

Dam Safety Regulations
Proposed Additions and Amendments to Rules and Regulations

6 NYCRR PART 673

Due to the extensive rewriting of these regulations, for ease of reading, underlining and brackets were not used to indicate changes.

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(Statutory authority: Environmental Conservation Law, Article 1, Title 3, '3-0301 [2][aa] and [m]; Article 15, Title 5, " 15-0503, 15-0507, 15-0511, and 15-0516)

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Historical Note

Part ("673.1-673.7) filed Dec.10, 1985 eff. 30 days after filing.

· 673.1 Definitions.

(a) *Appurtenant works* means structures or materials built or maintained in connection with dams. They may include, but are not limited to, such structures as spillways, low level outlet works and conduits.

(b) *Auxiliary Spillway* means a secondary spillway designed to operate only during large floods.

(c) *Breach* means to construct a channel through or around a dam.

(d) *Chief Executive Officer* means the mayor of a village or city; the supervisor of a town; the county executive; the chairperson of a county legislature; or the chairperson of the county board of supervisors.

(e) *Commissioner* means the Commissioner of Environmental Conservation or a duly authorized representative.

(f) *Construct* means to build. Dam construction includes erection, repairs, reconstruction, breaching, and removal but does not include ordinary maintenance activities.

(g) *Construction emergency* means damage to, an imminent danger of failure of, or the malfunction of buildings, structures or property caused by a sudden and unexpected occurrence which involves a pressing necessity for immediate repair, reconstruction or maintenance in order to permit the safe continuation of necessary public use or function, or to protect the property of the State of New York, or the life, health or safety of any person.

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(h) *Dam* means any artificial barrier, including any earthen barrier, together with its appurtenant works, which impounds or will impound waters.

(i) *Dam break analysis* is an analytical method for predicting downstream flooding from a dam failure.

(j) *Dam owner* means any person or local public corporation who owns, erects, reconstructs, repairs, maintains, operates, or uses a dam.

(k) *Department* means the Department of Environmental Conservation.

(l) *Emergency* means a natural or human-made event which presents an immediate threat to life, health, property or natural resources.

(m) *Emergency Action Plan* means a written plan of procedures to prevent or mitigate the adverse consequences of a dam failure. The Emergency Action Plan shall include but not be limited to a notification plan; emergency detection and evaluation; preparedness; inundation maps or other acceptable description of the potential inundation area; provisions for exercising and updating the plan; and other provisions the department deems necessary.

(n) *Engineer* means an individual who:

(1) is a professional engineer currently licensed to practice;

(2) is competent in areas related to dam investigation, design, construction, and operation for the type of dam being investigated, designed, constructed or operated;

(3) understands adverse dam incidents, failures and the potential causes and consequences of failures; and

(4) for any project involving a Class C dam, as described in Part 673.5(b), has at least 10 years of relevant experience in areas such as investigation, design, construction, reconstruction, repair, maintenance, operation, breach, or removal of dams.

(o) *Environmental Conservation Law (ECL)* means the New York State Environmental Conservation Law.

(p) *Erect* means to construct a new dam.

(q) *Farm pond dam* means a Class A dam, as described in Part 673.5(b)(1), that creates a pond for the purpose of soil conservation, propagation of fish, irrigation, watering of livestock, maintenance of wildlife or general farm use and erected upon lands devoted to farming or wildlife habitat enhancement.

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(r) *Financial Assurance* means a demonstration by a dam owner of alternatives or combinations of alternatives of liability insurance or annuities, self-insurance, trust funds, certificates of deposit, surety or performance bonds, letters of credit, or guarantees provided by corporate or other legal or financial affiliates of a dam owner acceptable to the department for the purpose of assuring that dam erection, reconstruction, repair, breach or removal can be done if necessary.

(s) *Height* is the vertical dimension from the downstream toe of a dam at its lowest point to the top of a dam.

(t) *Inundation area* means the area which would likely be flooded following a dam failure. The inundation area may be determined analytically through a dam break analysis.

(u) *Local public corporation* means any “municipal corporation” or “district corporation.”

(v) *Maximum impoundment capacity* is the volume of water that is impounded when the water level is at the top of a dam.

(w) *Operation and Maintenance Plan* means a written plan of procedures to conduct routine activities involved in the upkeep of a dam.

