

**STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF COMPLIANCE AND INSPECTION**

**Rules and Regulations for
Dam Safety**



December 2007

AUTHORITY: These regulations are adopted pursuant to Chapters 42-17.1, 42-17.6, 42-35, and 46-19 of the Rhode Island General Laws of 1956, as amended.

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

RULES AND REGULATIONS FOR DAM SAFETY

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STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

RULES AND REGULATIONS FOR
DAM SAFETY

RULE 1. PURPOSE

The purpose of these Rules and Regulations is to implement the provisions of Chapter 46-19, "Inspection of Dams and Reservoirs" of Rhode Island General Laws (R.I. Gen. Laws) of 1956, as amended and to provide for the safety of dams to protect the public, real property and natural resources by establishing reasonable standards and to create a public record for reviewing the performance of dams.

RULE 2. AUTHORITY

These Rules and Regulations are promulgated pursuant to the requirements and provisions of Chapter 42-17.1, "Department of Environmental Management", Chapter 42-17.6, "Administrative Penalties for Environmental Violations" and Chapter 46-19, "Inspection of Dams and Reservoirs" in accordance with the provisions of Chapter 42-35 "Administrative Procedures Act", of the R.I. Gen. Laws of 1956, as amended.

RULE 3. ADMINISTRATIVE FINDINGS

The following administrative findings are made as a basis for these Rules and Regulations:

- (A) Rhode Island has approximately 674 dams of varying age, size and state of repair;
- (B) Failure or misoperation of high hazard dams or significant hazard dams (both of which represent approximately 30 percent of all dams in the state) will result in a probable loss of human life or cause major economic loss, disruption of lifeline facilities or impact other concerns;
- (C) Investigations of dam failures have found that approximately 60 percent were caused by lack of maintenance, resulting in piping, surface erosion, slope protection damage or deterioration of outlet pipes;
- (D) Many of these dams, both public and private, have not been properly maintained through the years and pose a significant threat to public safety, real property and natural resources;
- (E) Since dam related laws were adopted, the threat to public safety, real property and natural resources has increased due to deterioration of dams and development in downstream areas over which dam owners do not necessarily have control.
- (F) It is in the best interest of the state, the cities and towns of the state, and the citizen's thereof, to maintain a safe dam infrastructure; and
- (G) In order to maintain a safe dam infrastructure, a collaborative effort is required by state and municipal officials, private dam owners and elected officials.

RULE 4. RESPONSIBILITY OF DAM OWNERS

- (A) All owners of high hazard dams and significant hazard dams shall keep their dams and appurtenant works in a safe condition.
- (B) All owners or precedent owners are responsible for liability for damage to property of others or injury to persons, including but not limited to loss of life, resulting by the following of the pond raised by the dam, by the stopping or raising of the water either above or below the dam, by the backing of water or by the flowing out of any fall of water by means of the dam.
- (C) These regulations shall not be interpreted as relieving any owner or person maintaining or having control of a dam from responsibility, or lessening such responsibility, for any damages to persons or property caused by defects, inappropriate operation or inadequate maintenance or as creating liability on the part of the Department or the Director.
- (D) Compliance with these Rules and Regulations does not relieve an owner or person maintaining or having control of a dam of any obligation to comply with any other applicable laws or regulations administered by, through or for the Department or any other government entity.

RULE 5. APPLICATION

- (A) The terms and provisions of these Rules and Regulations shall be liberally construed to permit the Department to effectuate the purposes of state law, goals and policies.
- (B) Nothing in these Rules and Regulations shall be deemed to prohibit a dam owner or person maintaining or having control of a dam, from seeking assistance from a municipality or prohibit a municipality from assisting a dam owner in complying with these Rules and Regulations.

RULE 6. DEFINITIONS

For the purposes of these Rules and Regulations, the following terms shall have the following meanings:

- (A) “**Appurtenant works**” means any ancillary feature of a dam including such structures as dikes, training walls, spillways, either in the dam or separate there from, low level outlet works, and water conduits such as tunnels, channels, pipelines or penstocks, either through the dam or its abutments.
- (B) “**Dam**” means any barrier made by humans, including appurtenant works, that impounds or diverts water.
- (C) “**Department**” means the Department of Environmental Management and may be used interchangeably with Director.
- (D) “**Department dam engineer**” means an individual employed by the Department who possesses a Bachelor of Science degree in engineering and has demonstrated, through a combination of education, experience, and/or training, that he/she is qualified to perform visual inspections.
- (E) “**Detailed investigation**” means all studies, investigations and analyses appropriate to evaluate the structural safety and hydraulic capacity of a dam or reservoir and appurtenant works.

