

DEPARTMENT OF LAND AND NATURAL RESOURCES

Repeal of Chapter 13-190 and Adoption of Chapter 13-190.1  
HAWAII ADMINISTRATIVE RULES

November 22, 2010  
(adoption date)

SUMMARY

1. Chapter 13-190, Hawaii Administrative Rules, consisting of §§13-190-1 to 13-190-42 is repealed.
2. Chapter 13-190.1, Hawaii Administrative Rules, entitled "Dams and Reservoirs", is adopted.

This is to certify that this is a true  
and correct copy of the document  
on file in the office of the State  
Department of Land and Natural  
Resources, Honolulu, Hawaii

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TITLE 13

DEPARTMENT OF LAND AND NATURAL RESOURCES

SUBTITLE 7

WATER AND LAND DEVELOPMENT

CHAPTER 190

DAMS AND RESERVOIRS

Repealed

§§13-190-1 to 13-190-42 Repealed. [R ]



HAWAII ADMINISTRATIVE RULES

TITLE 13

DEPARTMENT OF LAND AND NATURAL RESOURCES

SUBTITLE 7

WATER AND LAND DEVELOPMENT

CHAPTER 190.1

DAMS AND RESERVOIRS

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SUBCHAPTER 1

GENERAL PROVISIONS

§13-190.1-1 Purpose and applicability. (a) The purpose of this chapter is to establish rules for the inspection and regulation of the design, construction, operation, maintenance, enlargement, alteration, repair, and removal of dams, reservoirs, and appurtenant works in the State to protect the health, safety, and welfare of the citizens of the State by reducing the risk of failure of the dams or reservoirs.

(b) This chapter shall not apply to any artificial barrier which is less than six feet in height regardless of storage capacity or which has a storage capacity at maximum water storage elevation less than fifteen acre-feet regardless of height, unless such a barrier, due to its location or other physical characteristics, is a high hazard.

(c) The board shall have jurisdiction of all dams and reservoirs until the department has completed its statewide inspections and has established and implemented rules and criteria for a five-year dams and reservoirs inspection and classification process and the board declares which dams or reservoirs are to be removed from its jurisdiction. [Eff. FEB 20 2012 ]  
(Auth: HRS §179D-6) (Imp: HRS §179D-2)

§13-190.1-2 Definitions. As used in this chapter unless otherwise provided:

"Alteration" means a change to an existing dam or reservoir from the originally approved construction plans and specifications or current condition.

"Application approval" means authorization in writing issued by the board to an owner who has applied to the board for permission to construct, enlarge, repair, alter, remove, maintain, or operate a dam or reservoir and which specifies the conditions or limitations under which work is to be performed by the owner or under which approval is granted.

"Appurtenant works" or "appurtenance" means any structure, such as spillways in the dam or separate therefrom, the reservoir and its rim, including artificial or natural barriers that function as the rim, low level outlet works, and water conduits, such as tunnels, pipelines, or penstocks, through the dam or its abutment that is anticipated to affect the structural integrity of the dam or reservoir.

"Board" means the board of land and natural resources.

"Certificate of approval to impound" means authorization in writing issued by the board to an owner of an existing dam or reservoir, or an owner who has completed construction, enlargement, repair, or alteration of a dam or reservoir, that specifies the conditions or limitations under which the dam or reservoir is to be maintained and operated.

"Dam" means any artificial barrier, including appurtenant works, which impounds or diverts water and:

- (1) Is twenty-five feet or more in height from the natural bed of the stream or watercourse measured at the downstream toe of the barrier, or from the lowest elevation of the outside limit of the barrier if it is not across a stream channel or watercourse, to a maximum water storage elevation;



- (2) Has an impounding capacity at maximum water storage elevation of fifty acre-feet or more. This chapter shall not apply to any artificial barrier which is less than six feet in height regardless of storage capacity or which has a storage capacity at maximum water storage elevation less than fifteen acre-feet regardless of height;
- (3) Was included in circular C 122 (Revised) entitled "Dams within the jurisdiction of the State of Hawaii" dated September 1998;
- (4) Any facility that has two or more reservoirs that operate or function as a single facility or are connected together with an uncontrolled conduit, which shall be construed to be one dam or reservoir. The highest height of any of the embankments and the combined maximum storage volume shall be used as the criteria for determining if the structure is a dam under this chapter; or
- (5) Is a natural structure that retains water and has been altered by the addition of an outlet works and has a maximum storage volume greater than fifty acre-feet.

"Department" means the department of land and natural resources.

"Design water level" means the water elevation that a dam is designed to store, including the flood surcharge, that a dam is designed to impound without overtopping the dam crest. The design water level shall not include freeboard.

"Emergency" means, but is not limited to, breaches and all conditions leading to or causing a breach, overtopping, or any other condition in a dam and its appurtenant structures that may be construed as unsafe or threatening to life or property.

"Engineer" means a registered professional engineer, licensed by the State of Hawaii, and who has experience with dam design and construction.

"Enlargement" means any change in or addition to an existing dam or reservoir which raises or may raise the maximum water storage elevation of the reservoir.

"Freeboard" means the vertical distance above the maximum water surface during the peak discharge in the emergency spillway during the inflow design flood (IDF) to the lowest point on the crest of the dam at which water would flow over the dam at a section not designed for overflow.

"Hazard potential" means the possible adverse incremental consequences that result from the release of water or stored contents due to the failure of the dam or reservoir or operational failures of the dam, reservoir, or appurtenances. The hazard potential classification of a dam or reservoir shall not reflect in any way on the current condition of the dam or reservoir and its appurtenant works, including the dam's or reservoir's safety, structural integrity, or flood routing capacity.

"High hazard" means a dam's or reservoir's failure will result in probable loss of human life.

"Inflow design flood" is the flood hydrograph used in the design or evaluation of a dam, its appurtenant works particularly for sizing the spillway and outlet works, with which the upper limit of the inflow design flood is the probable maximum flood.

"Low hazard" means a dam's or reservoir's failure would result in no probable loss of human life and low economic loss or environmental loss, or both. Economic losses are principally limited to the owner's property.

"Maximum water storage elevation" means the maximum water surface elevation that can be hydrologically attained in the reservoir, or at the dam crest elevation if hydrologic loading is unknown.

"Operator" means any person who controls, manages, maintains, or supervises the condition and functions of a dam or reservoir.

"Outlet works" means a tunnel or pipe/conduit (low level outlet) that is used to drain the reservoir and often used to regulate flow to downstream users.

"Owner" means any person who has a right, title, or interest in or to the dam or reservoir or to the property upon which the dam or appurtenant works is located or proposed to be located.

"Person" means any natural person, partnership, firm, association, organization, corporation, county, county authority, trust, receiver or trustee, limited liability company, limited liability partnership, or company, or any state department, agency, or political subdivision, or any other commercial or legal entity. Whenever used in a section prescribing and imposing a penalty or sanction, the term "person" shall include the members of an association or organization, and the officers of a corporation, company, municipality, or municipal authority.

