



Ohio Administrative Code

Rule 3745-525-204 Structural integrity criteria for existing CCR surface impoundments, 40 C.F.R. 257.73.

Effective: October 1, 2026

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- (A) The requirements of paragraphs (A)(1) to (A)(4) of this rule apply to all existing CCR surface impoundments, except for those existing CCR surface impoundments that are incised CCR units. If an incised CCR surface impoundment is subsequently modified (e.g., a dike is constructed) such that the CCR unit no longer meets the definition of an incised CCR unit, the CCR unit is subject to the requirements of paragraphs (A)(1) to (A)(4) of this rule.
- (1) Not later than, December 17, 2015, The owner or operator of the CCR unit shall place on or immediately adjacent to the CCR unit a permanent identification marker, at least six feet high showing the identification number of the CCR unit, if one has been assigned by the state, the name associated with the CCR unit and the name of the owner or operator of the CCR unit.
- (2) Periodic hazard potential classification assessments.
- (a) The owner or operator of the CCR unit shall conduct initial and periodic hazard potential classification assessments of the CCR unit according to the timeframes specified in paragraph (F) of this rule. The owner or operator shall document the hazard potential classification of each CCR unit as either a high hazard potential CCR surface impoundment, a significant hazard potential CCR surface impoundment, or a low hazard potential CCR surface impoundment. The owner or operator shall also document the basis for each hazard potential classification.
- (b) The owner or operator of the CCR unit shall obtain a certification from a qualified professional engineer stating that the initial hazard potential classification and each subsequent periodic classification specified in paragraph (A)(2)(a) of this rule was conducted in accordance with the requirements of this rule.
- (3) Emergency action plan (EAP).
- (a) Development of the plan. Not later than April 17, 2017, the owner or operator of a CCR unit determined to be either a high hazard potential CCR surface impoundment or a significant hazard potential CCR surface impoundment under paragraph (A)(2) of this rule shall prepare and maintain a written EAP. At a minimum, the EAP shall do the following:
- (i) Define the events or circumstances involving the CCR unit that represent a safety emergency, along with a description of the procedures that will be followed to detect a safety emergency in a timely manner.



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- (ii) Define responsible persons, their respective responsibilities, and notification procedures in the event of a safety emergency involving the CCR unit.
 - (iii) Provide contact information of emergency responders.
 - (iv) Include a map which delineates the downstream area which would be affected in the event of a CCR unit failure and a physical description of the CCR unit.
 - (v) Include provisions for an annual face-to-face meeting or exercise between representatives of the owner or operator of the CCR unit and the local emergency responders.
- (b) Amendment of the plan.
 - (i) The owner or operator of a CCR unit subject to the requirements of paragraph (A)(3)(a) of this rule may amend the written EAP at any time provided the revised plan is placed in the facility's operating record as required by paragraph (F)(6) of rule 3745-525-50 of the Administrative Code. The owner or operator shall amend the written EAP whenever there is a change in conditions that would substantially affect the EAP in effect.
 - (ii) The written EAP shall be evaluated, at a minimum, every five years to ensure the information required in paragraph (A)(3)(a) of this rule is accurate. As necessary, the EAP shall be updated and a revised EAP placed in the facility's operating record as required by paragraph (F)(6) of rule 3745-525-50 of the Administrative Code.
- (c) Changes in hazard potential classification.
 - (i) If the owner or operator of a CCR unit determines during a periodic hazard potential assessment that the CCR unit is no longer classified as either a high hazard potential CCR surface impoundment or a significant hazard potential CCR surface impoundment, then the owner or operator of the CCR unit is no longer subject to the requirement to prepare and maintain a written EAP beginning on the date the periodic hazard potential assessment documentation is placed in the facility's operating record as required by paragraph (F)(5) of rule 3745-525-50 of the Administrative Code.
 - (ii) If the owner or operator of a CCR unit classified as a low hazard potential CCR surface impoundment subsequently determines that



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the CCR unit is properly re-classified as either a high hazard potential CCR surface impoundment or a significant hazard potential CCR surface impoundment, then the owner or operator of the CCR unit shall prepare a written EAP for the CCR unit as required by paragraph (A)(3)(a) of this rule within six months of completing such periodic hazard potential assessment.

(d) The owner or operator of the CCR unit shall obtain a certification from a qualified professional engineer stating that the written EAP, and any subsequent amendment of the EAP, meets the requirements of paragraph (A)(3) of this rule.

(e) Activation of the EAP. The EAP shall be implemented once events or circumstances involving the CCR unit that represent a safety emergency are detected, including conditions identified during periodic structural stability assessments, annual inspections, and inspections by a qualified person.