- (F) “**Director**” means the Director of the Department of Environmental Management, or his or her designee and may be used interchangeably with Department.
- (G) “**Embankment**” means the fill material, including but not limited to rock or earth, placed to provide a permanent barrier that impounds water.
- (H) “**Freshwater wetlands**” means those areas as defined in Section 2-1-18, et. seq. of the R.I. Gen. Laws of 1956, as amended, and the Wetlands Regulations.
- (I) “**Hazard classification**” means a rating for a dam that relates to the probable consequences of failure or misoperation of the dam, which is a determination made by the Director based on an assessment of loss of human life, damages to properties or structures located downstream of the reservoir, or loss of use as a drinking water supply. This rating has no relationship to the current condition of the dam. A higher hazard dam does not imply that it is more likely to fail or be misoperated than a lower hazard dam.
- (J) “**Height**” means the vertical distance from the elevation of the uppermost surface of a dam to the lowest point of natural ground, including any stream channel, along the downstream toe of the dam.
- (K) “**High hazard dam**” means a dam where failure or misoperation will result in a probable loss of human life.
- (L) “**Hydraulic**” means the behavior of water relative to the dam. It is the manner in which water in the reservoir is passed over or through the dam, via an outlet such as a spillway or low level outlet.
- (M) “**Hydrologic**” means the volume and speed at which precipitation flows along the earth, combines into streams and discharges into a reservoir.
- (N) “**Lifeline facilities**” means essential facilities, the loss of which can result in indirect threats to life. Lifeline facilities may include hospitals, transportation links (highways, bridges, airports, rail lines, waterways, ports and harbor facilities and emergency evacuation routes), and utility systems (electric power plants, gas and liquid fuel pipelines, telecommunication systems, water supply and waste water treatment facilities).
- (O) “**Low hazard dam**” means a dam where failure or misoperation results in no probable loss of human life and low economic losses.
- (P) “**Maintenance**” means minor work on a dam necessary to maintain the dam in proper working order, including activities such as filling minor erosion areas, mowing or clearing vegetation provided that it does not affect the integrity of the dam, lubricating and exercising equipment and re-pointing masonry areas. Maintenance does not include repair of a dam or substantial alteration of a dam
- (Q) “**Owner**” means the person or persons, including any individual, firm, partnership, association, syndicate, company, trust, corporation, municipality, agency, political or administrative subdivision of the state or any legal entity of any kind holding legal title to a dam.

- (R) “**Person maintaining or having control of a dam**” means the person or persons, including any individual, firm, partnership, association, syndicate, company, trust, corporation, municipality, agency, political or administrative subdivision of the state or any legal entity of any kind having authority to operate or maintain a dam.
- (S) “**Piping**” means the progressive development of internal erosion by seepage through the dam. Piping appears downstream as a hole or a discharging flow of water that includes soil particles from the dam embankment or foundation.
- (T) “**Probable loss of human life**” means loss of human life that is likely to occur, or reasonably or realistically expected. This definition does not include persons who are only incidentally in the potential inundation area downstream of a dam. Examples include walking on the dam, driving on lightly traveled roads on or downstream of the dam and recreating downstream of the dam provided the area is not an established recreational area.
- (U) “**Qualified engineer**” means a professional engineer fully registered in the State of Rhode Island, who is experienced with dam inspection, design, construction and repair.
- (V) “**Registered owner**” means a dam owner who has been issued a certificate of registration by the Department.
- (W) “**Regulated dam**” means a low hazard dam that is six (6) feet or more in height or has fifteen (15) acre-feet or more of storage capacity; or a high hazard dam; or a significant hazard dam. An acre-foot is a unit of volume equal to 43,560 cubic feet or 325,830 gallons (a measure that would cover one acre to a depth of one foot).
- (X) “**Removal**” means the destruction or breaching of a dam to the extent that the dam no longer impounds or diverts water.
- (Y) “**Repair**” means any work performed at a dam that may affect the integrity of the dam, including certain cutting or removal of trees where the resulting decomposition of the tree root system could jeopardize the integrity of the dam, work requiring excavation into the embankment fill or foundation of a dam, work requiring reinforcement of the embankment or work requiring removal or replacement of major structural components of a dam; or any related, new, temporary or permanent access way(s) that may be required within freshwater wetlands.
- (Z) “**Reservoir**” means the body of water that is impounded or diverted by a dam.
- (AA) “**Significant hazard dam**” means a dam where failure or misoperation results in no probable loss of human life but can cause major economic loss, disruption of lifeline facilities or impact other concerns detrimental to the public’s health, safety or welfare. Examples of major economic loss include but are not limited to washout of a state or federal highway, washout of two or more municipal roads, loss of vehicular access to residences, (e.g. a dead end road whereby emergency personnel could no longer access residences beyond the washout area) or damage to a few structures.
- (AB) “**Spillway**” means a structure, a low area in natural grade or any part of the dam which has been designed or relied upon to allow normal flow or major flood flow to pass over or through while being discharged from a reservoir.