"Physical clear access" means a roadway or path that allows timely access for inspection to a dam, reservoir, and its appurtenant works. If by a roadway, the roadway shall be maintained in an accessible condition by a four-wheel-drive vehicle even during inclement weather conditions.

"Probable" means more likely than not to occur, reasonably expected, realistic.

"Removal" means complete removal or partial removal of the dam or reservoir embankment or structure to restore the approximate original topographic contours of the valley.

"Repair" means construction to an existing dam or appurtenant works that does not significantly change the reservoir's storage capacity or alter significantly the existing structure as it exists. Repair shall not apply to routine maintenance not affecting the safety of the dam or appurtenant works.

"Reservoir" means any basin which contains or will contain water impounded by a dam, including appurtenant works.

"Significant hazard" means a dam's or reservoir's failure will result in no probable loss of human life but can cause major economic loss, environmental damage, disruption of lifeline facilities, or impact other concerns. Significant hazard potential classification dams or reservoirs are often located in predominantly rural or agricultural areas but could be located in areas with population and significant infrastructure.

"Spillway" means a device which conveys flood waters from the reservoir past the dam without endangering its safety or integrity.

"Spillway crest" means the lowest point in the spillway above which water can flow over or through the spillway.

"Storage capacity" means the maximum volume of water and material which could be impounded by a dam when the water level is at the top of the dam or at the highest elevation which could be hydrologically attained, if this elevation is below the top of dam. [Eff. FEB 20 2012 ] (Auth: HRS §179D-6) (Imp: HRS §179D-3)

§13-190.1-3 Exempt structures.

Structures exempt from these rules include:

- (1) A transportation structure such as a highway or road fill that exists solely for transportation purposes;
- (2) Refuse embankments (e.g., solid waste disposal facilities); and
- (3) Structures that store water only below the lowest point of the natural ground, unless the structure retains more than fifteen acre-feet and an outlet works is constructed to release water. [Eff. FEB 20 2012 ] (Auth: HRS §179D-6) (Imp: HRS §179D-6)

§13-190.1-4 Minimum design requirements. (a)

Regulated dams and reservoirs shall incorporate the following minimum design requirements:

- (1) Embankment slopes that are not steeper than 2.5 horizontal to 1 vertical unless a specific design for a steeper slope shows that the embankment is stable and capable of being safely maintained;
- (2) An embankment crest that has a minimum width of ten feet;

- (3) Earthen spillways that are constructed in natural ground; and
- (4) A low level outlet shall be designed to drain the reservoir by gravity flow.
- (b) Significant and high hazard dams shall also have a stability analysis of the structure demonstrating the stability of the embankment slopes for various loading conditions and minimum factors of safety generated by a methodology accepted by the department.
- (c) Regulated dam spillways shall safely pass the appropriate inflow design flood, as shown in the following table:

Hazard Classification	Size Classification	Inflow design flood
Low	Small	100 year
	Intermediate	100 year
	Large	½ PMF
Significant	Small	½ PMF
	Intermediate	½ PMF
	Large	PMF
High	All Sizes	PMF

Category	Impoundment	
	Storage (Acre-feet)	Height (feet)
Small	<1000 and ≥50	<40 and ≥25
Intermediate	≥1,000 and <50,000	≥40 and <100
Large	≥50,000	≥100

**Note:** "PMF" or "Probable Maximum Flood", is defined as the flood that may be expected from the most severe combination of critical meteorologic and hydrologic conditions that are reasonably possible in the region. The PMF is derived from the 24-hour probable maximum precipitation (PMP), which information is available from the National Weather Service, NOAA, Publication HMR-39, "Hydrometeorological Report No. 39 - Probable Maximum

Precipitation in the Hawaiian Islands", or current standard.  $\frac{1}{2}$  PMF = PMF divided by two. "100 year" is defined as the flood associated with the 1 per cent probability storm event that is derived from the 24-hour 100-year precipitation rate, which is identified in the US Weather Bureau Technical Paper No. 43 Rainfall-Frequency Atlas of the Hawaiian Islands and as updated by NOAA Atlas 14, Volume 4 Precipitation-Frequency Atlas of the United States, Hawaiian Islands, or current standard.

(d) Freeboard shall be the greater of the following:

- (1) Two feet above the water level during the peak spillway flow associated with the inflow design flood;
- (2) Sum of the wave run-up and reservoir setup resulting from a 100 miles per hour wind speed during the peak spillway flow associated with the inflow design flood.  
[Eff. FEB 20 2012 ] (Auth: HRS §179D-6)  
(Imp: HRS §179D-6)

§13-190.1-5 Violations; penalties. (a) Except as otherwise provided by law, the board may set, charge, and collect administrative penalties and recover administrative fees and costs, including attorney's fees and costs, or bring legal action to recover administrative penalties, fees, and costs, including attorney's fees and costs, or payment for damages or for the cost to correct damages resulting from a violation of chapter 179D, HRS, this chapter, or any order or condition adopted, issued, or required under this chapter. The administrative penalty shall not exceed \$25,000 per day of a violation, and each day during which the violation continues shall constitute an additional, separate, and distinct violation. Proceedings under this section shall be conducted pursuant to the administrative rules for the department.

(b) With the assistance of the attorney general, the board may seek an injunction and damages in the enforcement of this chapter.

(c) All penalties, fees, and costs collected pursuant to this section or other rules adopted by the board pursuant to chapter 179D, HRS, shall be deposited in the dam and reservoir safety special fund. [Eff. FEB 20 2012 ] (Auth: HRS §§179D-6, 179D-8) (Imp: HRS §179D-8)

§13-190.1-5.1 Criminal violations; penalties.  
Criminal sanctions regarding violations of this chapter and chapter 179D, HRS, are as provided in section 179D-8, HRS. [Eff. FEB 20 2012 ] (Auth: HRS §179D-8) (Imp: HRS §179D-8)

§13-190.1-6 Administrative and judicial review.  
(a) The findings and orders of the board, and the board's approval or disapproval of an application issued by the State are final, conclusive, and binding upon all owners, state agencies, and other government agencies, regulatory or otherwise, as to the safety of design, construction, enlargement, repair, alteration, removal, maintenance, or operation of any dam or reservoir, and the certificate of approval to impound. The board's approval of an application or a certificate of approval to impound will not be considered final if it can be demonstrated to the board that the board's approval of the relevant application or certificate of approval was based on one or more misrepresentations or other relevant data.

