimate of the age)~~); and~~);
 - (5) Results of a leak test, internal inspection, or other tank integrity examination such that:
 - (a) For non-enterable underground tanks, the assessment ~~must~~shall include a leak test that is capable of taking into account the effects of temperature variations, tank end deflection, vapor pockets, and high water table effects~~; and~~;
 - (b) For other than non-enterable underground tanks and for ancillary equipment, this assessment ~~must~~shall include either a leak test, as described ~~above~~in this rule, or other integrity examination that is certified by a qualified professional engineer in accordance with paragraph (D) of rule 3745-50-42 of the Administrative Code, that addresses cracks, leaks, corrosion, and erosion.

[Comment: The practices described in the "American Petroleum Institute (API)" publication, "Guide for Inspection of Refinery Equipment," chapter XIII, "Atmospheric and Low-Pressure Storage Tanks," fourth edition, 1981, may be used, where applicable, as guidelines in conducting other than a leak test.]

- (C) Tank systems that store or treat materials that became hazardous wastes subsequent to July 14, 1986 ~~must~~shall conduct this assessment within twelve months after the date that the waste becomes a hazardous waste.
- (D) If, as a result of the assessment conducted in accordance with paragraph (A) of this rule, a tank system is found to be leaking or unfit for use, the owner or operator ~~must~~shall comply with ~~the requirements of~~ rule 3745-55-96 of the Administrative Code.

[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules, and federal statutory provisions referenced in this rule, see rule 3745-50-11 of the Administrative Code titled "Incorporated by reference."]

Effective: 10/5/2020

Five Year Review (FYR) Dates: Exempt

CERTIFIED ELECTRONICALLY

Certification

09/21/2020

Date

Promulgated Under: 119.03
Statutory Authority: 3734.12
Rule Amplifies: 3734.12
Prior Effective Dates: 01/07/1983, 12/08/1988, 02/14/1995, 09/05/2010

3745-55-92

Design and installation of new tank systems or components.

(A) Owners or operators of new tank systems or components ~~shall~~must obtain and submit to the director, at time of submittal of ~~part B~~ "Part B" information, a written assessment, reviewed and certified by ~~an independent, qualified, registered~~ qualified professional engineer, in accordance with paragraph (D) of rule 3745-50-42 of the Administrative Code, attesting that the tank system has sufficient structural integrity and is acceptable for the storing and treating of hazardous waste. The assessment ~~shall~~must show that the foundation, structural support, seams, connections, and pressure controls (if applicable) are adequately designed and that the tank system has sufficient structural strength, compatibility with the waste(s) to be stored or treated, and corrosion protection to ensure that it will not collapse, rupture, or fail. This assessment, which will be used by the director to review and approve or disapprove the acceptability of the tank system design, ~~shall~~must include, at a minimum, the following information:

- (1) Design standard(s) according to which tank(s) and/or the ancillary equipment are constructed;
- (2) Hazardous characteristics of the waste(s) to be handled;
- (3) For new systems or components in which the external shell of a metal tank or any external metal component of the tank system will be in contact with the soil or with water, a determination by a corrosion expert of:
 - (a) Factors affecting the potential for corrosion, including but not limited to:
 - (i) Soil moisture content;
 - (ii) Soil pH;
 - (iii) Soil sulfides level;
 - (iv) Soil resistivity;
 - (v) Structure to soil potential;
 - (vi) Influence of nearby underground metal structures (e.g., piping);
 - (vii) Existence of stray electric current; and
 - (viii) Existing corrosion protection measures (e.g., coating, cathodic

protection), and

(b) The type and degree of external corrosion protection that are needed to ensure the integrity of the tank system during the use of the tank system or component, consisting of one or more of the following:

(i) Corrosion-resistant materials of construction such as special alloys, fiberglass-reinforced plastic, etc.;

(ii) Corrosion-resistant coating (such as epoxy, fiberglass, etc.) with cathodic protection (e.g., impressed current or sacrificial anodes); and

(iii) Electrical isolation devices such as insulating joints, flanges, etc.

[~~Note~~Comment: The practices described in the "National Association of Corrosion Engineers (NACE)" standard, "Recommended Practice (RP-02-85) - Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems," and the "American Petroleum Institute (API)" publication 1632, "Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems," may be used, where applicable, as guidelines in providing corrosion protection for tank systems.]

(4) For underground tank system components that are likely to be adversely affected by vehicular traffic, a determination of design or operational measures that will protect the tank system against potential damage; and

(5) Design considerations to ensure that:

(a) Tank foundations will maintain the load of a full tank;

(b) Tank systems will be anchored to prevent flotation or dislodgement where the tank system is placed in a saturated zone, or is located within a seismic fault zone subject to the standards of rule 3745-54-18 of the Administrative Code; and

(c) Tank systems will withstand the effects of frost heave.