(x) *Person* means any individual, public or private corporation, political subdivision, government agency other than the State, municipality, industry, partnership, association, firm, trust, estate, successors, assigns, heirs, or any other legal entity.

(y) *Reconstruction* of a dam means the removal of an existing or breached dam, and construction of a new dam.

(z) *Removal* means completely eliminating a dam embankment or structure to the approximate original topographic contours.

(aa) *Repairs* means only such alterations or changes to existing dam and appurtenant structures as may directly affect the safety of the dam. Repairs may include such work that may affect structural integrity or function, change the spillway elevations, or modify the spillway capacity. Repairs are beyond ordinary maintenance.

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· 673.2 Applicability.

This Part applies to all dams, except as otherwise noted. Failure to operate and maintain a dam and all appurtenant structures in a safe condition, as determined by the department; to perform work in accordance with permit conditions; or to comply with any part of these regulations, is a violation of ECL §15-0507 and ECL §15-0511 and this Part. The department may pursue enforcement actions against a dam owner for such violations.

· 673.3 General provisions.

No action shall be brought against the department or its agents for the recovery of damages caused by the partial or total failure of any dam or through the operation of any dam upon the ground that the department is liable by virtue of any of the following:

- (a) The approval of the application, plans or specifications for any dam project.
- (b) The issuance or enforcement of any administrative or judicial orders relative to maintenance or operation of a dam.
- (c) Control, regulation, and/or inspection of a dam.
- (d) Measures taken to protect against dam failure during an emergency.
- (e) Measures taken to address a dam failure during or immediately after an emergency.

· 673.4 Permitting Dam Projects.

Regulations pertaining to permitting dam projects are set forth in Part 608 of this title, Use and Protection of Waters. Dams meeting the following height and capacity thresholds are required to obtain a permit for construction, reconstruction, repair, breach, or removal:

- (a) a height equal to or greater than 15 feet, or
- (b) a maximum impoundment capacity equal to or greater than three million gallons.
- (c) Exempt from dam safety permitting requirements are:
 - (1) any dam with a height equal to or less than six feet, regardless of capacity;
 - (2) any dam with an impoundment capacity less than or equal to one million gallons, regardless of height; and
 - (3) ordinary maintenance activities for a dam or its appurtenant works.

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· 673.5 Hazard classification.

(a) The department may assign a hazard classification to dams according to the potential impacts of a dam failure. The factors used to assess a hazard classification are:

(1) the height of the dam and the maximum impoundment capacity;

(2) the potential for loss of human life;

(3) the physical characteristics of the dam site and the location of developed areas, occupied buildings or other land improvement in the area which would be affected by a failure of the dam;

(4) the economic loss which could result from failure of the dam;

(5) the environmental damage which could result from a failure of the dam; and

(6) other site-specific characteristics which the department determines are necessary to consider.

(b) The hazard classifications are as follows:

(1) Class A dams are located in areas where failure will damage nothing more than isolated buildings, undeveloped lands, or town or county roads and/or will cause no substantial economic loss or substantial environmental damage. Class A dams are considered to be Low Hazard dams.

(2) Class B dams are located in areas where failure may damage isolated homes, main highways, minor railroads, interrupt the use of relatively important public utilities and/or will cause substantial economic loss or substantial environmental damage. Class B dams are considered to be Intermediate Hazard dams.

(3) Class C dams are located in areas where failure may cause loss of human life, substantial damage to homes, industrial or commercial buildings, important public utilities, main highways or railroads and/or will cause extensive economic loss. Class C dams are considered to be High Hazard dams.

(4) Class D dams are either breached or failed dams, or dams which were planned but never constructed. Class D dams are considered to be defunct dams posing negligible or no hazard. The department may retain any pertinent records.

(c) The department may make changes to a dam's hazard classification as necessary at any time to accurately portray the potential impacts of dam failure.

(d) A dam owner may request a review of the hazard classification. The dam owner must

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provide documentation to the department, such as results of a dam break analysis, inundation mapping, and any other information as determined by the department which supports changing the hazard classification.

· 673.6 Dam owner responsibilities.

(a) General

(1) Dam owners shall keep available and in good order all available records of original and any modifications to the dam's design and construction, all inspection reports, a current operation and maintenance plan pursuant to 673.6(b), and for Class B and C dams, a current Emergency Action Plan pursuant to 673.6(c). Owners of Class C dams shall keep all records related to financial assurance determination.