- (AC) “**Substantial alteration**” means any physical modification to a dam that results in a permanent change in the water elevation of the reservoir or in water flow downstream of the dam.
- (AD) “**Unsafe dam**” means the condition of a regulated dam, as determined by the Director, is such that an unreasonable risk of failure exists that will result in a probable loss of human life or major economic loss. Among the conditions that would result in this determination are: excessive vegetation that does not allow the Director to perform a complete visual inspection of a dam, excessive seepage or piping, significant erosion problems, inadequate spillway capacity, inadequate capacity and/or condition of control structure(s) or serious structural deficiencies, including movement of the structure or major cracking.
- (AE) “**Visual inspection**” means a visual, technical evaluation of the physical conditions of a dam that affect performance of the structure.
- (AF) “**Wetlands Regulations**” means the “Rules and Regulations Governing the Administration and Enforcement of the Freshwater Wetlands Act”.

RULE 7. PROHIBITIONS

- (A) No repair of a high hazard dam or significant hazard dam shall occur until plans and specifications of the proposed work have been filed with and approved by the Director in accordance with these Rules and Regulations.
- (B) No repair of a low hazard dam shall occur without approval of the Director in accordance with the Wetlands Regulations unless specifically exempted under the Wetlands Regulations.
- (C) No maintenance of a high hazard dam or significant hazard dam shall occur without approval of the Director unless specifically exempted under these Rules and Regulations.
- (D) No maintenance of a low hazard dam shall occur without approval of the Director in accordance with the Wetlands Regulations unless specifically exempted under the Wetlands Regulations.
- (E) No new construction, substantial alteration, or removal of a dam shall occur without approval of the Director.

RULE 8. REGISTRATION AND NOTIFICATION

- (A) The owner of a regulated dam shall file with the Department, within sixty (60) days of promulgation of these Rules and Regulations, a fully completed registration form to be provided by the Director.
- (B) The owner of a regulated dam shall notify the Director and the local municipality’s emergency management authority having jurisdiction, of the transfer of legal title of such dam or a change in the mailing address, telephone number or emergency contact person not later than thirty (30) days after the date of such transfer or change and provide to the Director the new owner, mailing address, telephone number, or emergency contact person.

- (C) The Director, following receipt of a fully completed registration form, shall issue a certificate of registration to the owner of a regulated dam identifying the proper name, registration number and current hazard classification of the dam.
- (D) The owner of a regulated dam, upon written request from the Department, shall make available to the Director, all the existing surveys, plans, drawings and reports related to the dam, in possession of or available to the owner, that may be required by the Director for the purposes of dam safety.
- (E) The owner of a regulated dam, upon written request from the Department, shall prepare all the necessary surveys, plans, drawings and reports related to the dam that may be required by the Director for the purposes of dam safety.

RULE 9. HAZARD CLASSIFICATION

- (A) The Department shall classify each regulated dam in the State as a high hazard dam, significant hazard dam or low hazard dam. The Director shall send a notice of the proposed classification to the registered owner of a dam. The dam owner may contest the proposed classification pursuant to Rule 15 of these Rules and Regulations. The Director shall maintain a list of all classified dams and shall make the list available to the public.
- (B) The Director shall examine each regulated dam as often as he or she shall deem necessary to assess whether the dam warrants reclassification.
- (C) Any person may petition the Director for reclassification of a dam. The petition must be in writing and must include a written report prepared by a qualified engineer that details the findings and analyses that support the engineer's opinion that the dam should be reclassified.