(B) The owner or operator of a new tank system ~~shall~~must ensure that proper handling procedures are adhered to in order to prevent damage to the system during

installation. Prior to covering, enclosing, or placing a new tank system or component in use, an independent, qualified installation inspector or ~~an independent, qualified, registered~~ a qualified professional engineer, either of whom is trained and experienced in the proper installation of tank systems or components, ~~shall~~must inspect the system for the presence of any of the following items, and all discrepancies ~~shall~~must be remedied before the tank system is covered, enclosed, or placed in use:

- (1) Weld breaks;
 - (2) Punctures;
 - (3) Scrapes of protective coatings;
 - (4) Cracks;
 - (5) Corrosion; and
 - (6) Other structural damage or inadequate construction/installation.
- (C) New tank systems or components that are placed underground and that are backfilled ~~shall~~must be provided with a backfill material that is a noncorrosive, porous, homogeneous substance and that is installed so that the backfill is placed completely around the tank and compacted to ensure that the tank and piping are fully and uniformly supported.
- (D) All new tanks and ancillary equipment ~~shall~~must be tested for tightness prior to being covered, enclosed, or placed in use. If a tank system is found not to be tight, all repairs necessary to remedy the leak(s) in the system ~~shall~~must be performed prior to the tank system being covered, enclosed, or placed into use.
- (E) Ancillary equipment ~~shall~~must be supported and protected against physical damage and excessive stress due to settlement, vibration, expansion, or contraction.
- [~~Note~~Comment: The piping system installation procedures described in "American Petroleum Institute (API)" publication 1615 (November 1979), "Installation of Underground Petroleum Storage Systems," or ANSI standard B31.3, "Petroleum Refining Piping," and ANSI standard B31.4, "Liquid Petroleum Transportation Piping System," may be used, where applicable, as guidelines for proper installation of piping systems.]
- (F) The owner or operator ~~shall~~must provide the type and degree of corrosion protection

recommended by an independent corrosion expert, based on the information provided under paragraph (A) (3) of this rule, or other corrosion protection if the director believes other corrosion protection is necessary to ensure the integrity of the tank system during use of the tank system. The installation of a corrosion protection system that is field-fabricated ~~shall~~must be supervised by an independent corrosion expert to ensure proper installation.

- (G) The owner or operator ~~shall~~must obtain and keep on file at the facility written statements by those persons required to certify the design of the tank system in accordance with the requirements of paragraphs (B) ~~through~~ (F) of this rule, that attest that the tank system was properly designed and installed and that repairs, pursuant to paragraphs (B) and (D) of this rule, were performed. These written statements ~~shall~~must also include the certification as required in paragraph (D) of rule 3745-50-42 of the Administrative Code.

Effective: 09/05/2010

R.C. 119.032 review dates: Exempt

CERTIFIED ELECTRONICALLY

Certification

07/23/2010

Date

Promulgated Under: 119.03
Statutory Authority: 3734.12
Rule Amplifies: 3734.12
Prior Effective Dates: 04/15/1981, 01/07/1983, 12/08/1988, 09/02/1997

3745-55-93

Containment and detection of releases.

(A) In order to prevent the release of hazardous waste or hazardous constituents to the environment, secondary containment that meets the requirements of this rule must be provided [except as provided in paragraphs (F) and (G) of this rule]:

(1) For all new and existing tank systems or components, prior to their being put into service;

~~(2) For all existing tank systems used to store or treat EPA hazardous waste nos. F020, F021, F022, F023, F026, and F027, within two years after January 12, 1987;~~

~~(3) For those existing tank systems of known and documented age, within two years after January 12, 1987, or when the tank system has reached fifteen years of age, whichever comes later;~~

~~(4) For those existing tank systems for which the age cannot be documented, within eight years of January 12, 1987; but if the age of the facility is greater than seven years, secondary containment must be provided by the time the facility reaches fifteen years of age, or within two years of January 12, 1987, whichever comes later; and~~

~~(5)(2) For tank systems that store or treat materials that become hazardous wastes subsequent to January 12, 1987, within the time intervals required in paragraphs (A)(1) to (A)(4) of this rule, except that the date that a material becomes a hazardous waste must be used in place of January 12, 1987, within two years after the hazardous waste listing, or when the system has reached fifteen years of age, whichever comes later.~~

(B) Secondary containment systems must be:

(1) Designed, installed, and operated to prevent any migration of wastes or accumulated liquid out of the system to soil, ground water, or surface water at any time during the use of the tank system; and

(2) Capable of detecting and collecting releases and accumulated liquids until the collected material is removed.

(C) To meet the requirements of paragraph (B) of this rule, secondary containment systems must be, at a minimum:

(1) Constructed of or lined with materials that are compatible with the waste(s) to be placed in the tank system and must have sufficient strength and thickness

to prevent failure owing to pressure gradients (including static head and external hydrological forces), physical contact with the waste to which it is exposed, climatic conditions, and the stress of daily operation (including stresses from nearby vehicular traffic);

- (2) Placed on a foundation or base capable of providing support to the secondary containment system, resistance to pressure gradients above and below the system, and capable of preventing failure due to settlement, compression, or uplift;
- (3) Provided with a leak-detection system that is designed and operated so that it will detect the failure of either the primary or secondary containment structure or the presence of any release of hazardous or accumulated liquid in the secondary containment system within twenty-four hours, or at the earliest practicable time if the owner or operator can demonstrate to the director that existing detection technologies or site conditions will not allow detection of a release within twenty-four hours; and
- (4) Sloped or otherwise designed or operated to drain and remove liquids resulting from leaks, spills, or precipitation. Spilled or leaked waste and accumulated precipitation must be removed from the secondary containment system within twenty-four hours, or in as timely a manner as is possible to prevent harm to human health and the environment, if the owner or operator can demonstrate to the director that removal of the released waste or accumulated precipitation cannot be accomplished within twenty-four hours.