(2) The department may request copies of any records required to be kept by the owner. Dam owners shall furnish copies of the records to the department, at the dam owner's sole expense and within a reasonable time as set forth in the department's request.

(3) All Class A dam owners shall retain an engineer, at the dam owner's sole expense, to verify that the hazard classification assigned by the department, in accordance with 673.5(a) and (b), remains valid. Farm pond dam owners may retain an engineer or a conservationist employed by a government agency, cooperating with a New York State Soil and Water Conservation District, to perform the hazard class verification.

(i) The hazard class verification shall be conducted at a minimum frequency of every 10 years or as otherwise directed by the department.

(ii) The dam owner shall submit to the department, the engineer's observations and/or engineering calculations supporting the existing hazard classification or suggesting an alternative hazard classification.

(iii) Within five years of the effective date of this regulation, Class A dam owners shall submit the engineer's or conservationist's hazard classification verification to the department.

(4) Class B and C dam owners shall submit an annual certification, in a form prescribed by the department, to the department by January 31 of each year. Class B and C dam owners shall certify ownership; that Operation and Maintenance Plans are current and being implemented; and that Emergency Action Plans are current. Any pages updating the Emergency Action Plan shall be included with the annual certification statement. The reports must be signed as follows:

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(i) For a corporation:

(‘a’) by a responsible corporate officer. A responsible corporate officer means: a president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making function for the corporation; or

(‘b’) the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having annual sales or expenditures exceeding \$25 million, if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures, or

(ii) For a partnership, by a general partner; or

(iii) For a municipality, federal, or other government agency other than the State: by either the chief executive officer or ranking elected official. A principal executive officer of a federal agency includes:

(‘a’) the chief executive officer of the municipality, agency, or

(‘b’) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

(iv) For any other legal entity, by a duly authorized representative of that entity.

(b) Operation and Maintenance.

(1) Dam owners shall at all times operate and maintain the dam and all appurtenant works in a safe condition.

(2) Owners of any Class A dams above the permitting thresholds in Part 673.4, as well as owners of Class B dams and Class C dams, must develop and fully implement a written Operation and Maintenance Plan. This plan shall include detailed descriptions of all operation, monitoring, inspection, maintenance and notification procedures, as well as any additional requirements specified by the department. The Operation and Maintenance Plan shall be retained by the dam owner, kept in good order, and updated as necessary to reflect current conditions. The Operation and Maintenance Plan shall be made available to the Department upon request.

(3) Class B and Class C dam owners shall notify the department in writing, in a format acceptable to the department, within five days of any flow in the auxiliary spillway.

(c) Emergency Action.

(1) A dam owner has the primary responsibility for determining when an emergency

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involving the dam exists. The department retains the authority to determine and declare a construction emergency if an owner fails to do so, and to take any necessary actions to protect life, limb, property, public health or safety, or essential services, in accordance with ECL §3-0301. The entire cost expended to alleviate any unsafe conditions, as determined by the Department, shall be charged against the dam owner in accordance with ECL §15-0507 or ECL §15-0511, unless the Department approves other arrangements to repay the total or a portion of the total costs. The department may also assert any other rights of recovery as may exist by law for such costs and expenses incurred.

(2) Within 12 months of the effective date of these regulations, all Class B and Class C dam owners shall develop and submit an Emergency Action Plan to the department, the State Emergency Management Office, and the chief executive officer of the municipality in which the dam is located. The dam owner will also send the Emergency Action Plan to any other municipality in the same county or an adjoining county within the inundation area, upon written request from the municipality's chief executive officer. The dam owner shall retain a copy of the plan, keep the plan in good order, and update the plan at least annually to reflect current conditions.

(3) The department may review, comment, and require changes to any Emergency Action Plan at any time to protect life, property or natural resources.

(4) The dam owner shall immediately activate the Emergency Action Plan when an emergency or potential emergency is determined or declared.

(5) Within five days of activating the Emergency Action Plan, the dam owner shall submit a written incident report to the department, in a format acceptable to the department.

(d) Financial Assurance.

