

3745-256-101

Design and operating standards for containment buildings.

(A) All containment buildings must comply with the following design standards:

- (1) The containment building must be completely enclosed with a floor, walls, and a roof to prevent exposure to the elements, (e.g., precipitation, wind, run-on), and to assure containment of managed wastes.
- (2) The floor and containment walls of the unit, including the secondary containment system if required under paragraph (B) of this rule, must be designed and constructed of man made materials of sufficient strength and thickness to support themselves, the waste contents, and any personnel and heavy equipment that operate within the unit, and to prevent failure due to ~~the following~~: pressure gradients, settlement, compression, uplift, physical contact with the wastes to which they are exposed, climatic conditions, and the stresses of daily operation, (including the movement of heavy equipment within the unit and contact of such equipment with containment walls). The unit must be designed so that it has sufficient structural strength to prevent collapse or other failure. All surfaces to be in contact with hazardous wastes must be chemically compatible with those wastes. Ohio EPA will consider standards established by professional organizations generally recognized by the industry such as the American concrete institute (ACI) and the American society of testing materials (ASTM) in judging the structural integrity requirements of paragraphs (A) to (A)(4) of this rule. If appropriate to the nature of the waste management operation to take place in the unit, an exception to the structural strength requirement may be made for light-weight doors and windows that meet these criteria:
 - (a) They provide an effective barrier against fugitive dust emissions under paragraph (C)(1)(d) of this rule; and
 - (b) The unit is designed and operated in a fashion that assures that wastes will not actually come in contact with these openings.
- (3) Incompatible hazardous wastes or treatment reagents must not be placed in the unit or its secondary containment system if they could cause the unit or secondary containment system to leak, corrode, or otherwise fail.
- (4) A containment building must have a primary barrier designed to withstand the movement of personnel, waste, and handling equipment in the unit during the operating life of the unit and appropriate for the physical and chemical characteristics of the waste to be managed.

(B) For a containment building used to manage hazardous wastes containing free liquids

or treated with free liquids (the presence of which is determined by the paint filter test, a visual examination, or other appropriate means), the owner or operator must include:

- (1) A primary barrier designed and constructed of materials to prevent the migration of hazardous constituents into the barrier (e.g. a geomembrane covered by a concrete wear surface).
- (2) A liquid collection and removal system to prevent the accumulation of liquid on the primary barrier of the containment building:
 - (a) The primary barrier must be sloped to drain liquids to the associated collection system; and
 - (b) Liquids and waste must be collected and removed to minimize hydraulic head on the containment system at the earliest practicable time that protects human health and the environment.
- (3) A secondary containment system including a secondary barrier designed and constructed to prevent migration of hazardous constituents into the barrier, and a leak detection system that is capable of detecting failure of the primary barrier and collecting accumulated hazardous wastes and liquids at the earliest practicable time.
 - (a) The requirements of the leak detection component of the secondary containment system are satisfied by installation of a system that is, at a minimum:
 - (i) Constructed with a bottom slope of one per cent or more; and
 - (ii) Constructed of a granular drainage material with a hydraulic conductivity of 1×10^{-2} centimeters per second or more and a thickness of twelve inches (30.5 centimeters) or more, or constructed of synthetic or geonet drainage materials with a transmissivity of 3×10^{-5} meters squared per second or more.
 - (b) If treatment is to be conducted in the building, an area in which such treatment will be conducted must be designed to prevent the release of liquids, wet materials, or liquid aerosols to other portions of the building.
 - (c) The secondary containment system must be constructed of materials that

are chemically resistant to the waste and liquids managed in the containment building and of sufficient strength and thickness to prevent collapse under the pressure exerted by overlaying materials and by any equipment used in the containment building.

[~~Note~~Comment: Containment buildings can serve as secondary containment systems for tanks placed within the building under certain conditions. A containment building can serve as an external liner system for a tank, provided it meets the requirements of paragraph ~~(D)(1)(E)(1)~~ of rule 3745-66-93 of the Administrative Code. In addition, the containment building must meet the requirements of paragraphs (B) and (C) of rule 3745-66-93 of the Administrative Code to be considered an acceptable secondary containment system for a tank.]