[~~Note~~Comment: If the collected material is a hazardous waste under Chapter 3745-51 of the Administrative Code, it is subject to management as a hazardous waste in accordance with all applicable requirements of Chapters 3745-52, 3745-53, 3745-54 to 3745-57, 3745-65 to 3745-69, 3745-205, and 3745-256 of the Administrative Code. If the collected material is discharged through a point source to waters of the state or discharged to a publicly owned treatment works (POTW), it is subject to the requirements of Chapter 6111. of the Revised Code. If the collected material is released to the environment, it may be subject to the reporting requirements of 40 CFR ~~part~~Part 302.]

(D) Secondary containment for tanks must include one or more of the following devices:

- (1) A liner (external to the tank);
- (2) A vault;

- (3) A double-walled tank; or
 - (4) An equivalent device as approved by the director.
- (E) In addition to the requirements of paragraphs (B), (C), and (D) of this rule, secondary containment systems must satisfy the following requirements:
- (1) External liner systems must be:
 - (a) Designed or operated to contain one hundred per cent of the capacity of the largest tank within its boundary;
 - (b) Designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration. Such additional capacity must be sufficient to contain precipitation from a twenty-five-year, twenty-four-hour rainfall event;
 - (c) Free of cracks or gaps; and
 - (d) Designed and installed to surround the tank completely and to cover all surrounding earth likely to come into contact with the waste if the waste is released from the tank(s) (i.e., capable of preventing lateral as well as vertical migration of the waste); and
 - (e) Constructed with chemical-resistant water stops in place at all joints, if any (for concrete liners only); and
 - (f) Provided with an impermeable interior coating or lining that is compatible with the stored waste and that will prevent migration of wastes into the concrete (for concrete liners only).
 - (2) Vault system must be:
 - (a) Designed or operated to contain one hundred per cent of the capacity of the largest tank within its boundary;
 - (b) Designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration. Such

additional capacity must be sufficient to contain precipitation from a twenty-five-year, twenty-four-hour rainfall event;

- (c) Constructed with chemical-resistant water stops in place at all joints (if any);
 - (d) Provided with an impermeable interior coating or lining that is compatible with the stored waste and that will prevent migration of waste into the concrete;
 - (e) Provided with a means to protect against the formation of and ignition of vapors within the vault, if the waste being stored or treated:
 - (i) Meets the definition of ignitable waste under rule 3745-51-21 of the Administrative Code; or
 - (ii) Meets the definition of reactive waste under rule 3745-51-23 of the Administrative Code and may form an ignitable or explosive vapor; and
 - (f) Provided with an exterior moisture barrier or be otherwise designed or operated to prevent migration of moisture into the vault if the vault is subject to hydraulic pressure.
- (3) Double-walled tanks must be:
- (a) Designed as an integral structure (i.e., an inner tank completely enveloped within an outer shell) so that any release from the inner tank is contained by the outer shell;
 - (b) Protected, if constructed of metal, from both corrosion of the primary tank interior and of the external surface of the outer shell; and
 - (c) Provided with a built-in continuous leak-detection system capable of detecting a release within twenty-four hours, or at the earliest practicable time, if the owner or operator can demonstrate to the director, and the director concludes, that the existing detection technology or site conditions would not allow detection of a release within twenty-four hours.

[Note Comment]: The provisions outlined in the "Steel Tank Institute's (STI) Standard for Dual-Wall Underground Steel Storage Tanks" may

be used as guidelines for aspects of the design of underground steel double-walled tanks.]

- (F) Ancillary equipment must be provided with secondary containment (e.g., trench, jacketing, double-walled piping) that meets the requirements of paragraphs (B) and (C) of this rule, except for:
- (1) Aboveground piping (exclusive of flanges, joints, valves, and other connections) that are visually inspected for leaks on a daily basis;
 - (2) Welded flanges, welded joints, and welded connections, that are visually inspected for leaks on a daily basis;
 - (3) Sealless or magnetic coupling pumps and sealless valves, that are visually inspected for leaks on a daily basis; and
 - (4) Pressurized aboveground piping systems with automatic shut-off devices (e.g., excess flow check valves, flow metering shutdown devices, loss of pressure-actuated shut-off devices) that are visually inspected for leaks on a daily basis.
- (G) The owner or operator may obtain a variance from the requirements of this rule if the director finds, as a result of a demonstration by the owner or operator that alternative design and operating practices, together with location characteristics, will prevent the migration of any hazardous waste or hazardous constituents into the ground water or surface water at least as effectively as secondary containment during the active life of the tank system or that in the event of a release that does migrate to ground water or surface water, no substantial present or potential hazard will be posed to human health or the environment. New underground tank systems may not, per a demonstration in accordance with paragraph (G)(2) of this rule, be exempted from the secondary containment requirements of this rule.
- (1) In deciding whether to grant a variance based on a demonstration of equivalent protection of ground water and surface water, the director will consider:
 - (a) The nature and quantity of the wastes;
 - (b) The proposed alternate design and operation;
 - (c) The hydrogeologic setting of the facility, including the thickness of soils present between the tank system and ground water; and