(b) Any person aggrieved or adversely affected by an order or action of the board is entitled to administrative and judicial review in accordance with chapter 91, HRS, and the department's applicable administrative rules on administrative and judicial review in effect at the time, provided, however, that the order or action shall remain in force until

modified or set aside on appeal. [Eff. FEB 20 2012 ]  
(Auth: HRS §179D-8) (Imp: HRS §179D-7)

§13-190.1-7 Inspections. Any inspections done pursuant to this chapter shall use the current guidelines developed by the department. [Eff. FEB 20 2012 ] (Auth: HRS §179D-6) (Imp: HRS §179D-6)

§13-190.1-8 Change in ownership. Changes in ownership of a dam shall be filed with the department by the transferring owner within seven days of recordation with the bureau of conveyances of the State of Hawaii. [Eff. FEB 20 2012 ] (Auth: HRS §179D-6) (Imp: HRS §179D-6)

§13-190.1-9 Variations. The board or department may, upon a showing of good cause, grant a variance from any provision of this chapter, including, without limitation, an extension of time to comply with any such provision. [Eff. FEB 20 2012 ] (Auth: HRS §179D-6) (Imp: HRS §179D-6)

§13-190.1-10 Severability. If any portion of these rules is found to be invalid, the remaining portion of the rules shall remain in force. [Eff. FEB 20 2012 ] (Auth: HRS §179D-6) (Imp: HRS §179D-6)



SUBCHAPTER 2

CERTIFICATE OF APPROVAL TO IMPOUND

§13-190.1-11 Certificates of approval to impound. No owner of a dam or reservoir shall impound water without a valid certificate of approval to impound water at the dam or reservoir. A certificate of approval to impound shall be valid for five years from the date of issuance, unless otherwise stated by the department, and provided all conditions of the certificate are fulfilled and maintained to the satisfaction of the department. [Eff. FEB 20 2012 ] (Auth: HRS §179D-6) (Imp: HRS §179D-21)

§13-190.1-12 Applications for certificate of approval to impound. (a) Every owner of a dam or reservoir that is a regulated structure as defined in section 13-190.1-2 shall file an application for a certificate of approval to impound.

(b) All applications shall be submitted with supporting information as required by the department.

(c) Each application shall also be accompanied by application fees as required by subchapter 8.

(d) During the application process for the initial certificate of approval to impound, the owner or operator of a dam or reservoir that was completed prior to July 6, 2007, shall be allowed to impound water, unless the board determines that the dam or reservoir may pose a danger to the health and safety of persons or property. [Eff. FEB 20 2012 ] (Auth: HRS §179D-6) (Imp: HRS §179D-21)

§13-190.1-13 Notice. (a) The board shall give notice to file an application for certificate of approval to impound to owners of dams or reservoirs known to the department, who have failed to file such applications as required by this chapter.

(b) The notice provided for in this section shall be delivered by certified mail to the owner at the owner's last address of record in the office of the county tax assessor for the county in which the dam or reservoir is located.

(c) Service of the notice shall be complete upon the mailing of the notice.

(d) All owners shall submit an application for certificate of approval to impound water within ninety days from the date of the notice, unless the owner has filed a request for exemption. An owner who fails to submit an application for certificate of approval to impound within ninety days from the date of notice shall be deemed in violation of these rules and subject to penalties consistent with sections 13-190.1-5 and 13-190.1-5.1. [Eff. FEB 20 2012 ] (Auth: HRS §179D-6) (Imp: HRS §179D-27)

§13-190.1-14 Application review process. (a) The department shall inspect the dams and reservoirs, unless the data, records, and inspection reports on file with the department are found adequate to enable a determination of whether or not the certificate of approval to impound should be issued.

(b) The department shall require owners of the dams and reservoirs to perform at their expense any work, tests, or investigation as may reasonably be required to disclose information sufficient to enable the board to determine whether to issue certificates of approval to impound, or to issue orders directing further work at the owner's expense necessary to safeguard life and property.

(c) The board shall issue a certificate of approval to impound for dams and reservoirs that do not have severe deficiencies that affect the structural safety or operational integrity of a facility or that may threaten the safety of the dam.

(d) In order to protect public safety, the department shall require an owner or operator to lower the water level of, or to drain the dam or reservoir,

or impose conditions on a certificate to impound application approval.

(e) Upon inspection, review of investigation findings, or satisfactory correction of severe deficiencies, if the department finds that the dam and reservoir are safe to impound water, a certificate of approval to impound shall be issued.

(f) The department shall not issue a certificate of approval to impound when a dam or reservoir is determined by the department to be unsafe to impound water. Upon finding that the dam or reservoir is unsafe to impound water, the department shall issue a written notice to the owner. After receipt of the notice, the owner shall no longer cause or allow the dam or reservoir to impound water unless consent is obtained from the department. [Eff. FEB 20 2012 ]  
(Auth: HRS §179D-6) (Imp: HRS §179D-21)

§13-190.1-15 Noncompliance. The board may order the suspension, revocation, or restriction of any certificate of approval to impound, for any act or failure to comply with chapter 179D, HRS, these rules, or orders issued pursuant to chapter 179D, HRS, or with any of the conditions contained in or attached to the application approval or certificate of approval to impound. [Eff. FEB 20 2012 ] (Auth: HRS §179D-6)  
(Imp: HRS §179D-21)

§13-190.1-16 Transferability. Certificates of approval to impound water are not transferable from one person to another without written approval from the board; and:

- (1) The existing holder of the certificate to impound requests a transfer in writing to the department; and
- (2) The new or prospective dam owner submits in writing to the department:

- (A) Proof that the person is or will become the owner of the dam;
- (B) The date of change in ownership; and
- (C) An acknowledgment of receipt of a copy of the certificate of approval to impound that is in effect, and of the person's awareness of the terms, including and without limitation, any conditions or restrictions on the operation imposed by the department.  
[Eff. FEB 20 2012 ] (Auth: HRS §179D-6) (Imp: HRS §§179D-6, 179D-21)

### SUBCHAPTER 3

#### CONSTRUCTION, ENLARGEMENT, REPAIR, ALTERATION, OR REMOVAL OF DAMS AND RESERVOIRS

§13-190.1-20 General requirements for construction, enlargement, repair, alteration, or removal of a dam, reservoir, or appurtenant works.

(a) No person shall construct, enlarge, repair, alter, or remove any dam or reservoir until a dam permit application form has been filed, approval of the construction plans and specifications is obtained from the board, and a written application approval is issued. Owners proposing routine maintenance not affecting the safety of the structure are exempted from the requirements of this subchapter. All submittals shall be in accordance with this chapter. The department guidelines shall assist but not limit evaluation of the application.

(b) Nothing in this chapter grants an exemption from any applicable federal, state, or county governmental requirements.

(c) The applicant shall notify in writing, the county engineer or appropriate person within the county, for which the dam or reservoir is located, of the submittal of a permit application for the construction, enlargement, repair, alteration, or

removal of a dam or reservoir. A copy of this notification letter shall be submitted to the department by the applicant.