(1) All Class C dam owners shall provide for and demonstrate financial assurance acceptable to the department, to assure that funds will be available to allow any necessary actions to be taken to protect life, property or natural resources during the lifetime of the dam. The amount of financial assurance shall include:

- (i) the cost of all labor and materials;
- (ii) the cost of preliminary investigations and surveys;
- (iii) the cost of construction plans;
- (iv) the cost of environmental mitigation associated with any of the actions taken; and
- (v) any other appropriate cost as determined by the department.

(2) Within 12 months of the effective date of these regulations, all owners of existing

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Class C dams shall demonstrate financial assurance to the department's satisfaction.

(3) The financial assurance demonstration shall be updated annually or as otherwise determined by the department.

(e) Property Transfer.

(1) Dam owners shall inform all prospective buyers, heirs, assignees and successors, that a dam exists on the property. Upon transfer of the property, the owner of a dam must convey to the new dam owner at closing all records subject to the recordkeeping requirements in 673.6(a)(1).

(2) The seller of real property containing a dam shall provide the buyer with a realty disclosure form at or prior to signing the sale contract. The disclosure shall include a narrative description of the dam and appurtenant works, and a survey prepared by a surveyor licensed in the state of New York indicating the location of the dam and its appurtenant works.

(3) Within ten days of property transfer, a new dam owner must submit a completed Real Property Transfer Report Form to the department and the local municipality. Failure to provide the department with a fully completed Real Property Transfer Report Form within 10 days is a violation of the Environmental Conservation Law.

(4) Class C dam owners are required to submit proof of financial assurance as outlined in 673.6(d) to the department within 10 days of the real estate closing.

• 673.7 Inspection Process.

(a) Role of the Dam Owner.

(1) All dam owners shall, at all times, be responsible for the safety of the dam and all appurtenant works including operation, maintenance, and periodic inspection.

(2) All Class B and Class C dam owners shall retain, at the dam owner's sole expense, an engineer to perform periodic dam safety inspections and engineering assessments.

(i) Dam safety inspections are required at the following minimum frequency: Class C dams, every 2 years, Class B dams, every 4 years.

(ii) Engineering assessments are required at a minimum frequency of 10 years. Within three years of the effective date of these regulations, the owners of Class C dams shall submit the first engineering assessment to the department. Within five years of the effective date

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of these regulations, the owners of Class B dams shall submit the first engineering assessment to the department.

(iii) In those years when an engineering assessment is performed, a dam safety inspection will not be required.

(3) The engineer conducting a dam safety inspection shall prepare a written report which includes but is not limited to:

(i) A review of all documents, studies, plans, hazard classifications, photos, or any other information related to the dam and its appurtenant works. This shall include a review of the Operation and Maintenance Plan, previous inspection reports, and the Emergency Action Plan.

(ii) A visual inspection of the dam including the embankment, spillway, outlet, and appurtenant structures at the time of inspection. Specific attention shall be placed on addressing conditions reported in previous reports as well as any work required by the department. The report should include dated photographs of specific observations and problem areas.

(iii) An evaluation of any instrumentation data.

(iv) Recommendations for any identified deficiencies, including additional investigations such as underwater inspections.

(v) A schedule for any corrective actions required to address identified deficiencies and to assure the safety of the dam. The department may comment on or approve the schedule.

(4) The engineer conducting the engineering assessment shall prepare a written report which shall include but is not limited to the minimum activities required in 673.7(a)(3)(i) through (v), as well as the following:

(i) An evaluation and conclusion as to whether the dam meets current dam safety criteria with respect to spillway capacity and structural stability. Any calculations or computer modeling of the hydrologic, hydraulic, stability and/or structural analysis shall be included with the report.

(ii) A determination if a change in the hazard classification is warranted or if the Emergency Action Plan requires modification due to either changes to the dam or land use changes in the inundation area.

(iii) Identify probable failure modes, as well as a description of field observations of the initial and progressive signs of these failures.

(5) A Class C dam owner shall submit copies of the dam safety inspection report and

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the engineering assessment report to the department. A Class B dam owner shall retain copies of the dam safety inspection report and the engineering assessment report, which shall be made available upon request by the department.

(b) Role of the Department.

(1) The department may make or cause to be made an investigation of any dam, or direct a dam owner to hire an engineer to conduct a dam safety inspection as in 673.7(a)(3), engineering assessment as in 673.7(a)(4) or to conduct additional engineering evaluations of any dam, including confirming dam safety deficiencies presented in a dam owner's engineer's report, or confirming any other information received by the department, to assure adequate protection of public safety, property or natural resources. The department may accept any specifically required reports for farm pond dams from a conservationist employed by a government agency who is cooperating with a New York State Soil and Water Conservation District, or an engineer employed by the department.