- (d) All other factors that would influence the quality and mobility of the hazardous constituents and the potential for them to migrate to ground water or surface water.
- (2) In deciding whether to grant a variance based on a demonstration of no substantial present or potential hazard, the director will consider:
- (a) The potential adverse effects on ground water, surface water, and land quality, taking into account:
 - (i) The physical and chemical characteristics of the waste in the tank system, including its potential for migration;
 - (ii) The hydrogeological characteristics of the facility and surrounding land;
 - (iii) The potential for health risks caused by human exposure to waste constituents;
 - (iv) The potential for damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents; and
 - (v) The persistence and permanence of the potential adverse effects; and
 - (b) The potential adverse effects of a release on ground water quality, taking into account:
 - (i) The quantity and quality of ground water and the direction of ground water flow;
 - (ii) The proximity and withdrawal rates of ground water users;
 - (iii) The current and future uses of ground water in the area; and
 - (iv) The existing quality of ground water, including other sources of contamination and their cumulative impact on the ground water quality; and
 - (c) The potential adverse effects of a release on surface water quality, taking

into account:

- (i) The quantity and quality of ground water and the direction of ground water flow;
 - (ii) The patterns of rainfall in the region;
 - (iii) The proximity of the tank system to surface waters;
 - (iv) The current and future uses of surface waters in the area and any water quality standards established for those surface waters; and
 - (v) The existing quality of surface water, including other sources of contamination and the cumulative impact on surface water quality; and
- (d) The potential adverse effects of a release on the land surrounding the tank system, taking into account:
- (i) The patterns of rainfall in the region; and
 - (ii) The current and future uses of the surrounding land.
- (3) The owner or operator of a tank system, for which a variance from secondary containment had been granted in accordance with the requirements of paragraph (G)(1) of this rule, at which a release of hazardous waste has occurred from the primary tank system but has not migrated beyond the zone of engineering control (as established in the variance), must:
- (a) Comply with the requirements of paragraphs (A), (B), (C), (E), and (F) of rule 3745-55-96 of the Administrative Code; and
 - (b) Decontaminate or remove contaminated soil to the extent necessary to:
 - (i) Enable the tank system for which the variance was granted to resume operation with the capability for the detection of releases at least equivalent to the capability it had prior to the release; and
 - (ii) Prevent the migration of hazardous waste or hazardous constituents to ground water or surface water; and

- (c) If contaminated soil cannot be removed or decontaminated in accordance with paragraph (G)(3)(b) of this rule, comply with the requirements of paragraph (B) of rule 3745-55-97 of the Administrative Code.
- (4) The owner or operator of a tank system, for which a variance from secondary containment had been granted in accordance with the requirements of paragraph (G)(1) of this rule, at which a release of hazardous waste has occurred from the primary tank system and has migrated beyond the zone of engineering control (as established in the variance), must:
- (a) Comply with the requirements of paragraphs (A), (B), (C), and (D) of rule 3745-55-96 of the Administrative Code; and
 - (b) Prevent the migration of hazardous waste or hazardous constituents to ground water or surface water, if possible, and decontaminate or remove contaminated soil. If contaminated soil cannot be decontaminated or removed or if ground water has been contaminated, the owner or operator must comply with the requirements of paragraph (B) of rule 3745-55-97 of the Administrative Code; and
 - (c) If repairing, replacing, or reinstalling the tank system, provide secondary containment in accordance with the requirements of paragraphs (A) to (F) of this rule or reapply for a variance from secondary containment and meet the requirements for new tank systems in rule 3745-55-92 of the Administrative Code if the tank system is replaced. The owner or operator must comply with these requirements for new tank systems in rule 3745-55-92 of the Administrative Code if the tank system is replaced. The owner or operator must comply with these requirements even if contaminated soil can be decontaminated or removed and ground water or surface water has not been contaminated.
- (H) The following procedures must be followed in order to request a variance from secondary containment:
- (1) The director must be notified in writing by the owner or operator that he intends to conduct and submit a demonstration for a variance from secondary containment as allowed in paragraph (G) of this rule according to the following schedule:
 - (a) For existing tank systems, at least twenty-four months prior to the date that secondary containment must be provided in accordance with paragraph (A) of this rule.

