

Sec. 22a-409-2. Dam safety inspection and classification

(a) Classification of Dams.

(1) The commissioner shall assign each dam to one of five classes according to the potential impacts of a dam failure. The factors used to evaluate and assign a hazard potential are the physical characteristics of the dam, such as the dam height and capacity of the impoundment, the location of the dam, the areas impacted by a failure of the dam, and potential damage to property, infrastructure, or threat to human life as described below:

(A) A Class AA dam is a negligible hazard potential dam which, if it were to fail, would result in the following:

- (i) no measurable damage to roadways;
- (ii) no measurable damage to land and structures; and
- (iii) negligible economic loss.

(B) A Class A dam is a low hazard potential dam which, if it were to fail, would result in any of the following:

- (i) damage to agricultural land;
- (ii) damage to unpaved local roadways; or
- (iii) minimal economic loss.

(C) A Class BB dam is a moderate hazard potential dam which, if it were to fail, would result in any of the following:

- (i) damage to normally unoccupied storage structures;
- (ii) damage to paved local roadways; or
- (iii) moderate economic loss.

(D) A Class B dam is a significant hazard potential dam which, if it were to fail, would result in any of the following:

- (i) possible loss of life;
- (ii) minor damage to habitable structures, residences, including, but not limited to, industrial or commercial buildings, hospitals, convalescent homes, or schools;
- (iii) damage to local utility facilities including water supply, sewage treatment plants, fuel storage facilities, power plants, cable or telephone infrastructure, causing localized interruption of these services;
- (iv) damage to collector roadways and railroads; or
- (v) significant economic loss.

(E) A Class C dam is a high hazard potential dam which, if it were to fail, would result in any of the following:

- (i) probable loss of life;
- (ii) major damage to habitable structures, residences, including, but not limited to, industrial or commercial buildings, hospitals, convalescent homes, or schools;
- (iii) damage to major utility facilities, including public water supply, sewage treatment plants, fuel storage facilities, power plants, or electrical substations causing widespread interruption of these services;
- (iv) damage to arterial roadways; or
- (v) Great economic loss.

(2) The classification of a Class A, BB, B, and C dam shall be reviewed during each regulatory inspection.

(3) Dams shall be subject to reclassification at any time the commissioner determines that the hazard potential of the dam has changed.

(4) The dam owner may submit a request to change the hazard classification assigned to the owner's dam based on an analysis submitted to the commissioner that supports the reclassification. Recommendations made by the owner to reclassify the owner's dam shall be subject to review and approval by the commissioner.

(5) Where a dam is so located that its failure would likely cause a downstream dam to fail, the hazard classification of such dam shall be at least as great as that of the downstream dam.

(6) Potential damage to habitable structures shall be considered minor when habitable structures are not within the direct path of the probable flood wave produced upon failure of a dam and when such structures will experience the lower of the following elevations:

(A) No more than 1.5 feet of rise of flood water above the lowest ground elevation adjacent to the outside foundation walls; or

(B) No more than 1.5 feet of rise of flood water above the lowest habitable floor elevation of the structure.

(b) **Regulatory Inspections - Applicability.** The owner of a dam classified by the commissioner as Class C, B, BB, or A in accordance with subsection (a) of this section shall ensure a regulatory inspection is conducted for such dam in accordance with the requirements of this section except dams owned or regulated by the United States or its instrumentalities that are visually inspected on a regular basis in accordance with applicable federal requirements to the satisfaction of the commissioner:

(1) If the commissioner determines that a dam classified as AA poses a unique hazard, the commissioner may require its owner to conduct a regulatory inspection in accordance with this section except dams owned or regulated by the United States or its instrumentalities that are visually inspected on a regular basis in accordance with applicable federal requirements to the satisfaction of the commissioner.

(2) The state and each political subdivision of the state shall conduct a regulatory inspection of each dam owned by the state or such political subdivision, respectively

(c) **Regulatory Inspection Procedures.** All regulatory inspections shall be conducted by a professional engineer and use a standard dam inspection form and instructions that direct the proper use of the form. Both the inspection form and the instructions shall be developed by the commissioner and based upon accepted standards of visual dam inspection.

(1) Each regulatory inspection shall consist of, but not be limited to, the following:

(A) Visual inspection of the dam, its appurtenances, abutments, downstream toe and all other areas which could affect the safety of the dam. In addition, inspection and operation of mechanical systems, and inspection of the abutments downstream, the components of the dam which are under water during normal operation, or the interior of outlet conduits shall be made if deemed necessary by a professional engineer to more completely assess the condition of the dam;

(B) Review of all available file data related to the design, construction, post construction investigations, operation, maintenance and performance of the structure. This review shall supplement the visual inspection and aid in determining if additional analysis is required;

(C) Observation of the nature and extent of downstream development which would be subject to inundation in the event of a dam breach for purposes of assessing the potential hazard which the dam poses;

(D) Evaluation of the operation, maintenance and inspection procedures employed by the owner; and

(E) Evaluation of any other conditions which constitute or could constitute a hazard to the integrity of the structure.