(d) A separate application shall be filed with the department for each regulated dam or reservoir and for each separate project. The applicant shall submit to the department, three hard copies and an electronic copy on disk of the application package. The application package shall consist of the following:

- (1) The department's dam permit application form. Each application shall be made on forms furnished by the department and shall be signed by the dam owner or an authorized representative of the dam owner. If there are multiple owners of the property where the dam is located, a property map shall be provided showing the dam with the property lines identified for each owner. A notarized letter of concurrence and agreement from the owners of all property on which the proposed project is being conducted is required. Each application shall include at a minimum the following:
  - (A) Name and address of the applicant;
  - (B) Name and address of the owner or owners and their associated tax map key numbers of the properties upon which the works are to be constructed, enlarged, repaired, altered, or removed;
  - (C) Description of the location, type, size, purpose, and height of the proposed, enlarged, repaired, altered, or removed dam, and the reservoir and appurtenant works;
  - (D) Storage capacity and reservoir surface areas for maximum water storage elevation and design water level;
  - (E) Plans for installation of any permanent instrumentation at the dam or appurtenant structures;

- (F) Area of the drainage basin, rainfall and stream flow records, and flood-flow records and estimates (as applicable);
  - (G) Relevant construction drawings, plans, and specifications signed and sealed by the design engineer, licensed in the State of Hawaii; and the name and address of the design engineer who prepared the plans and specifications;
  - (H) Proposed times of commencement and completion of the proposed activity; and
  - (I) A listing of all sources of inflow to the reservoir (as applicable);
- (2) Design reports. A design report shall be submitted with the application package (as applicable to the proposed activity). The report shall include information sufficient to evaluate the design of the new or to be enlarged, repaired, altered, or removed dam and the appurtenances, including references and page numbers, to support any assumptions or criteria used in the design. The report shall include calculations and be sufficiently detailed to accurately define the final design of the proposed dam project as represented in the construction plans. The report shall include but not be limited to the following items, as applicable for the proposed activity:
- (A) Hydraulic and hydrologic report;
  - (B) Geotechnical report;
  - (C) Seepage analysis;
  - (D) Spillway analysis;
  - (E) Foundation evaluation;
  - (F) Analysis of the downstream effects;
  - (G) Anticipated construction sequence needed to complete the project;
  - (H) Anticipated permit and approvals required; and
  - (I) Other reports as necessary;

- (3) Construction plans and specifications. Construction plans and specifications shall meet the following requirements:
- (A) The plans shall show the design of the dam, dam enlargement, repair, alteration, or removal, and each appurtenant structure, in sufficient detail so that the contractor or builder is able to construct the proposed structure from the plans and specifications;
  - (B) The front cover sheet of the plan shall include a site map of the dam, reservoir area, and appurtenances, the name of the dam facility and the state dam inventory identification (if available), the county and island in which the dam is located, tax map key numbers of all parcels the dam or reservoir is situated on, project location and vicinity maps, and an index of sheets;
  - (C) Drawings shall be prepared in an appropriate scale so details are legible with an overall size of 24-inches high and 36-inches wide or 22-inches high and 34-inches wide;
  - (D) Spillway and outlet discharge rating curves and tables, and reservoir area-capacity curves and tables, shall be placed on the drawings, as applicable;
  - (E) The front cover of the specifications shall show the title name and state inventory identification number of the dam and the county in which the dam is located;
  - (F) The general conditions shall include statements that the plans and specifications cannot be significantly changed without prior written approval of the department and the design engineer of record;

- (G) The specifications shall provide that the owner's construction engineer will monitor the construction of the project. The construction engineer monitoring the construction for the owner is responsible for the quality of construction, compliance with the approved design and specifications, review and approval of all construction change orders, and preparation of the project completion documents;
- (H) The following items, at a minimum, shall be included in the construction plans, as applicable:
  - (i) Elevation view along longitudinal axis of dam and foundation;
  - (ii) Cross-sectional view of dam at location of maximum height;
  - (iii) Cross-sectional views and profiles of spillway(s), outlet facilities, and other appurtenances;
  - (iv) Steel reinforcement placement and bar sizing for concrete construction must be shown in at least one section or profile; and
  - (v) The plan for diversion and control of water during construction; and
- (I) The following items shall be included in the specifications, as applicable:
  - (i) The type, class, or description of all materials to be used;
  - (ii) The requirements for fill placement, moisture conditioning, and minimum level of compaction of all earth zones; and
  - (iii) The requirements, procedures, and minimum standards for



concrete construction or  
structural details;

- (4) Construction quality assurance plan. An approved quality assurance plan describing all aspects of construction supervision and protocol for change requests, approvals, and field inspection;
- (5) Detailed cost estimate. A detailed cost estimate for the construction of the dam project including the engineering fees;
- (6) Filing fee. The filing fee shall be pursuant to section 13-190.1-50; and
- (7) The following items shall be submitted either with the application package or during construction:
  - (A) An emergency action plan;
  - (B) An operation and maintenance plan to accomplish the annual maintenance, including record keeping documents;
  - (C) An instrumentation plan regarding instruments that evaluate the performance of the dam;
  - (D) Proposed construction schedule. A proposed construction schedule shall be provided with the construction package. The schedule should identify key benchmarks and milestones and any long lead items; and
  - (E) Construction emergency action plan. Prior to the start of construction, the applicant shall submit a copy of an approved emergency action plan for use during the construction, modification, or alteration of the dam and reservoir. This plan shall address possible deficiencies and concerns that may arise at specific phases of the work. The plan shall also include applicable operations, maintenance, and inspection work that should be followed during the construction phase. [Eff. FEB 20 2012 ]  
(Auth: HRS §179D-6) (Imp: HRS §179D-6)

§13-190.1-21 Additional requirements for removal of dam or reservoir. (a) No person shall remove any dam, reservoir, or appurtenant works until written approval is obtained from the board. The application for removal shall include, but not be limited to, the following information:

- (1) The current height and storage of the dam;
- (2) The current hazard classification;
- (3) The proposed flow through channel width and side slopes;
- (4) A description of and quantitative analyses of the flow through conditions during the 100-year, 24-hour storm event including provision for erosion protection;
- (5) Evaluation of all potential effects on life, property, and environment downstream; and
- (6) For a partial removal of a dam that will still store water, the relevant deficiencies identified in the initial investigation or inspection reports shall be addressed.

(b) Plans for removal of a dam or reservoir, shall meet the following requirements:

- (1) The dam shall be excavated down to the level of the natural ground or to sufficient cut depth to prevent silt previously deposited in the reservoir or material excavated for the channel from washing downstream. The plan shall address sediment that has been previously deposited in the reservoir;
- (2) The channel shall be of sufficient width to pass the 100-year, 24-hour flood with maximum depth of five feet of water anywhere in the channel at any time during the flood. Results of analyses demonstrating the 100-year, 24-hour flood can be safely passed within the breached section while maintaining five feet or less of water in the remaining reservoir shall be submitted for review;

- (3) Regardless of the hydraulic requirements, the bottom width of the channel shall be a minimum of fifteen feet;
- (4) The side slopes of the channel shall be excavated to a slope that is stable, but not steeper than 2:1 (horizontal:vertical). Slope stability analysis that provides an adequate factor of safety for steeper slopes may be accepted by the department but in no case steeper than 1:1;
- (5) A detailed flood study for the 100-year storm frequency events shall be performed for the existing conditions and proposed removed or partially removed dam;
- (6) If the partially removed dam will store more than 2 million gallons (6 acre-feet) of water, the plan shall provide a dam break inundation map of the downstream community at risk from the altered dam structure, assuming full water level at the time of failure;
- (7) Transitions to downstream channels shall be investigated and appropriate provisions made to mitigate against possible damage or flooding;
- (8) The exposed slopes within the 100-year, 24-hour storm depth shall be protected with riprap, vegetation, or other suitable means to prevent headcutting, downcutting, and lateral slope erosion; and
- (9) The reservoir shall be emptied before removal of the dam. [Eff. FEB 20 2012 ]  
(Auth: HRS §179D-6) (Imp: HRS §179D-6)

§13-190.1-22 Supervision of plans preparation and observation of construction. (a) The design engineer shall supervise the preparation of all plans and specifications for the initial construction, enlargement, alteration, repair, or removal of dams and reservoirs.