RULE 10. APPROVALS

(A) MAINTENANCE OF A HIGH OR SIGNIFICANT HAZARD DAM

- (1) Maintenance of a high hazard dam or significant hazard dam, except for certain cutting or removal of trees, does not require an approval from the Department. To be exempt from Department approval, the cutting or removal of trees must be limited to those trees with a diameter less than 6 inches (measured 2 feet above the ground level) or that do not affect the integrity of the dam. If trees have a diameter greater than 6 inches (measured 2 feet above the ground level) then the dam owner shall first consult with a qualified engineer who will determine if the cutting or removal could jeopardize the integrity of the dam. The owner shall obtain a written report from the qualified engineer, if the qualified engineer determines that the cutting or removal is not a threat to the integrity of the dam, and keep a copy of the report on file. The report does not have to be filed with the Department. The owner shall file an application for repair of the dam in accordance with these Rules and Regulations if the qualified engineer determines that the cutting or removal is a threat to the integrity of the dam.

Mowing or cutting of vegetation may be performed without an approval from the Department provided it is limited to areas on the dam and adjacent to the dam such that an area does not exceed fifteen (15) feet from the embankment, spillway or low level control structure. All other mowing or cutting of vegetation within freshwater wetlands will require a permit from the Director unless specifically exempted under the Wetlands Regulations. Areas exceeding fifteen (15) feet from the embankment, spillway or low level control structure that have been historically mowed and maintained are specifically exempted under the Wetlands Regulations. These areas can continue to be mowed without a permit from the Director.

- (2) All maintenance activities shall comply with the following:
 - (a) Best management practices for erosion and sediment controls must be used. All controls must be maintained in effective operating condition during the activity, and all exposed soil and other fills must be permanently stabilized at the earliest possible date. (For guidance see *Rhode Island Soil Erosion and Sediment Control Handbook* and *Rhode Island Stormwater Design and Installation Standards Manual*.);
 - (b) All equipment used for maintenance activities shall be removed from any freshwater wetland upon completion of the maintenance project; and
 - (c) All maintenance activities shall be protective of water quality and freshwater wetland functions and values so as to prevent pollutants, sediment, direct discharge of stormwater runoff, or any material foreign to waters of the State including freshwater wetlands, or hazardous to life, from entering any waters of the State including freshwater wetlands.

(B) REPAIR OF A HIGH OR SIGNIFICANT HAZARD DAM

The dam owner must submit an application for repair of a high hazard dam or significant hazard dam directly to the Department's Dam Safety Program. Applications shall be in writing and on a form prescribed by the Director and shall contain such documentation and information as the Director may require, which may include but not be limited to the following:

- (1) A locus map indicating the location of the dam in relation to other fixed infrastructure in the community such as roads, etc.;
- (2) Written justification explaining the need for the work;
- (3) Three (3) sets of plans and specifications for the proposed work, prepared and stamped by a qualified engineer. The Department reserves the right to request additional copies for coordination with other State or federal permitting agencies;
- (4) Plans drawn in sufficient detail to clearly indicate the extent and complexity of the work, including plan, profile and cross section views, along with any new, temporary or permanent access ways;
- (5) Written description of the method of construction;
- (6) Supporting computations and field measurements for all assumptions and design work (hydrologic, hydraulic, structural, geotechnical);
- (7) Criteria and basis for selection of the design;

- (8) Specifications of all material to be used in the repair;
- (9) Estimated construction schedule including commencement and completion of the repairs;
- (10) Amount (estimated vertical, horizontal and areal) and schedule of reservoir drawdown and schedule of reservoir recovery;
- (11) If a temporary water by-pass or diversion is proposed, the dam owner shall provide plans, details and calculations for such by-pass or diversion. The design of the by-pass or diversion shall be capable of accommodating peak flows from a minimum of 95% of all storm events that may be expected to occur within the proposed construction period and contain a contingency provision to safely accommodate a 100-year, 24 hour duration Type III storm event. The design of the by-pass or diversion shall be capable of accommodating, at a minimum, peak flows in accordance with the following table.