(4) The CCR unit and surrounding areas shall be designed, constructed, operated, and maintained with vegetated slopes of dikes not to exceed a height of six inches above the slope of the dike, except for slopes which are protected with an alternative form of slope protection.

(B) The requirements of paragraphs (C) to (E) of this rule apply to an owner or operator of an existing CCR surface impoundment that meets either of the following:

(1) Has a height of five feet or more and a storage volume of twenty acre-feet or more.

(2) Has a height of twenty feet or more.

(C)

(1) Not later than October 17, 2016, the owner or operator of the CCR unit shall compile a history of construction, which shall contain, to the extent feasible, the information specified in paragraphs (C)(1)(a) to (C)(1)(k) of this rule.

(a) The name and address of the person owning or operating the CCR unit; the name associated with the CCR unit; and the identification number of the CCR unit if one has been assigned by the state.

(b) The location of the CCR unit identified on the most recent U.S. geological survey (USGS) "7 1/2 minute" or "15 minute" topographic quadrangle map, or a topographic map of equivalent scale if a USGS map is not available.



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- (c) A statement of the purpose for which the CCR unit is being used.
 - (d) The name and size in acres of the watershed within which the CCR unit is located.
 - (e) A description of the physical and engineering properties of the foundation and abutment materials on which the CCR unit is constructed.
 - (f) A statement of the type, size, range, and physical and engineering properties of the materials used in constructing each zone or stage of the CCR unit; the method of site preparation and construction of each zone of the CCR unit; and the approximate dates of construction of each successive stage of construction of the CCR unit.
 - (g) At a scale that details engineering structures and appurtenances relevant to the design, construction, operation, and maintenance of the CCR unit, detailed dimensional drawings of the CCR unit, including a plan view and cross-sections of the length and width of the CCR unit, showing all zones, foundation improvements, drainage provisions, spillways, diversion ditches, outlets, instrument locations, and slope protection, in addition to the normal operating pool surface elevation and the maximum pool surface elevation following peak discharge from the inflow design flood, the expected maximum depth of CCR within the CCR surface impoundment, and any identifiable natural or manmade features that could adversely affect operation of the CCR unit due to malfunction or mis-operation.
 - (h) A description of the type, purpose, and location of existing instrumentation.
 - (i) Area-capacity curves for the CCR unit.
 - (j) A description of each spillway and diversion design features and capacities and calculations used in their determination.
 - (k) The construction specifications and provisions for surveillance, maintenance, and repair of the CCR unit.
 - (l) Any record or knowledge of structural instability of the CCR unit.
- (2) Changes to the history of construction. If there is a significant change to any information compiled under paragraph (C)(1) of this rule, the owner or operator of the CCR unit shall update the relevant information and place it in the facility's operating record as required by paragraph (F)(9) of rule 3745-525-50 of the Administrative Code.



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(D) Periodic structural stability assessments.

(1) The owner or operator of the CCR unit shall conduct initial and periodic structural stability assessments and document whether the design, construction, operation, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering practices for the maximum volume of CCR and CCR wastewater which can be impounded therein. The assessment shall, at a minimum, document whether the CCR unit has been designed, constructed, operated, and maintained with the following:

(a) Stable foundations and abutments.

(b) Adequate slope protection to protect against surface erosion, wave action, and adverse effects of sudden drawdown.

(c) Dikes mechanically compacted to a density sufficient to withstand the range of loading conditions in the CCR unit.

(d) Vegetated slopes of dikes and surrounding areas not to exceed a height of six inches above the slope of the dike, except for slopes which have an alternative form or forms of slope protection.

(e) A single spillway or a combination of spillways configured as specified in paragraph (D)(1)(e)(i) of this rule. The combined capacity of all spillways shall be designed, constructed, operated, and maintained to adequately manage flow during and following the peak discharge from the event specified in paragraph (D)(1)(e)(ii) of this rule.

(i) All spillways shall be either of the following:

(a) Of non-erodible construction and designed to carry sustained flows.

(b) Earth- or grass-lined and designed to carry short-term, infrequent flows at non-erosive velocities where sustained flows are not expected.

(ii) The combined capacity of all spillways shall adequately manage flow during and following the peak discharge from the following:

(a) Probable maximum flood (PMF) for a high hazard potential CCR surface impoundment.