(b) The observation of the construction shall be conducted by the construction engineer, as referenced in subchapter 4. Requirements for documentation of construction are provided in subchapter 4.

(c) The design engineer and construction engineer may be assisted by other specialists, under the design or construction engineer's direction, as required. [Eff. FEB 20 2012 ] (Auth: HRS §179D-6) (Imp: HRS §179D-6)

§13-190.1-23 Permit application approval. (a) The permit application will be reviewed for compliance with the requirements provided in this chapter and in general accordance with standard practice for dam safety. If an application is incomplete or defective, it shall be returned to the applicant. The application shall be corrected and returned to the board within ninety days or such further time as may be given by the department in order to retain its validity. If the application is not returned within the required time limit, it shall be deemed automatically rejected.

(b) After the department has determined that the application is complete and the plans and specifications conform to this chapter and generally accepted engineering practice, the board shall approve the plans and specifications and issue an application approval with any conditions determined to be appropriate by the board.

(c) Actual construction, enlargement, repair, alteration, or removal shall be commenced within the time frame set by the board in the application approval; otherwise, the application approval becomes void. The department may, upon written application and for good cause shown, extend an owner's time for commencing construction, enlargement, repair, alteration, or removal of a dam or reservoir.

(d) Actual construction, enlargement, repair, alteration, or removal of a dam or reservoir shall be completed with five years of issuance of the

application approval unless an extension authorized in writing by the board is issued.

(e) The board decision under subsection (b) shall be made within 180 days of the receipt by the department of a complete application package. [Eff.

FEB 20 2012 ] (Auth: HRS §179D-6) (Imp: HRS §179D-6)

§13-190.1-24 Revocation of approval. (a) The board shall consider the revocation of the application approval in whole or in part for any of the following:

- (1) Material false statement in the application or in any report or statement of fact required pursuant to this chapter;
- (2) Violation of this chapter;
- (3) Violation of the approved plans and specifications;
- (4) Non-compliance of any conditions as set by the board; or
- (5) Discovery of unforeseen unsafe conditions.

(b) In any proceeding for revocation, the board shall give prior written notice to the affected owner of the facts or conditions which warrant the action and provide the applicant or owner an opportunity for a hearing. [Eff. FEB 20 2012 ] (Auth: HRS §179D-6) (Imp: HRS §179D-6)

#### SUBCHAPTER 4

#### CONSTRUCTION, INSPECTION, AND COMPLETION

§13-190.1-30 General construction requirements for construction, enlargement, repair, alteration, or removal of a dam, reservoir, or appurtenant works.

For the actual construction work for the construction, enlargement, repair, alteration, or removal of a dam, reservoir, or appurtenant works, the owner or

applicant, or both, shall be responsible for providing and complying with the following:

- (1) Construction engineer's observation of construction.
  - (A) Prior to the start of any work on the dam or reservoir, the owner or applicant shall provide a construction engineer, to ensure compliance with the approved plans and specifications, including any approved change orders and the construction quality assurance plan;
  - (B) The construction engineer shall have ultimate responsibility for the supervision of all inspection tasks and compliance with approved plans and specifications; and
  - (C) The construction engineer may assign some inspection tasks to a duly authorized agent, under the construction engineer's supervision;
- (2) A construction quality assurance plan. A construction quality assurance plan shall be prepared and submitted to the department at least thirty days prior to the start of construction, which details the minimum requirements of the construction engineer's observation of construction. The minimum components of this plan shall include the following as applicable:
  - (A) Listing of parties and their roles and responsibility;
  - (B) Names and qualifications of the engineer(s) and staff to be used on the project;
  - (C) Anticipated construction observation schedule for the construction engineer and staff;
  - (D) Schedule of observations and inspections (with reference to specification sections), such as the observation of the foundation or other

- inspections, as deemed appropriate by the department or design engineer;
- (E) Schedule of required submittals, including shop drawings (with reference to specification section);
  - (F) Schedule of construction material tests (with reference to specification section); and
  - (G) Schedule of construction performance tests (with reference to specification section);
- (3) Construction records. The construction engineer shall maintain a record of construction that, at a minimum, shall include: daily activity and progress reports; all test results pertaining to construction; photographs sufficient to provide a record of foundation conditions and various stages of the construction through completion; all geologic information obtained; and construction problems and remedies;
- (4) Construction schedule;
- (5) Construction emergency action plan;
- (6) Labor and material bonds. Where the project construction estimate exceeds \$500,000 (including design), the owner shall furnish evidence of a bond for labor and materials for the approved construction or alteration work, unless otherwise allowed by the board;
- (7) General liability insurance. Insurance coverage must be maintained for the minimum amounts stipulated by the department, with a provision identifying the department as an additional insured, and evidence of insurance provided to the department prior to the start of construction;
- (8) Change order requirements. When unforeseen site conditions or material availability require that the construction work differ significantly from the approved plans and specifications, a change order, including

details, must be provided by the construction engineer to the department:

- (A) No change shall be executed until approved by the department;
  - (B) Major changes must be submitted in writing with supporting documentation, and approved in writing by the department;
  - (C) If the department determines that the proposed construction change order represents a significant modification of the application approval that could have an effect on structural integrity or safe operations of the project, then approval of the change order by the board or department shall be required;
  - (D) If board approval of the proposed construction change order is required, no action can be taken by the owner to make the construction change until approval is given by the board; and
  - (E) Minor changes may be transmitted verbally by the construction engineer and approved by the department verbally, provided documentation of the change is provided to the department within ten days of the approval;
- (9) A pre-construction meeting shall be held subsequent to submitting the construction observation and quality assurance plan, but not later than fourteen days prior to start of construction. All parties actively involved in the construction should be requested to attend, such as the dam owner, the design engineer, the construction engineer, the contractor, and the department. At a minimum, the following should be discussed:
- (A) Project personnel and roles:
    - (i) Project communication protocol between the owner, construction engineer, and the department shall



- be established at the pre-construction meeting; and
  - (ii) The names of the contractors and any principals in charge shall be furnished to the department at the meeting;
  - (B) Project schedule;
  - (C) Special issues:
    - (i) The means used to divert and carry inflows into the reservoir;
    - (ii) Reservoir filling requirements; and
    - (iii) Special permitting requirements;
  - (D) The contractor's quality control plan, developed by the contractor shall be thoroughly explained, including but not limited to the following:
    - (i) Identification of the firm that will conduct the construction material tests in the field and in the laboratory;
    - (ii) Schedule of required submittals, including shop drawings (including reference to specification section);
    - (iii) Schedule of construction material tests (including reference to specification section);
    - (iv) Schedule of construction performance tests (including reference to specification section);
    - (v) Schedule of notifications to the engineer and the department; and
    - (vi) Plan for addressing construction difficulties.
  - (E) Change order procedures;
  - (F) Maintenance of records;
  - (G) Notifications and submittals; and
  - (H) Construction progress reports;
- (10) Reservoir filling plan.