(2) Whenever in the judgment of the department public safety requires, the department may at its discretion and without prior notice, enter upon the lands and waters upon which a dam is located to investigate a dam. The department's investigation may include documentation of existing conditions including, but not limited to, photographs or videos.

(3) Within 30 days of the department creating an inspection report for a Class B or Class C dam, the department shall provide a copy of the inspection report to the dam owner and chief executive officer of the municipality in which the dam is located. The department will also provide a copy of the inspection report to a chief executive officer from any other municipality in the same county or from an adjoining county but within the inundation area, upon written request from the chief executive officer.

(4) The department may accept reports prepared by federal agencies in lieu of the reports of inspections and assessments required in 673.7(a)(2).

• 673.8 Hearings and Enforcement.

(a) In addition to the power to issue a summary abatement order pursuant to ECL §71-0301, the department shall have the power, whenever in the judgment of the department it may be necessary to protect life, property or natural resources, after hearing on due notice, to issue an order, setting forth the findings of fact and conclusions there from, directing any owner:

(1) to conduct studies, investigations and analyses necessary to evaluate the safety of the structure, including but not limited to visual inspections, measurements, foundation exploration and testing, materials testing, hydraulic and hydrologic analyses, structural stability analyses and seepage investigations; and

(2) to either remove the said structure or to erect, reconstruct or repair the same within such reasonable time and in such manner as shall be specified in said order. It shall be the duty

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of every such owner to obey, observe and comply with such order and with the conditions therein prescribed. The administrative procedures within the provisions of Part 622 of this Title and Title 9 of Article 15 shall be applicable to hearings brought under this Part.

(b) It shall be unlawful for any owner to fail, omit or neglect to comply with an order under 673.8(a) within a reasonable time as designated by the department.

(1) Upon the violation of any such order, the department shall have power to enter upon the lands and waters where such structures are located for the purpose of removing, repairing or reconstructing the same and to take such other and further precautions which may be deemed necessary to safeguard life or property or protect the natural resources of the state against danger occasioned by the presence of such structures. In removing, repairing and reconstructing such structures or other properties so affected the department shall make all efforts to not deviate from the method, manner and specifications contained in the original order.

(2) The department shall certify the amount of the costs and expenses incurred by the department and any state departments for the removal, repair, or reconstruction aforesaid in any way connected therewith to the county legislative body of the county or counties in which the said lands and waters are located. Upon the submission of costs by the department, it shall be the duty of such county legislative body of each county to add the amount so certified to the assessment rolls of such locality or localities as a charge against the real property upon which the dam is located, designated or described by the department as chargeable therewith, and to issue its warrant or warrants for the collection thereof. Thereupon it shall become the duty of such locality or localities through their proper officers to collect the amount so certified in the same manner as other taxes are collected in such locality or localities and when collected to pay the same to the department, who shall thereupon, pay the same into the State Treasury. Any amount so levied shall thereupon become and be a lien upon the real property affected thereby to the same extent as any tax levy becomes and is a lien thereon. The department may also assert any other rights of recovery as may exist by law for such costs and expenses incurred.

(c) In the case of continuing violation of any regulation contained in this Part, each day's continuance is deemed a separate and distinct offense and is subject to separate enforcement actions and penalties.

(d) Each violation of an order issued under this Part is a separate offense. In the case of continuing violations, each day's continuance is deemed a separate and distinct offense and is subject to separate enforcement actions and penalties.

(e) Nothing in this Part precludes the commissioner from issuing a summary abatement order pursuant to ECL §71-0301, and Parts 620 and 622 of this Title, whenever the commissioner finds that any person is causing, engaging in or maintaining a condition or activity

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which presents an imminent danger to the health or welfare of the people of the State, or results in or is likely to result in irreversible or irreparable damage to natural resources.

(f) Nothing in this Part precludes the commissioner from exercising the department's authority pursuant to ECL 3-0301(2)(aa) for a construction emergency related to a dam, whenever the commissioner finds that a dam presents an imminent danger of failure, in order to protect life, property or natural resources.