- (4) For existing units other than ninety-day generator units, the director may delay the secondary containment requirement for up to two years, based on a demonstration by the owner or operator that the unit substantially meets the standards of rules 3745-256-100 to 3745-256-102 of the Administrative Code. In making this demonstration, the owner or operator must:
- (a) Provide written notice to the director of their request. This notification must describe the unit and its operating practices with specific reference to the performance of existing containment systems, and specific plans for retrofitting the unit with secondary containment;
 - (b) Respond within thirty days to any comments from the director on these plans; and
 - (c) Fulfill the terms of the revised plans, if such plans are approved by the director.

(C) Owners or operators of all containment buildings must:

- (1) Use controls and practices to ensure containment of the hazardous waste within the unit; and, at a minimum:
- (a) Maintain the primary barrier to be free of significant cracks, gaps, corrosion, or other deterioration that could cause hazardous waste to be released from the primary barrier;
 - (b) Maintain the level of the stored/treated hazardous waste within the containment walls of the unit so that the height of any containment wall

is not exceeded;

- (c) Take measures to prevent the tracking of hazardous waste out of the unit by personnel or by equipment used in handling the waste. An area must be designated to decontaminate equipment and any rinsate must be collected and properly managed; and
 - (d) Take measures to control fugitive dust emissions such that any openings (doors, windows, vents, cracks, etc.) exhibit no visible emissions. In addition, all associated particulate collection devices (e.g., fabric filter, electrostatic precipitator) must be operated and maintained with sound air pollution control practices. This state of no visible emissions must be maintained effectively at all times during normal operating conditions, including when vehicles and personnel are entering and exiting the unit.
- (2) Obtain and keep on-site a certification by a qualified ~~registered~~ professional engineer that the containment building design meets the requirements of paragraphs (A) to (C)(4) of this rule. ~~This professional engineer certification is required prior to operation of the unit.~~
- (3) Throughout the active life of the containment building, if the owner or operator detects a condition that could lead to or has caused a release of hazardous waste, the owner or operator must repair the condition promptly, in accordance with the following procedures:
- (a) Upon detection of a condition that has led to a release of hazardous waste (e.g., upon detection of leakage from the primary barrier) the owner or operator must:
 - (i) Enter a record of the discovery in the facility operating record;
 - (ii) Immediately remove from service the portion of the containment building affected by the condition;
 - (iii) Determine what steps must be taken to repair the containment building, remove any leakage from the secondary collection system, and establish a schedule for accomplishing the cleanup and repairs; and
 - (iv) Within seven days after the discovery of the condition, notify the director of the condition, and within fourteen working days,

provide a written plan to the director with a description of the steps taken to repair the containment building, and the schedule for accomplishing the work.

(b) The director will review the information submitted, make a determination regarding whether the containment building must be completely or partially removed from service until repairs and cleanup are complete, and notify the owner or operator in writing of the determination and the underlying rationale ~~in writing~~.

(c) Upon completing all repairs and cleanup the owner or operator must notify the director in writing and provide a verification, signed by a qualified, ~~registered~~ professional engineer, that the repairs and cleanup have been completed according to the written plan submitted in accordance with paragraph (C)(3)(a)(iv) of this rule.

~~(4) At least once every seven days, in order to detect signs of releases of hazardous waste, inspect and record in the facility's operating record, data gathered from monitoring equipment, leak detection equipment, the containment building, and the area immediately surrounding the containment building.~~

(4) Inspect and record in the facility's operating record, at least once every seven days, data gathered from monitoring equipment, leak detection equipment, the containment building, and the area immediately surrounding the containment building, to detect signs of releases of hazardous waste.

(D) For a containment building that contains both areas with and without secondary containment, the owner or operator must:

(1) Design and operate each area in accordance with the requirements in paragraphs (A) to (C)(4) of this rule;

(2) Take measures to prevent the release of liquids or wet materials into areas without secondary containment; and

(3) Maintain in the facility's operating log a written description of the operating procedures used to maintain the integrity of areas without secondary containment.

(E) Notwithstanding any other provision of rules 3745-256-100 to 3745-256-102 of the Administrative Code, the director may waive requirements for secondary containment for a permitted containment building where the owner or operator demonstrates that the only free liquids in the unit are limited amounts of dust

suppression liquids required to meet occupational health and safety requirements, and where containment of managed wastes and liquids can be assured without a secondary containment system.

Effective: 09/05/2010

R.C. 119.032 review dates: 04/14/2010 and 08/25/2014

CERTIFIED ELECTRONICALLY

Certification

07/23/2010

Date

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