- (A) A schedule for the filling of the reservoir specifying the fill rates, water level elevations to be held for observation, and a schedule for inspecting and monitoring the dam;
  - (B) Upon written request by the owner and for good cause shown, the department may temporarily approve storage of water prior to full compliance with the acceptance of construction. Only a partial reservoir filling will be granted and final acceptance of the construction for full use will not be granted until all the construction completion documents have been satisfactorily completed. The written request shall include:
    - (i) A schedule for the filling of the reservoir specifying the fill rates, water level elevations to be held for observation, and a schedule for inspecting and monitoring the dam;
    - (ii) A draft emergency action plan; and
    - (iii) A draft operation and maintenance plan;
- (11) Completed project documentation.
- (A) Submission of required documentation as detailed in section 13-190.1-31;
  - (B) Topographic survey of completed work including all monuments, inverts, crest alignment, spillways, and significant appurtenant features, when required by the department;
- (12) Notifications to the department. The construction engineer shall notify the department of the following:
- (A) The date of the start of construction;
  - (B) Notice for inspection(s). The construction engineer shall give the department at least ten days advance notice of initial materials placement

- on the dam's foundation, in the cutoff trench, outlet backfill, outlet foundation, and any appurtenance requested by the department in the approval of the plan for construction observation, to allow for observation by the department;
- (C) Notice of substantial completion shall be issued by the construction engineer to the department stating that the permitted improvements are functionally complete such that filling of the reservoir can be accomplished;
  - (D) Notice of final inspection. The construction engineer shall give the department fifteen days advance written notice prior to the project's final construction inspection;
  - (E) Notice of start of reservoir filling. The construction engineer shall provide notice at least ten days prior to initiating filling of the reservoir, unless otherwise agreed upon at final inspection. Filling of the reservoir shall not commence until concurrence is received from the department;
- (13) Suspension of construction or revocation of permit.
- (A) Unsafe conditions. If conditions are revealed which will not permit the construction, enlargement, repair, alteration, or removal of a safe dam or reservoir, the application approval for construction, enlargement, repair, alteration, or removal shall be revoked;
  - (B) Violation of application approval. If at any time during construction, enlargement, repair, alteration, or removal of a dam or reservoir the department finds that the work is not being done in accordance with approved

plans and specifications, the department shall give a written notice thereof to the owner.

- (i) The written notice shall state the specific violations or deficiencies and shall order the immediate compliance with the approved plans and specifications;
- (ii) The department may order that no further work be done until compliance has been effected and confirmed by the department or its designated representative;
- (iii) If the owner fails to comply with the department's written notice or the approved plans and specifications, the board shall revoke the application approval and compel the owner to remove the incomplete structure sufficiently to eliminate any safety hazard to life or property. [Eff.

FEB 20 2012 ] (Auth: HRS  
\$179D-6) (Imp: HRS \$179D-6)

§13-190.1-31 Construction completion and acceptance for the construction, enlargement, repair, alteration, or removal of a dam, reservoir, or appurtenant works. Upon completion of the construction for a new, enlarged, repaired, altered, or dam removal project, the following items, as a minimum, shall be addressed and submitted to the department, as applicable to the project:

- (1) The construction engineer's certification that to the best of the engineer's knowledge, information, and belief, the project is complete and was constructed in conformance with the approved plans, specifications, and approved change orders, and all punch list items identified at the

- final construction inspection have been resolved, including a description of the actions taken to address the deficiencies;
- (2) Construction completion documents. The following construction documents shall be provided to the department within sixty days of the final construction inspection in order for the project to be deemed complete:
- (A) Written notification to the department that the project is complete and conforms with the approved plans, specifications, and approved change orders;
  - (B) As constructed, record, or as built drawings that describe the dam or reservoir as actually constructed;
  - (C) A final construction report containing the following information, if applicable: a summary of construction, including problems encountered and solutions implemented to resolve the problems; a summary of construction material tests and geologic observations; photographs of construction from the exposed foundation to completion of construction;
  - (D) Topographic survey of completed work including all monuments, inverts, crest alignment, spillways, and significant appurtenant features as required by the department;
  - (E) A record of the location of permanent monuments and instrumentation as well as installation details and initial surveys and readings, as applicable;
  - (F) A log of the recorded water levels and other readings in the schedule for the first filling of the reservoir and refilling specifying the fill rates, water level elevations to be held for observation, and a schedule for inspecting and monitoring the dam;

- (G) A long-term instrumentation monitoring plan that shall include the frequency of monitoring; the data recording format; graphical presentation of data; and the parties who will perform the work;
  - (H) An emergency action plan in a format accepted by the department in accordance with subchapter 5;
  - (I) An operation and maintenance manual for the dam and its appurtenant structures developed in accordance with subchapter 5;
  - (J) Compliance with subchapter 2;
  - (K) An affidavit showing the actual cost of the construction, including all engineering costs;
  - (L) An additional fee or refund request based on the actual cost of construction, computed in accordance with subchapter 8;
- (3) Acceptance of construction. Construction for which application approval has been provided shall not be deemed complete nor shall storage of water be permitted until the department furnishes to the owner a written statement of acceptance, unless temporary approval of storage is granted by the department. The acceptance shall specify any limitation upon, or requirements for use of the facility. The department shall furnish the acceptance or denial within sixty days of receipt of satisfactorily completed construction completion documents; and
- (4) A report documenting the filling of the reservoir and identifying the fill rates, water level elevations held, and inspection and monitoring findings. [Eff. FEB 20 2012 ] (Auth: HRS §179D-6) (Imp: HRS §179D-6)

§13-190.1-32 Complaints as to unsafe conditions during construction. (a) Upon receipt of a written complaint alleging that the person or property of the complainant is endangered by the construction, enlargement, repairs, alterations, removal, maintenance, or operation of any dam or reservoir, the department shall contact the owner and the department or department representative shall conduct an inspection unless the data, records, and inspection reports on file with the department are sufficiently adequate to determine whether the complaint is valid or invalid.

(b) If an unsafe condition exists, the department shall notify the owner to take action necessary to render the condition safe, including breaching or removal of any dam found beyond repair. If the owner is unavailable or unresponsive, the board may commence action under section 13-190.1-41. [Eff.

FEB 20 2012 ] (Auth: HRS §179D-6) (Imp: HRS §179D-6)

## SUBCHAPTER 5

### MAINTENANCE, OPERATION, AND EMERGENCY WORK

§13-190.1-40 Maintenance and operation. (a) Owners shall provide for the adequate and timely maintenance, operation, and inspection of their dams and reservoirs and shall be responsible for any engineering and geologic investigations which may be required to ensure public safety. Owners shall keep available and in good order records of original construction and any modifications, and shall report to the department their maintenance, operation, and engineering activities, including at a minimum, but not limited to, horizontal and vertical controls, seepage measurements, piezometric data collection, and geologic investigations.