Construction Duration	Required Design Storm
up to 3 months	5 year
3 months to 6 months	10 year
6 months to 1 year	20 year
1 year to 2 years	50 year

- (12) Supporting documentation to demonstrate that there is no practicable alternative to the proposed repair that would have less adverse impact on freshwater wetlands, that addresses the impact avoidance and minimization criteria specified in Appendix I. A practicable alternative is defined as one that is “available and capable of being done after taking into consideration cost, existing technology and logistics in light of the overall project purposes”;
- (13) Contact name and telephone number of person(s) responsible for repair; and
- (14) Statement that a record drawing, certified by the qualified engineer responsible for design that the dam was repaired in conformance with the plan approved by the Director, will be provided to the Director upon completion of the work.

The Director shall provide dam owners with written notice for any additional information the Director requires.

(C) EMERGENCY REPAIR OF A HIGH OR SIGNIFICANT HAZARD DAM

The Director may grant verbal approval of an emergency repair consistent with the following requirements:

- (1) Verbal or written request for permission to proceed with an emergency repair must be made by the owner or person maintaining or having control of a dam;
- (2) The request must inform the Department of at least the following:
 - (a) An explanation of the problem necessitating an emergency repair;

- (b) The reason why the problem represents an imminent threat to public safety or real property;
 - (c) The location of the dam on which the repair is required;
 - (d) The proposed actions necessary to correct the problem and complete the repair;
 - (e) The person responsible for overseeing the repair, including means of contact; and
 - (f) The means proposed to restore any wetland areas following the emergency repair that may be required by the Director.
- (3) Any emergency repair undertaken shall not result in a significant alteration of any wetland unless authorized by a permit issued by the Director.
 - (4) Alteration of wetlands shall not exceed work beyond that necessary to abate the emergency;
 - (5) Unless otherwise informed by the Director, the dam owner must submit a report, a record drawing and a permit application to the Department no later than thirty (30) days following the emergency repair. The report must explain the emergency repair undertaken, and the short-term and long-term effects that the emergency repair had on abating the emergency, any wetlands affected, any permanent, significant alteration which resulted from the activity, and all restoration activities undertaken, or which may still be required;
 - (6) The time limitation for performance of an emergency repair shall not exceed ten (10) days following initial approval by the Department unless written approval for an extension is obtained from the Department; and
 - (7) Following submission of the record drawing required above, the applicant is required to comply with any additional activities necessary to prevent significant wetland alterations or to obtain a permit as detailed in writing by the Department.

An emergency repair may be taken by the owner or person maintaining or having control of a dam without prior Department approval in accordance with Rule 12 of these Rules and Regulations. The Department will evaluate the emergency repair to determine if it is consistent with Rule 10(C) of these Rules and Regulations. The Department will consider good faith efforts made by the owner or person maintaining or having control of the dam to obtain prior approval from the Department for the emergency repair.

(D) PROCEDURES FOR REVIEW OF APPLICATIONS

- (1) In consideration of the application, the Department may use, but is not limited to, the criteria, manuals and procedures used by the following agencies:

The United States Army Corps of Engineers;
 The United States Department of Agriculture, Natural Resources Conservation Services;
 The United States Department of Energy, Federal Energy Regulatory Commission;
 The United States Department of Homeland Security, Federal Emergency Management Agency; and
 The United States Department of the Interior, Bureau of Reclamation.

- (2) At any time during the review, the Director may:
- (a) Require that the dam owner provide such information as the Director deems necessary for the review of the application;
 - (b) Issue an approval requiring such terms, conditions, management practices and operation and maintenance requirements as deemed necessary to comply with the requirements of applicable state laws; or
 - (c) Deny the application for failure to satisfy the requirements of applicable laws and advise the dam owner of the right to appeal under Rule 15 of these Rules and Regulations. A denial may be based on, but is not limited to, any of the following:
 - (i) Failure to submit any information required by the department; or
 - (ii) Failure to provide clear and convincing documentation demonstrating, to the satisfaction of the Director, that the project will not violate these Rules and Regulations.

