



Ohio Administrative Code

Rule 3745-54-19 Construction quality assurance (CQA) program.

Effective: December 7, 2004

(A) CQA program.

(1) A CQA program is required for all surface impoundment, waste pile, and landfill units that are required to comply with paragraphs (C) and (D) of rule 3745-56-21, paragraphs (C) and (D) of rule 3745-56-51, and paragraphs (C) and (D) of rule 3745-57-03 of the Administrative Code. The program must ensure that the constructed unit meets or exceeds all design criteria and specifications in the permit. The program must be developed and implemented under the direction of a CQA officer who is a registered professional engineer.

(2) The CQA program must address the following physical components, where applicable:

(a) Foundations;

(b) Dikes;

(c) Low-permeability soil liners;

(d) Geomembranes (flexible membrane liners);

(e) Leachate collection and removal systems and leak detection systems; and

(f) Final cover systems.

(B) Written CQA plan. The owner or operator of units subject to the CQA program under paragraph (A) of this rule must develop and implement a written CQA plan. The plan must identify steps that will be used to monitor and document the quality of materials and the condition and manner of their installation. The CQA plan must include:



- (1) Identification of applicable units, and a description of how they will be constructed.
 - (2) Identification of key personnel in the development and implementation of the CQA plan, and CQA officer qualifications.
 - (3) A description of inspection and sampling activities for all unit components identified in paragraph (A)(2) of this rule, including observations and tests that will be used before, during, and after construction to ensure that the construction materials and the installed unit components meet the design specifications. The description must cover:
 - (a) Sampling size and locations;
 - (b) Frequency of testing;
 - (c) Data evaluation procedures;
 - (d) Acceptance and rejection criteria for construction materials;
 - (e) Plans for implementing corrective measures; and
 - (f) Data or other information to be recorded and retained in the operating record under rule 3745-54-73 of the Administrative Code.
- (C) Contents of program.
- (1) The CQA program must include observations, inspections, tests, and measurements sufficient to ensure:
 - (a) Structural stability and integrity of all components of the unit identified in paragraph (A)(2) of this rule;
 - (b) Proper construction of all components of the liners, leachate collection and removal system, leak detection system, and final cover system, according to permit specifications and good engineering



practices, and proper installation of all components (e.g., pipes) according to design specifications;

(c) Conformity of all materials used with design and other material specifications under rules 3745-56-21, 3745-56-51, and 3745-57-03 of the Administrative Code.

(2) The CQA program must include test fills for compacted soil liners, using the same compaction methods as in the full scale unit, to ensure that the liners are constructed to meet the hydraulic conductivity requirements of paragraph (C)(1)(a)(ii) of rule 3745-56-21, paragraph (C)(1)(a)(ii) of rule 3745-56-51, and paragraph (C)(1)(a)(ii) of rule 3745-57-03 of the Administrative Code in the field. Compliance with the hydraulic conductivity requirements must be verified by using in-situ testing on the constructed test fill. The director may accept an alternative demonstration, in lieu of a test fill, where data are sufficient to show that a constructed soil liner will meet the hydraulic conductivity requirements of paragraph (C)(1)(a)(ii) of rule 3745-56-21, paragraph (C)(1)(a)(ii) of rule 3745-56-51, and paragraph (C)(1)(a)(ii) of rule 3745-57-03 of the Administrative Code in the field.

(D) Certification. Waste must not be received in a unit subject to this rule until the owner or operator has submitted to the director by certified mail or hand delivery a certification signed by the CQA officer that the approved CQA plan has been successfully carried out and that the unit meets the requirements of paragraph (C) or (D) of rule 3745-56-21, paragraph (C) or (D) of rule 3745-56-51, or paragraph (C) or (D) of rule 3745-57-03 of the Administrative Code; and the procedure in paragraph (L)(2)(b) of rule 3745-50-58 of the Administrative Code has been completed. Documentation supporting the CQA officer's certification must be furnished to the director upon request.