(b) The owner of a dam or reservoir shall fully and promptly advise the department of any flood,

incidents, or circumstance which may adversely affect the dam or reservoir.

(c) The department shall make inspections of dams and reservoirs either with its own engineers or by consulting engineers of its selection, not less than once every five years. The department shall require owners to perform at their expense any necessary remedial work and work reasonably required to disclose information sufficient to enable the department to determine conditions of dams and reservoirs in regard to their safety, including the installation, maintenance, and monitoring of instrumentation.

(d) All costs incurred by the department to conduct the inspection may be charged to the owner. The department shall present a bill for the expenses to the owner, and if the owner neglects for ninety days thereafter to pay it, the bill and costs become a lien upon the lands and property of the owner so liable for the payment of the bill, and must be collected as delinquent taxes against the lands and property are collected. All funds collected shall be deposited into the dam and reservoir safety special fund. [Eff. FEB 20 2012 ] (Auth: HRS §179D-6) (Imp: HRS §179D-30)

§13-190.1-40.1 Operation and maintenance plan.

(a) Owners and operators shall maintain an up-to-date operation and maintenance plan including an inspection and monitoring program with written reports submitted to the department on a yearly basis. The inspection and monitoring program shall contain the actions required to maintain and keep the structure, its appurtenant works, and access in a state of repair and operating condition that would be required by the exercise of due care with regard for the safety of persons or property, using sound and accepted engineering principles, guidelines, and these rules.

(b) An operation and maintenance plan shall include the following:



- (1) Facility information and site map:
  - (A) Dam name;
  - (B) State dam inventory identification number;
  - (C) Owner's name;
  - (D) Stream;
  - (E) Location;
  - (F) Dam type; and
  - (G) Dam height, crest length, and crest width;
- (2) List of responsible parties, name, title, and telephone numbers, for the following:
  - (A) Operation;
  - (B) Maintenance;
  - (C) Inspection; and
  - (D) Monitoring of instrumentation;
- (3) List of hydraulic elements controlling inflow to or outflow reservoir, including gates, valves spillways, stoplogs, structures, etc. and the location and dimensions of structures;
- (4) Rules and procedures for reservoir operation, including how the reservoir level is controlled, proposed reservoir levels for given times of year, periods of drawdown, and filling and operation during floods;
- (5) List of items requiring periodic maintenance, and procedures for performing maintenance, including type of maintenance performed, frequency, method, and record keeping;
- (6) List of instrumentation, frequency of monitoring, and method of record keeping;
- (7) List of equipment to be periodically test operated, including gates, valves, hoists, and frequency of test operations;
- (8) Frequency of routine inspections and monitoring, for example, weekly, monthly, quarterly; and a list of key elements inspected;
- (9) Checklists, logbook, inspection forms for applicable items;

- (10) Copy of the latest inspection report; and
- (11) Appendices for any additional information.  
[Eff. FEB 20 2012 ] (Auth: HRS §179D-6)  
(Imp: HRS §179D-6)

§13-190.1-41 Emergency work. (a) Owners and operators of dams and reservoirs have the primary responsibility for determining when an emergency involving a dam or reservoir exists. When the owner or operator of a dam or reservoir suspects an emergency exists, the owner or operator shall immediately implement the emergency action plan required by section 13-190.1-42, and take additional actions necessary to safeguard life, health, and property.

(b) If, in the opinion of the department, conditions of any dam or reservoir are so dangerous to the health and safety of life or property as to not permit time for issuance and enforcement of an order relative to construction, modification, maintenance, or repair of the dam or reservoir, or the dam or reservoir is threatened by any large flood or other natural disaster, the department may immediately employ remedial measures necessary to protect life and property.

(c) The department shall provide coordination and assistance to the proper state or county agency or agencies to maintain control of any dam or reservoir that, pursuant to subsection (b), has been determined to be dangerous to life or property until the dam or reservoir is deemed safe, or until any emergency conditions that precipitated taking control of the dam or reservoir, pursuant to subsection (b), have been abated. The department may determine the proper time at which to relinquish control of the dam or reservoir.

(d) Any necessary and reasonable costs and expenses incurred by the department in fulfilling the duties mandated by subsections (b) and (c) in connection with a remedial or emergency action shall

be recoverable by the department from the owner of any dangerous or threatened dam or reservoir.

(e) Any owner failing or refusing, after written notice has been given, to pay the reasonable costs and expenses incurred by the department, in accordance with subsection (d), shall be, upon complaint by the department to the attorney general, subject to reasonable attorney's fees incurred in the recovery of the costs and expenses.

(f) All moneys collected by the department pursuant to subsection (d) shall be credited to the dam and reservoir safety special fund.

(g) If a condition arises that in the opinion of the department may pose a danger to the health and safety of persons or property and sufficient time permits, the board may issue orders reciting the existence of the condition and require any actions the board deems necessary. Any person to whom an order is directed may challenge the order, but shall immediately comply with the order, pending disposition of the person's challenge. The board shall give precedence to a hearing on the challenge over all other pending matters.

(h) In the case of an emergency where the board or department declares that repairs, breaching of the dam, or other actions, are immediately necessary to safeguard life and property, the department shall initiate remedial action at the owner's expense if the owner fails to act. The department shall be notified at once of any emergency repairs or other work instituted by the owner. [Eff. FEB 20 2012 ] (Auth: HRS §179D-6); (Imp: HRS §179D-24; HRS §179D-30)

§13-190.1-41.1 Emergency action by department.

(a) In applying the remedial means provided for in this chapter, the department may in an emergency with its own forces, or by other means at its disposal, do any or all of the following:

- (1) Take full charge and control of any dam or reservoir;

- (2) Lower the water level by releasing water from the reservoir;
- (3) Completely or partially drain the reservoir;
- (4) Perform any necessary remedial or protective work at the site; or
- (5) Take such other steps as may be essential to safeguard life and property.

(b) The department shall continue in full charge and control of such dam or reservoir and its appurtenances until they are rendered safe or the emergency occasioning the action has ceased and the owner or operator is able to take back such operations. The department's take over of the dam, the reservoir, or their appurtenances shall not relieve the owner of a dam or reservoir of legal liability to the department or third parties for those circumstances which caused an emergency situation. The department's assumption of control over the dam shall not constitute a taking and the department shall not be liable to the dam owner or others for diminution in value that may be caused by the department's work.  
[Eff. FEB 20 2012 ] (Auth: HRS §179D-6) (Imp: HRS §179D-24)

§13-190.1-42 Emergency action plan. (a) Owners of high and significant hazard dams shall prepare, maintain, and implement an emergency action plan for each dam or reservoir for immediate defensive action to alert and evacuate the affected population and to mitigate damages to property.

(b) The emergency action plan shall be submitted to the department.