- (b) For new tank systems, at least thirty days prior to entering into a contract for installation.
- (2) As part of the notification, the owner or operator must also submit to the director a description of the steps necessary to conduct the demonstration and a timetable for completing each of the steps. The demonstration must address each of the factors listed in paragraph (G)(1) or (G)(2) of this rule;
- (3) The demonstration for a variance must be completed within one hundred eighty days after notifying the director of an intent to conduct the demonstration; and
- (4) If a variance is granted under paragraph (H) of this rule, the director will require the permittee to construct and operate the tank system in the manner that was demonstrated to meet the requirements for the variance.
- (I) All tank systems, until such time as secondary containment that meets the requirements of this rule is provided, must comply with the following:
- (1) For non-enterable underground tanks, a leak test that meets the requirements of paragraph (B)(5) of rule 3745-55-91 of the Administrative Code or other tank integrity method, as approved or required by the director, must be conducted at least annually.
- (2) For other than non-enterable underground tanks, the owner or operator must either conduct a leak test as in paragraph (I)(1) of this rule or develop a schedule and procedure for an assessment of the overall condition of the tank system by ~~an independent, a qualified, registered~~ professional engineer. The schedule and procedures must be adequate to detect obvious cracks, leaks, and corrosion or erosion that may lead to cracks and leaks. The owner or operator must remove the stored waste from the tank, if necessary, to allow the condition of all internal tank surfaces to be assessed. The frequency of these assessments must be based on the material of construction of the tank and its ancillary equipment, the age of the system, the type of corrosion or erosion protection used, the rate of corrosion or erosion observed during the previous inspection, and the characteristics of the waste being stored or treated.
- (3) For ancillary equipment, a leak test or other integrity assessment as approved by the director must be conducted at least annually.

[~~Note~~Comment: The practices described in the "American Petroleum Institute

(API)" publication, "Guide for Inspection of Refinery Equipment," ~~Chapter~~chapter XIII, "Atmospheric, and Low-Pressure Storage Tanks," fourth edition, 1981, may be used, where applicable, as guidelines for assessing the overall condition of the tank system.]

- (4) The owner or operator must maintain on file at the facility a record of the results of the assessments conducted in accordance with paragraphs (I)(1) to (I)(3) of this rule.
- (5) If a tank system or component is found to be leaking or unfit for use as a result of the leak test or assessment in paragraphs (I)(1) to (I)(3) of this rule, the owner or operator must comply with the requirements of rule 3745-55-96 of the Administrative Code.

~~[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules, and federal statutory provisions referenced in this rule, see rule 3745-50-11 of the Administrative Code titled "Incorporated by reference."]~~

[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules, and federal statutory provisions referenced in this rule, see rule 3745-50-11 of the Administrative Code titled "Incorporated by reference."]

Effective: 09/05/2010

R.C. 119.032 review dates: 04/14/2010 and Exempt

CERTIFIED ELECTRONICALLY

Certification

07/23/2010

Date

Promulgated Under: 119.03
Statutory Authority: 3734.12
Rule Amplifies: 3734.12
Prior Effective Dates: 12/08/1988, 12/07/2000, 12/07/2004

3745-55-94 General operating requirements.

- (A) Hazardous waste or treatment reagents must not be placed in a tank system if they could cause the tank, its ancillary equipment, or the containment system to rupture, leak, corrode, or otherwise fail.
- (B) The owner or operator must use appropriate controls and practices to prevent spills and overflows from tank or containment systems. These include, at a minimum:
 - (1) Spill prevention controls (e.g., check valves, dry disconnect couplings);
 - (2) Overfill prevention controls (e.g., level sensing devices, high level alarms, automatic feed cutoff, or bypass to a standby tank); and
 - (3) Maintenance of sufficient freeboard in uncovered tanks to prevent overtopping by wave or wind action or by precipitation.
- (C) The owner or operator must comply with the requirements of rule 3745-55-96 of the Administrative Code if a leak or spill occurs in the tank system.

Effective: 12/08/1988

119.032 review dates: Exempt

Promulgated under: 119.03

Statutory authority: 3734.12

Rule amplifies: 3734.12

Prior effective dates: 01/07/1983, 01/30/1986

3745-55-95

Inspections - tank systems.

- (A) The owner or operator shall develop and follow a schedule and procedure for inspecting overfill controls.
- (B) The owner or operator shall inspect at least once each operating day data gathered from monitoring and leak detection equipment (e.g., pressure or temperature gauges, monitoring wells) to ensure that the tank system is being operated according to the tank system's design.

[Comment: Paragraph (C) of rule 3745-54-15 of the Administrative Code requires the owner or operator to remedy any deterioration or malfunction that ~~is found~~the owner or operator finds. Rule 3745-55-96 of the Administrative Code requires the owner or operator to notify the director within twenty-four hours after confirming a leak. Also, 40 CFR Part 302 may require the owner or operator to notify the "National Response Center" of a release.]

- (C) In addition, except as noted under paragraph (D) of this rule, the owner or operator shall inspect at least once each operating day:
- (1) Above ground portions of the tank system, if any, to detect corrosion or releases of waste.
 - (2) The construction materials and the area immediately surrounding the externally accessible portion of the tank system, including the secondary containment system (e.g., dikes) to detect erosion or signs of releases of hazardous waste (e.g., wet spots, dead vegetation).
- (D) Owners or operators of tank systems that either use leak detection systems to alert facility personnel to leaks, or implement established workplace practices to ensure leaks are promptly identified, shall inspect at least weekly those areas described in paragraphs (C)(1) and (C)(2) of this rule. Use of the alternate inspection schedule shall be documented in the facility's operating record. This documentation shall include a description of the established workplace practices at the facility.
- (E) [Reserved.]
- (F) Ancillary equipment that is not provided with secondary containment, as described in paragraphs (F)(1) to (F)(4) of rule 3745-55-93 of the Administrative Code, shall be inspected at least once each operating day.
- (G) The owner or operator shall inspect cathodic protection systems, if present, according to, at a minimum, the following schedule to ensure that the cathodic protection systems are functioning properly:

- (1) The proper operation of the cathodic protection system shall be confirmed within six months after initial installation and annually thereafter; and
- (2) All sources of impressed current shall be inspected or tested, as appropriate, at least bimonthly (i.e., every other month).