(2) The professional engineer shall prepare a written report using a form prescribed by the commissioner detailing the findings of the regulatory inspection which shall include, but not be limited to, the following:

(A) An assessment of the condition of the structure based on the visual observations, available file data related to the design, construction, post construction investigations, operation, maintenance and performance of the dam, and

(B) Recommendations, if any are required as a result of the inspection and assessment, for:

(i) emergency measures or actions, if required to assure the immediate safety of the structure;

(ii) remedial measures and actions related to design, construction, operation, maintenance and inspection of the structure ;

(iii) additional detailed studies, investigations and analyses;

(iv) time periods appropriate for implementing the actions recommended in accordance with clauses (i), (ii), and (iii) of this subparagraph;

(v) routine maintenance and inspection by the owner,

(vi) a hydrologic and hydraulic analysis based on file data, visual observations, or information provided by the owner that indicates the capacity of the spillway is insufficient to safely pass the spillway design flood, or, at a minimum, the 100-year flood, if required; and

(vii) a stability analysis based on file data, visual observations, or information provided by the owner that indicates the stability of the dam may be structurally unsound under normal or extreme loading conditions.

(3) The owner shall furnish a copy of the written report to the commissioner not later than 30 days from the date he or she receives the report, but no later than March 15th of the year following the year the owner received the notification letter sent by the commissioner in accordance with section 22a-409(c) of the Connecticut General Statutes.

(A) Not later than thirty (30) days of receipt of a written request from the commissioner to perform recommended maintenance or repairs on the dam, the owner shall inform the commissioner in writing of the owner's schedule of implementation of any required recommendations. The commissioner's recommendations shall be based on the commissioner's review of the submitted inspection report and recommendations made by the owner's professional engineer contained in the report; and

(B) A copy of the report shall be kept on file with the records of the commissioner pertaining to dam safety.

(d) Inspection Schedule.

A dam owner shall ensure a regulatory inspection is conducted as required by subsection

(b) of this section according to the following inspection schedule:

<i>Hazard Class</i>	<i>Inspection Schedule</i>
Class A (low)	every 10 years
Class BB (moderate)	every 7 years
Class B (significant)	every 5 years
Class C (high)	every 2 years

(e) Fees for Inspection by the State.

(1) In the event the commissioner conducts a regulatory inspection of an owner's dam because such owner failed to do so, as required by subsection (b) of this section, such owner shall pay an inspection fee to cover the cost to the state for conducting the regulatory inspection. Any invoice for such fee shall be paid in accordance with the instructions on the invoice.

(2) The fee for each regulatory inspection made by the State of an owner's dam shall be \$3000.00.

(3) The commissioner shall waive the regulatory inspection fee for any dam which is owned by the State of Connecticut.

(f) Responsibility of the Owner.

(1) The requirement to ensure a regulatory inspection is conducted by a professional engineer does not relieve an owner of a dam of other legal duties, obligations or liabilities incidental to the ownership or operation of a dam.

(2) In addition to the regulatory inspections required by this section, the owner or operator shall inspect the dam on a regular basis to assure that no unsafe conditions are developing including, but not limited to, weather related damage, animal activity or vandalism. Class B and Class C dams shall be inspected by the owner or operator at least quarterly. Class BB dams shall be inspected by the owner or operator at least annually. Class A dams shall be inspected by the owner or operator at least every two years. A written record of said inspections shall be maintained by the owner or operator and be made available to the commissioner upon request.

(3) The owner or operator shall inspect the dam during and after the occurrence of major flood events to assure that the structure is withstanding the flood waters safely.

(4) The owner or operator shall fully and promptly advise the commissioner of any sudden or unpredicted floods, unusual circumstances or major changes in the condition of the dam.

(5) The owner or operator shall report to the commissioner any major damage which the dam has suffered, such as, overtopping by flood waters, erosion of the spillway discharge channel and any major problems which are observed to have developed, such as, new seepage or a significant increase in seepage quantities, settling, cracking or movement of the embankment or any component of the dam.

(6) To facilitate visual inspection during the intervals between regulatory inspections, the dam owner shall be required to maintain the structure and adjacent area free of brush and tree growth.

(A) Brush and tree growth shall be cleared from embankments and within twenty-five

(25) feet of the upstream and downstream toe and the abutment embankment contact; and

(B) Grass on earthen embankment dams shall be established and maintained.

(7) The owner shall maintain a written record of all inspections and maintenance work performed. This record shall include observations made regarding areas of concern on the structure and descriptions of the major and minor repairs performed and materials utilized.

(g) **Inspection by the Commissioner.**

(1) The commissioner may enter upon private property at any time to investigate or inspect any dam for any reason, including, but not limited to, the following: the auditing of regulatory inspection reports, failure of the owner to conduct a regulatory inspection, to investigate a complaint, or as determined necessary after a flood event.

(2) Any inspection conducted by the commissioner in accordance with this subsection, including a regulatory inspection, shall be performed by a professional engineer or personnel of the DEEP Dam Safety Program with technical training in the inspection of dams and under the supervision of a professional engineer.

(Effective April 30, 1987; Amended February 3, 2016)