(E) PUBLIC NOTICE

The Director may require the applicant to provide written notice of the planned repair to abutters of the dam and reservoir and to the municipality(s) in which the dam and reservoir are located. In general, an abutter will be limited to a property owner with frontage on the reservoir. The Director may prescribe a form or a format for such notice.

(F) EFFECT OF APPROVAL

- (1) The issuance of an approval mandates compliance with all terms, conditions, management practices and operation and maintenance requirements set forth in the approval.
- (2) The issuance of an approval does not relieve any person of the continuing responsibility to comply with any other applicable federal, state or local law or regulation.
- (3) The issuance of an approval does not relieve any person of the responsibility for obtaining any other necessary permits or approvals from any federal, state, regional, or local agency.
- (4) The issuance of an approval does not authorize any injury to persons or property or invasion of other private rights, or any infringement of federal, state or local law or regulations.

(G) MODIFICATION, SUSPENSION OR REVOCATION OF APPROVAL

- (1) The Director may modify, suspend, or revoke, in whole or in part, an approval for cause, including, but not limited to, the following:
 - (a) Information indicating that the project will result in an unsafe condition of the dam;

- (b) The existence of a factor or factors which, if properly and timely brought to the attention of the Director, would have justified the application of more or less stringent conditions than required by these regulations, but only if such factor(s) arose after the approval was issued;
 - (c) Where circumstances on which the approval was based have materially and substantially changed since the approval was issued, including but not limited to pertinent amendment of these rules and regulations;
 - (d) The information or data submitted by the dam owner either on the form required or in any other material in support of the application is found to be false, misleading or erroneous;
or
 - (e) The project is not undertaken in strict compliance with the conditions or provisions of any approval issued by the Department.
- (2) A notice of revocation/suspension of an approval will be in the form of a certified letter notifying the dam owner of the revocation or suspension and the reasons why the approval is being revoked or suspended. Such notice shall be in conformance with the Administrative Procedures Act, R.I. Gen. Laws Sections 42-35-9(b) and 42-35-14, as amended.
 - (3) The dam owner issued a notice of revocation/suspension of an approval may request an adjudicatory hearing to contest the revocation as set forth in the provisions of Rule 15 of these Rules and Regulations. A notice of revocation/suspension of an approval automatically becomes a final order of the Director enforceable in Superior Court upon failure to request said adjudicatory hearing.
 - (4) Modification of an approval shall be in accordance with Rule 10(B) of these Rules and Regulations.

RULE 11. INSPECTIONS

(A) SCHEDULED INSPECTIONS

- (1) Regulated dams shall be inspected in accordance with the following schedule. These time periods are the maximum time between inspections and more frequent inspections may be performed at the discretion of the Director.

Hazard Classification	Minimum Inspection Frequency	Type of Inspection
High	2 years	Visual
Significant	5 years	Visual
Low	5 years	Hazard Classification Assessment

- (2) The Director shall periodically perform or require the owner to perform a visual inspection of all high hazard dams and significant hazard dams. The Director will notify the owner by certified letter in the event that the Department will require the owner to perform a visual inspection of the dam. The owner must then retain a qualified engineer to perform a visual inspection of the dam. Visual inspection by a qualified engineer must be completed within sixty (60) days following receipt of notification from the Director.
- (3) At any time, the owner may elect to employ the services of a qualified engineer to perform a visual inspection of his or her dam.
- (4) Whenever the findings of the visual inspection reveal, in the opinion of the Director, that the dam may be unsafe, the owner shall be required to retain a qualified engineer to perform a detailed investigation of the dam and to provide a schedule by which any work needed shall be accomplished. The owner shall be responsible for completing all work required by the Director and in a reasonable time frame required by the Director.
- (5) Evaluations of regulated, low hazard dams shall be conducted by the Director at least every five (5) years to determine whether conditions have changed over time that warrant raising the hazard classification to significant or high. If the Director determines the classification of a low hazard dam should be raised to significant or high, the owner shall be informed of the classification change in accordance with Rule 9(A) of these Rules and Regulations.

(B) UNSCHEDULED INSPECTIONS

- (1) Any person who has cause to believe that an unsafe dam exists may make a request to the Director to inspect the dam. If in the opinion of the Director, the failure of the dam will result in a probable loss of human life or cause major economic loss, disruption of lifeline facilities or impact other concerns detrimental to the public's health, safety or welfare, then the Director shall perform a visual inspection, or cause a visual inspection to be performed, of the dam to determine if the dam is unsafe.
- (2) The Director shall, whenever he or she has cause to believe that an unsafe dam exists, perform a visual inspection, or cause a visual inspection to be performed, of the dam to determine if the dam is unsafe.