[Comment: The practices described in the "National Association of Corrosion Engineers" (NACE) standard, "Recommended Practice (RP-02-85)--Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems," and the "American Petroleum Institute" (API) publication 1632, "Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems," may be used, where applicable, as guidelines in maintaining and inspecting cathodic protection systems.]

- (H) The owner or operator shall document in the operating record of the facility an inspection of those items in paragraphs (A) to (C) of this rule.

[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules, and federal statutory provisions referenced in this rule, see rule 3745-50-11 of the Administrative Code titled "Incorporated by reference."]

Effective: 10/23/2022

Five Year Review (FYR) Dates: 7/20/2022 and Exempt

CERTIFIED ELECTRONICALLY

Certification

10/11/2022

Date

Promulgated Under: 119.03

Statutory Authority: 3734.12

Rule Amplifies: 3734.12

Prior Effective Dates: 01/07/1983, 01/30/1986, 12/08/1988, 02/11/1992,
09/05/2010, 03/24/2017

3745-55-96

Response to leaks or spills and disposition of leaking or ~~unfit for use~~unfit-for-use tank systems.

A tank system or secondary containment system from which there has been a leak or spill, or which is unfit for use, shall be removed from service immediately, and the owner or operator shall comply with the following ~~requirements~~:

- (A) Cessation of use; prevent flow or addition of wastes. The owner or operator shall immediately stop the flow of hazardous waste into the tank system or secondary containment system and inspect the system to determine the cause of the release.
- (B) Removal of waste from tank system or secondary containment system.
 - (1) If the release was from the tank system, the owner or operator ~~shall~~, within twenty-four hours after detection of the leak, or, if the owner or operator demonstrates that ~~it~~within twenty-four hours is not possible, at the earliest practicable time, shall remove as much of the waste as is necessary to prevent further release of hazardous waste to the environment and to allow inspection and repair of the tank system to be performed.
 - (2) If the material released was to a secondary containment system, all released materials shall be removed within twenty-four hours or in as timely a manner as is possible to prevent harm to human health and the environment.
- (C) Containment of visible releases to the environment. The owner or operator shall immediately conduct a visual inspection of the release and, based upon that inspection, both:
 - (1) Prevent further migration of the leak or spill to soils or surface water.
 - (2) Remove, and properly dispose of, any visible contamination of the soil or surface water.
- (D) Notifications, reports.
 - (1) Any release to the environment, except as provided in paragraph (D)(2) of this rule, shall be reported to the director within twenty-four hours after ~~its~~the detection of the release. If the release has been reported pursuant to 40 CFR Part 302, that report will satisfy this requirement.
 - (2) A leak or spill of hazardous waste is exempted from this requirement if ~~it~~the leak or spill is both:
 - (a) Less than or equal to a quantity of one pound.

- (b) Immediately contained and cleaned up.
- (3) Within thirty days after detection of a release to the environment, a report containing all of the following information shall be submitted to the director:
- (a) Likely route of migration of the release.
 - (b) Characteristics of the surrounding soil (soil composition, geology, hydrogeology, climate).
 - (c) Results of any monitoring or sampling conducted in connection with the release (if available). If sampling or monitoring data relating to the release are not available within thirty days, these data shall be submitted to the director as soon as the data become available.
 - (d) Proximity to downgradient drinking water, surface water, and populated areas.
 - (e) Description of response actions taken or planned.
- (E) Provision of secondary containment, repair, or closure.
- (1) Unless the owner or operator complies with paragraphs (E)(2) to (E)(4) of this rule, the tank system shall be closed in accordance with rule 3745-55-97 of the Administrative Code.
 - (2) If the cause of the release was a spill that has not damaged the integrity of the system, the owner or operator may return the system to service as soon as the released waste is removed and repairs, if necessary, are made.
 - (3) If the cause of the release was a leak from the primary tank system into the secondary containment system, the system shall be repaired prior to returning the tank system to service.
 - (4) If the source of the release was a leak to the environment from a component of a tank system without secondary containment, the owner or operator shall provide the component of the system from which the leak occurred with secondary containment that complies with rule 3745-55-93 of the Administrative Code before ~~it~~the component may be returned to service, unless the source of the leak is an aboveground portion of a tank system that can be inspected visually. If the source is an aboveground component that can be inspected visually, the component shall be repaired and may be returned to service without secondary containment as long as ~~that component~~the tank system is in compliance with paragraph (F) of this rule. If a component

is replaced to comply with this requirement, that component shall comply with new tank systems or components requirements in rules 3745-55-92 and 3745-55-93 of the Administrative Code. Additionally, if a leak has occurred in any portion of a tank system component that is not readily accessible for visual inspection (e.g., the bottom of an inground or onground tank), prior to that component's return to use, the entire component shall be provided with secondary containment in accordance with rule 3745-55-93 of the Administrative Code ~~prior to being returned to use~~.