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- (b) One thousand-year flood for a significant hazard potential CCR surface impoundment.
 - (c) One hundred-year flood for a low hazard potential CCR surface impoundment.
 - (f) Hydraulic structures underlying the base of the CCR unit or passing through the dike of the CCR unit that maintain structural integrity and are free of significant deterioration, deformation, distortion, bedding deficiencies, sedimentation, and debris which may negatively affect the operation of the hydraulic structure.
 - (g) For CCR units with downstream slopes which can be inundated by the pool of an adjacent water body, such as a river, stream or lake, downstream slopes that maintain structural stability during low pool of the adjacent water body or sudden drawdown of the adjacent water body.
 - (2) The periodic assessment described in paragraph (D)(1) of this rule shall identify any structural stability deficiencies associated with the CCR unit in addition to recommending corrective measures. If a deficiency or a release is identified during the periodic assessment, the owner or operator unit shall remedy the deficiency or release as soon as feasible and prepare documentation detailing the corrective measures taken.
 - (3) The owner or operator of the CCR unit shall obtain a certification from a qualified professional engineer stating that the initial assessment and each subsequent periodic assessment was conducted in accordance with the requirements of this rule.
- (E) Periodic safety factor assessments.
- (1) The owner or operator shall conduct an initial and periodic safety factor assessments for each CCR unit and document whether the calculated factors of safety for each CCR unit achieve the minimum safety factors specified in paragraphs (E)(1)(a) to (E)(1)(d) of this rule for the critical cross-section of the embankment. The critical cross-section is the cross-section anticipated to be the most susceptible of all cross-sections to structural failure based on appropriate engineering considerations, including loading conditions. The safety factor assessments shall be supported by appropriate engineering calculations.
 - (a) The calculated static factor of safety under the long-term, maximum storage pool loading condition shall equal or exceed 1.50.



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(b) The calculated static factor of safety under the maximum surcharge pool loading condition shall equal or exceed 1.40.

(c) The calculated seismic factor of safety shall equal or exceed 1.00.

(d) For dikes constructed of soils that have susceptibility to liquefaction, the calculated liquefaction factor of safety shall equal or exceed 1.20.

(2) The owner or operator of the CCR unit shall obtain a certification from a qualified professional engineer stating that the initial assessment and each subsequent periodic assessment specified in paragraph (E)(1) of this rule meets the requirements of this rule.

(F) Timeframes for periodic assessments.

(1) Initial assessments. Except as provided by paragraph (F)(2) of this rule, the owner or operator of the CCR unit shall complete the initial assessments required by paragraphs (A)(2), (D), and (E) of this rule not later than October 17, 2016. The owner or operator has completed an initial assessment when the owner or operator has placed the assessment required by paragraphs (A)(2), (D), and (E) of this rule in the facility's operating record as required by paragraphs (F) (5), (F)(10), and (F)(12) of rule 3745-525-50 of the Administrative Code.

(2) Use of a previously completed assessment in lieu of the initial assessment. The owner or operator of the CCR unit may elect to use a previously completed assessment to serve as the initial assessment required by paragraphs (A)(2), (D), and (E) of this rule provided that the previously completed assessment is as follows:

(a) Was completed no earlier than forty-two months prior to October 17, 2016.

(b) Meets the applicable requirements of paragraphs (A)(2), (D), and (E) of this rule.

(3) Frequency for conducting periodic assessments. The owner or operator of the CCR unit shall conduct and complete the assessments required by paragraphs (A)(2), (D), and (E) of this rule every five years. The date of completing the initial assessment is the basis for establishing the deadline to complete the first subsequent assessment. If the owner or operator elects to use a previously completed assessment in lieu of the initial assessment as provided by paragraph (F)(2) of this rule, the date of the report for the previously completed assessment is the basis for establishing the deadline to complete the first subsequent assessment. The owner or operator may complete any required assessment prior to the required deadline provided



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the owner or operator places the completed assessment into the facility's operating record within a reasonable amount of time. In all cases, the deadline for completing subsequent assessments is based on the date of completing the previous assessment. For purposes of this paragraph, the owner or operator has completed an assessment when the relevant assessment required by paragraphs (A)(2), (D), and (E) of this rule has been placed in the facility's operating record as required by paragraphs (F)(5), (F)(10), and (F)(12) of rule 3745-525-50 of the Administrative Code.

- (4) Closure of the CCR unit. An owner or operator of a CCR unit who either fails to complete a timely safety factor assessment or fails to demonstrate minimum safety factors as required by paragraph (E) of this rule is subject to the requirements of paragraph (B)(2) of rule 3745-525-710 of the Administrative Code.
- (G) The owner or operator of the CCR unit shall comply with the recordkeeping requirements specified in paragraph (F) of rule 3745-525-50 of the Administrative Code, the notification requirements specified in paragraph (F) of rule 3745-525-60 of the Administrative Code, and the internet requirements specified in paragraph (F) of rule 3745-525-70 of the Administrative Code.