(C) INSPECTIONS

(1) Visual Inspections

A qualified engineer or a Department dam engineer must perform a visual inspection. The visual inspection shall include an assessment of the condition of the major components of the dam subjectively rated as *good*, *fair* or *poor*. The major components of a dam are the embankment(s), the spillway(s) and the low level control structure(s). *Good* is defined as meeting minimum guidelines, where no irregularities are observed and the component appears to be maintained properly. *Fair* is defined as a component that requires maintenance. *Poor* is defined as a component that has deteriorated beyond a maintenance issue and requires repair; the component no longer functions as it was originally intended.

(2) Detailed Investigations

A qualified engineer must perform a detailed investigation. A detailed investigation may include soil analysis, concrete or earth stability analysis, materials testing, foundation explorations, hydraulic and hydrologic analysis, including basin studies, flood potential, and an analysis of the dam's ability to pass flood waters.

(D) INSPECTION REPORTS

A report must be prepared for each visual inspection or detailed investigation. If deficiencies are found, the report must identify the specific deficiencies and, when warranted, specify further investigation or corrective measures. The report, completed by a qualified engineer retained by a dam owner, must provide a recommended schedule to complete any work identified as necessary to correct the deficiencies noted in the report. Such reports must be provided to the dam owner and the Director within thirty (30) days of the date of the visual inspection or within sixty (60) days of the date of the detailed investigation.

RULE 12. UNSAFE DAMS

- (A) Whenever the Director determines that a dam is unsafe the Director shall determine whether the water in the reservoir shall be drawn off in whole or in part, and the actions necessary to make the dam safe.
- (B) The Director shall notify the owner or person maintaining or having control of the dam, by certified mail, that the dam is unsafe, the actions necessary to make the dam safe and a schedule to complete the actions.
- (C) The Director may notify the owner or person maintaining or having control of the dam, by certified mail, that the dam is unsafe after completing his/her own inspection or after receiving an inspection report completed by a qualified engineer.
- (D) The Director may, pursuant to R.I. Gen. Laws Section 42-17.1-2(u), issue an immediate compliance order stating the existence of the unsafe condition and the action deemed necessary to correct the unsafe condition. The Director may order the water in the reservoir to be drawn off, in whole or in part. The immediate compliance order shall become effective immediately upon service or within such time as is specified by the Director in such order.
- (E) Any emergency action taken by the owner or person maintaining or having control of a dam shall immediately be reported by the dam owner to the Director and the municipality(s) in which the dam and reservoir lies. The owner or person maintaining or having control of a dam shall also report, by telephone within twenty-four (24) hours and in writing within three (3) days, the emergency action taken.
- (F) If water has been drawn off or the dam has been altered pursuant to an order by the Director, the reservoir shall not be refilled without approval of the Director.
- (G) If the owner or person maintaining or having control of a dam fails to comply with an order of the Director, the Director may also, by summons and complaint, seek to enforce the order in a court of competent jurisdiction.

RULE 13. ACCESS

The Director shall conduct all inspections in accordance with the “Administrative Inspection Guidelines”, adopted on January 23, 2003, and any amendments thereto.

RULE 14. ENFORCEMENT ACTIONS

As set forth in R.I. Gen. Laws Chapter 42-17.1, et seq. and Section 42-17.6-1 et seq., the Director shall have the power to issue enforcement notices, orders, administrative penalties or other requirements to ensure compliance with these Rules and Regulations. The Director may also provide written or verbal warning of his/her intent to undertake enforcement action, but is not required to do so. Nothing in these Rules and Regulations shall limit the authority of the attorney general to prosecute offenders as required by law. The Department shall forward a copy of the enforcement notices and/or orders to recognized watershed councils in accordance with the *Rules and Regulations of the Rhode Island Rivers Council for Watershed Council Grants and Notification of Proposed Actions to Watershed Councils* and the municipality wherein the dam is located.