- (F) Certification of major repairs. If the owner or operator has repaired a tank system in accordance with paragraph (E) of this rule; and the repair has been extensive (e.g., installation of an internal liner, repair of a ruptured primary containment or secondary containment vessel), the tank system shall not be returned to service unless the owner or operator has obtained a certification by a qualified professional engineer in accordance with paragraph (D) of rule 3745-50-42 of the Administrative Code that the repaired system is capable of handling hazardous wastes without release for the intended life of the system. This certification shall be submitted to the director within seven days after returning the tank ~~system~~system's return to use, placed in the operating record, and maintained until closure of the facility.

[Comment 1: ~~The director, on~~On the basis of any information received that there is or has been a release of hazardous waste or hazardous constituents into the environment, the director may issue an order under section 3734.20 of the Revised Code requiring corrective action or such other response as deemed necessary to protect human health or the environment.]

[Comment 2: See paragraph (C) of rule 3745-65-15 of the Administrative Code for the requirements necessary to remedy a failure. Also, 40 CFR Part 302 may require the owner or operator to notify the "National Response Center" ~~of a release~~ of certain releases.]

[Comment 3: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules, and federal statutory provisions referenced in this rule, see rule 3745-50-11 of the Administrative Code titled "Incorporated by reference."]

Effective: 9/29/2021

Five Year Review (FYR) Dates: 6/7/2021 and 06/05/2026

CERTIFIED ELECTRONICALLY

Certification

09/14/2021

Date

Promulgated Under: 119.03
Statutory Authority: 3734.12
Rule Amplifies: 3734.12
Prior Effective Dates: 12/08/1988, 09/05/2010, 10/31/2015

3745-55-97 Closure and post-closure care.

- (A) At closure of a tank system, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated soils, and structures and equipment contaminated with waste, and manage them as hazardous waste, unless excluded under the provisions of rule 3745-51-03 of the Administrative Code. The closure plan, closure activities, cost estimates for closure, and financial responsibility for tank systems must meet all of the requirements specified in rules 3745-55-10 to 3745-55-20 and 3745-55-40 to 3745-55-51 of the Administrative Code.
- (B) If the owner or operator demonstrates that not all contaminated soils can be practically removed or decontaminated as required in paragraph (A) of this rule, then the owner or operator must close the tank system and perform post-closure care requirements that apply to landfills in accordance with rule 3745-57-10 of the Administrative Code. In addition, for the purposes of closure, post-closure, and financial responsibility, such a tank system is then considered to be a landfill, and the owner or operator must meet all of the requirements for landfills specified in rules 3745-55-10 to 3745-55-20 and 3745-55-40 to 3745-55-51 of the Administrative Code.
- (C) If an owner or operator has a tank system that does not have secondary containment that meets the requirements of paragraphs (B) to (F) of rule 3745-55-93 of the Administrative Code and has not been granted a variance from the secondary containment requirements in accordance with paragraph (G) of rule 3745-55-93 of the Administrative Code, then:
- (1) The closure plan for the tank system must include both a plan for complying with paragraph (A) of this rule and a contingent plan for complying with paragraph (B) of this rule.
 - (2) A contingency post-closure plan for complying with paragraph (B) of this rule must be prepared and submitted as part of the permit application.
 - (3) The cost estimates calculated for closure and post-closure care must reflect the costs of complying with the contingent closure plan and the contingent post-closure plan, if those costs are greater than the costs of complying with the closure plan prepared for the expected closure under paragraph (A) of this rule.
 - (4) Financial assurance must be based on the cost estimates in paragraph (C)(3) of this rule.
 - (5) For the purposes of the contingent closure and post-closure plans, such a tank system is considered to be a landfill, and the contingent plans must meet all of the closure, post-closure, and financial responsibility requirements for landfills under rules 3745-55-10 to 3745-55-20 and 3745-55-40 to 3745-55-51 of the Administrative Code.

Effective: 12/07/2004

119.032 review dates: Exempt

Promulgated under: 119.03

Statutory authority: 3734.12

Rule amplifies: 3734.12

Prior effective dates: 01/07/1983, 12/08/1988, 09/02/1997

3745-55-98

Special requirements for ignitable waste or reactive waste - tank systems.

(A) Ignitable waste or reactive waste shall not be placed in tank systems, unless ~~one of these three situations occurs:~~

(1) The waste is treated, rendered, or mixed before or immediately after placement in the tank system so that ~~both:~~

(a) The resulting waste, mixture, or dissolved material no longer meets the description of ignitable waste or reactive waste under rule 3745-51-21 or 3745-51-23 of the Administrative Code; and

(b) Paragraph (B) of rule 3745-54-17 of the Administrative Code is complied with; or

(2) The waste is stored or treated in such a way that the waste is protected from any material or conditions ~~which that~~ may cause the waste to ignite or react; or

(3) The tank system is used solely for emergencies.

(B) The owner or operator of a facility where ignitable waste or reactive waste is stored or treated in a tank shall comply with the requirements for the maintenance of protective distances between the waste management area and any public ways, streets, alleys, or an adjoining property line that can be built upon as required in the national fire protection association's (NFPA) "Flammable and Combustible Liquids Code."