RULE 15. APPEALS

- (A) The procedures for appeal of Departmental decisions pursuant to the provisions of Chapter 42-35 of the R.I. Gen. Laws are contained in the "Administrative Rules of Practice and Procedure for the Department of Environmental Management Administrative Adjudication Division for Environmental Matters".
- (B) Within thirty (30) days of the receipt of a decision from the Department regarding an application for repair of a dam or hazard classification of a dam, the owner may request an adjudicatory hearing to appeal the decision, or portions thereof. The request for an adjudicatory hearing must be in writing, must comply in form and content for such requests as required by the “Administrative Rules of Practice and Procedure for the Administrative Adjudication Division for Environmental Matters”, and must be filed directly with the Administrative Adjudication Division (AAD) of the Department. A copy of such request must also be forwarded to the Dam Safety Program. A request for an adjudicatory hearing automatically stays any contested approval issued for repair of a dam. It shall be the dam owner’s burden to demonstrate by a preponderance of the evidence that the application as proposed or hazard classification is consistent with the purposes of the law, complies with these Rules and Regulations and protects the public, real property and natural resources.
- (C) Any person who has received a Notice of Violation (NOV) alleging violation of these Rules and Regulations, or whose approval has been suspended or revoked, may appeal to the Director for review of the decision on which the NOV, suspension or revocation is based by filing an appeal with AAD.
 - (1) Filing of Appeal - All appeals shall be in writing and shall be filed with and received by AAD within twenty (20) days after the date of receipt of the subject NOV, or within thirty (30) days after receipt of the revocation or suspension.
 - (2) Contents of Appeal - Every appeal shall contain a detailed basis upon which the appeal is taken.

RULE 16. SEVERABILITY

If any provision of these Rules and Regulations, or the application thereof to any person or circumstance, is held invalid by a court of competent jurisdiction, the validity of the remainder of the Rules and Regulations shall not be affected thereby.

RULE 17. EFFECTIVE DATE

The foregoing Rules and Regulations for Dam Safety, after due notice, are hereby adopted and filed with the Secretary of State this _____ day of _____, 2007 to become effective twenty (20) days thereafter, in accordance with the provisions of Chapters 46-19, 42-35, 42-17.1, and 42-17.6 of the General Laws of Rhode Island of 1956, as amended.

W. Michael Sullivan, Director
Department of Environmental Management

Notice Given on: July 23, 2007

Public Hearing held: August 23, 2007

Filing Date:

Effective Date:

APPENDIX I: IMPACT AVOIDANCE AND MINIMIZATION

Rhode Island's Freshwater Wetlands Act (R.I. Gen. Laws Section 2-1-18 et seq.) and Water Pollution Act (R.I. Gen. Laws Section 46-12-1 et seq.) require the Director to protect freshwater wetland values and water quality, respectively. It is important for the dam owner to recognize the Director's responsibilities under these laws and to plan his/her repair projects to minimize any negative impacts to freshwater wetlands and water quality values. In particular, the dam owner must:

- (A) Minimize the impacts from lowering the water elevation in a reservoir during a repair project, such as by installing a temporary cofferdam. This is necessary to reduce detrimental impacts to fish and wildlife associated with the wetland environment and to reduce loss of aquatic vegetation that serves as wildlife habitat. In the event that a dam owner is unable to install controls to maintain water in the reservoir to assist in protecting fish and wildlife habitat, the dam owner must specifically inform the Director of this situation and document in writing why water is not proposed to be maintained upstream of the dam during the repair activity. Efforts must be made to avoid drawdowns between April 15 to July 1, and to avoid significant drawdowns between October 15 and March 15.
- (B) Use best management practices regarding the installation of sediment and erosion controls to prevent sediment from entering adjacent waters of the state.
- (C) Minimize construction disturbance so as to keep disturbed soils and areas subject to erosion to a minimum.
- (D) Prevent any hazardous substances injurious to aquatic life used during the repair activity from entering any adjacent water and freshwater wetlands.
- (E) Stabilize all disturbed soils following construction activities to ensure erosion will not take place.
- (F) Minimize clearing of vegetation to that necessary to conduct the project and remove the slash material from adjacent freshwater wetlands and water bodies.
- (G) Use only the amount of fill of other material necessary to complete the project and minimize the placement of material in any flood plain.
- (H) Replace, restore or mitigate alterations to freshwater wetlands as deemed necessary in the opinion of the Department.