[Comment 1: As required by rule 3745-54-13 of the Administrative Code, the waste analysis plan shall include analyses needed to comply with this rule. Paragraph (A) of rule 3745-54-17 of the Administrative Code contains additional requirements for ignitable wastes and reactive wastes. Also, paragraph (C) of rule 3745-54-17 of the Administrative Code requires waste analysis, trial tests, or other documentation to ensure compliance with paragraph (B) of rule 3745-54-17 of the Administrative Code. As required by rule 3745-54-73 of the Administrative Code, the owner or operator shall place the results of each waste analysis and trial test and any documented information, in the operating record of the facility.]

[Comment 2: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules, and federal statutory provisions referenced in this rule, see rule 3745-50-11 of the Administrative Code titled "Incorporated by reference."]

Effective: 10/23/2022

Five Year Review (FYR) Dates: 7/20/2022 and Exempt

CERTIFIED ELECTRONICALLY

Certification

10/11/2022

Date

Promulgated Under: 119.03
Statutory Authority: 3734.12
Rule Amplifies: 3734.12
Prior Effective Dates: 01/07/1983, 05/29/1985 (Emer.), 08/29/1985,
12/08/1988, 09/02/1997, 12/07/2000, 12/07/2004,
09/05/2010, 03/24/2017

3745-55-99

Special requirements for incompatible wastes.

- (A) Incompatible wastes, or incompatible wastes and materials (see the appendix of this rule for examples), ~~shall~~ must not be placed in the same tank system unless paragraph (B) of rule 3745-54-17 of the Administrative Code is complied with.
- (B) Hazardous waste must not be placed in a tank system that has not been decontaminated and that previously held an incompatible waste or material unless rule 3745-54-17 of the Administrative Code is complied with.

[Comment: As required by rule 3745-54-13 of the Administrative Code, the waste analysis plan must include analyses needed to comply with this rule. Also, paragraph (C) of rule 3745-54-17 of the Administrative Code requires waste analyses, trial tests, or other documentation to ensure compliance with paragraph (B) of rule 3745-54-17 of the Administrative Code. As required by rule 3745-54-73 of the Administrative Code, the owner or operator must place the results of each waste analysis and trial test, and any documented information, in the operating record of the facility.]

Effective: 02/16/2009

R.C. 119.032 review dates: Exempt

CERTIFIED ELECTRONICALLY

Certification

01/13/2009

Date

Promulgated Under: 119.03
Statutory Authority: 3734.12
Rule Amplifies: 3734.12
Prior Effective Dates: 01/07/1983, 12/08/1988

3745-55-99

AMENDED APPENDIX

1

Appendix to rule 3745-55-99 of the Administrative Code~~[Note: This appendix is equivalent to Appendix V of CFR Part 264.]~~

Examples of Potentially Incompatible Wastes

In the lists below, the mixing of a group A material with a group B material may have the potential consequence as noted.

Group 1-A

- Acetylene sludge
- Alkaline caustic liquids
- Alkaline cleaner
- Alkaline corrosive liquids
- Alkaline corrosive battery fluid
- Caustic wastewater
- Lime sludge and other corrosive alkalis
- Lime wastewater
- Lime and water
- Spent caustic

Group 1-B

- Acid sludge
- Acid and water
- Battery acid
- Chemical cleaners
- Electrolyte acid
- Etching acid liquid or solvent
- Pickling liquor and other corrosive acids
- Spent acid
- Spent mixed acid
- Spent sulfuric acid
- Potential consequences: heat generation; violent reaction.

Group 2-A

- Aluminum
- Beryllium
- Calcium
- Lithium
- Magnesium
- Potassium
- Sodium
- Zinc powder
- Other reactive metals and metal hydrides

Group 2-B

- Any waste in Group 1-A or 1-B
- Potential consequences: fire or explosion; generation of flammable hydrogen gas.

Group 3-A

- Alcohols
- Water

Group 3-B

Any concentrated waste in Groups 1-A or 1-B

Calcium

Lithium

Metal hydrides

Potassium

SO_2Cl_2 , SOCl_2 , PCl_3 , CH_3SiCl_3

Other water-reactive waste

Potential consequences: fire, explosion, or heat generation; generation of flammable or toxic gases.

Group 4-A

Alcohols

Aldehydes

Halogenated hydrocarbons

Nitrated hydrocarbons

Unsaturated hydrocarbons

Other reactive organic compounds and solvents

Group 4-B

Concentrated Group 1-A or 1-B wastes

Group 2-A wastes

Potential consequences: fire, explosion, or violent reaction.

Group 5-A

Spent cyanide and sulfide solutions

Group 5-B

Group 1-B wastes

Potential consequences: generation of toxic hydrogen cyanide or hydrogen sulfide gas.

Group 6-A

Chlorates

Chlorine

Chlorites

Chromic acid

Hypochlorites

Nitrates

Nitric acid, fuming

Perchlorates

Permanganates

Peroxides

Other strong oxidizers

Group 6-B

Acetic acid and other organic acids

Concentrated mineral acids

Group 2-A wastes

Group 4-A wastes

Other flammable and combustible wastes

Potential consequences: fire, explosion, or violent reaction.