(c) The emergency action plan shall contain at a minimum the following:

- (1) Guidance for determining emergency event levels;
- (2) A notification procedure for informing the department and local emergency response agencies;
- (3) An anticipated evacuation area;

- (4) Listing of official emergency action governmental plan holders;
- (5) Directions to the facility;
- (6) A location map and site map; and
- (7) Testing, training, and updated information for the plan.

(d) The owner shall submit a copy of the emergency action plan to the emergency response agencies in the appropriate county and other parties involved in the plan for review.

(e) The owner of a dam or reservoir shall be responsible for the production, distribution, maintenance, and testing of the emergency action plan with all governmental plan holders. [Eff.

FEB 20 2012 ] (Auth: HRS §179D-6) (Imp: HRS §179D-30)

## SUBCHAPTER 6

### REMEDIES

§13-190.1-43 Liens. (a) Costs of construction, enlargement, repair, alteration, or removal work done by the department or its agents to render a dam, reservoir, or appurtenances safe shall constitute a statutory lien against all property of the owner. Notwithstanding any other law to the contrary, the lien shall be considered prior and superior to all other mortgages, liens, or encumbrances of record even if those other mortgages, liens, or encumbrances were filed before the lien pursuant to this subsection becomes due.

(b) Liens pursuant to subsection (a) may be perfected and foreclosed in advance of or after completion of construction, enlargement, repair, alteration, or removal. If perfected in advance, the lien shall be perfected by the filing of an affidavit of the board setting forth the estimate of the costs of construction, enlargement, repair, alteration, or removal within the county in which the dam or reservoir is located in the same manner as prescribed

for mechanic's liens. When the affidavit is filed, the amount set forth in the affidavit shall be a lien in that amount against all property of the owner. If the actual cost of construction, enlargement, repair, alteration, or removal exceeds the estimated cost, the board may amend the affidavit setting forth the additional estimated cost. If the estimated cost exceeds the actual costs of construction, enlargement, repair, alteration, or removal at completion, the board shall file an amended affidavit at completion. If a lien is perfected in advance and the construction, enlargement, repair, alteration, or removal is not commenced within two years from the date of perfection, the lien shall be void. The board shall file a satisfaction of lien upon payment of the costs of construction, enlargement, repair, alteration, or removal by the owner. [Eff.

FEB 20 2012 ] (Auth: HRS §179D-6) (Imp: HRS §179D-26)

§13-190.1-44 Injunctive relief. Whenever in the judgment of the department any person has engaged in or is about to engage in any act or practice that constitutes or will constitute an unlawful action under chapter 179D, HRS, the department may apply to the circuit court of the county in which the unlawful act or practice has been or is about to be engaged in, or in which jurisdiction is appropriate, for an order enjoining the act or practice, or for an order requiring compliance with this chapter. Upon a showing by the department that a person has engaged in or is about to engage in any unlawful act or practice, a permanent or temporary injunction, restraining order, or other order shall be granted without the necessity of showing lack of an adequate remedy at law. [Eff. FEB 20 2012 ] (Auth: HRS §179D-6) (Imp: HRS §179D-23)

§13-190.1-45 Department action when multiple owners cannot mutually agree. If multiple owners of a dam or reservoir facility cannot mutually agree on a unified course of action for repair or remediation of a dam facility, the department shall issue and enforce actions to ensure public safety. Costs incurred may be recoverable by the department from the owners. [Eff. FEB 20 2012 ] (Auth: HRS §179D-6) (Imp: HRS §179D-23)

## SUBCHAPTER 7

### ENTRY UPON PROPERTY

§13-190.1-46 Entry upon property. (a) The department shall have the right to direct and conduct investigations as it may reasonably deem necessary, to carry out its duties as prescribed by statute. For this purpose, the agents or employees of the department or any authorized representatives may enter at reasonable times, without prior notice, any property, public or private, for the purpose of investigating the condition, construction, or operation of any dam, reservoir, or other artificial barrier dealt with in chapter 179D, HRS. If an emergency situation arises as determined by the department, the agents or employees of the department, or any authorized representatives, shall have the right to enter without prior notice, any property, public or private, for the purpose of investigating the condition, construction, or operation of the dam and to take any emergency remedial actions, without a search warrant or liability for trespass.

(b) It shall be unlawful for any person to refuse entry or access to any authorized representative of the department who requests entry for purposes of inspection and who presents appropriate credentials. It shall also be unlawful to obstruct, hamper, or interfere with any representative while in the process of carrying out the representative's official duties.

(c) Notwithstanding any other provision of law to the contrary, the board and its agents, engineers, other employees, or authorized representatives, for the purposes of enforcing chapter 179D, HRS, may enter upon any land or water in the State that is the subject of an inspection, investigation, or remedial actions without a search warrant or liability for trespass. [Eff. FEB 20 2012 ] (Auth: HRS §179D-6) (Imp: HRS §179D-22)

## SUBCHAPTER 8

### FEES

§13-190.1-50 Dam permit application fees for construction, repair, alteration, or removal. (a) The applicant or owner shall submit with the application for construction, enlargement, alteration, repair, or removal of a dam or reservoir, an application fee in the amount equal to two per cent of the estimated cost of construction, including engineering costs.

(b) For the purposes of this subchapter, the estimated cost of the construction, enlargement, alteration, repair, or removal shall include the following:

- (1) The cost of all labor and materials entering into the construction of the dam and appurtenant works or reservoir;
- (2) The cost of preliminary investigations and surveys;
- (3) The cost of the construction plans properly chargeable to the cost of the dam or reservoir; and
- (4) Any and all other items entering directly into the cost of the construction, enlargement, alteration, repair, or removal.

(c) The costs of right-of-way, detached powerhouses, electrical generating machinery, and roads and railroads affording access to the dam or



reservoir shall not be included among the items used in the determination of cost.

(d) An application shall not be considered by the department until the application fee is received.

(e) In the event the actual cost exceeds the estimated cost by more than fifteen per cent, a further fee shall be required by the board before final approval and shall be two per cent of the amount the actual cost exceeded the estimated cost of the construction, enlargement, alteration, repair, or removal. No further fee shall be required, if such fee is to be computed at less than twenty dollars. [Eff.

FEB 20 2012 ] (Auth: HRS §179D-6) (Imp: HRS §179D-6)

§13-190.1-51 Certificate of approval to impound fee. The owner shall submit with the application for a certificate of approval to impound payment of a fee in the amount of four hundred dollars. [Eff.

FEB 20 2012 ] (Auth: HRS §179D-6) (Imp: HRS §179D-6)

§13-190.1-52 Annual fees. (a) An annual fee shall be paid by the owner of the dam, on or before December 31 of each year, for the following calendar year, based upon a fixed rate and height of the dam. The annual fee shall be five hundred dollars per dam, plus one hundred ten dollars per foot of height.

(b) Any owner who fails to pay any annual fee or any part of any annual fee required to be paid within the time required shall pay a penalty of ten per cent of the annual fee or part of the annual fee, plus interest at the rate of one-half of one per cent per month, or for each fraction of a month, from the date on which the annual fee or the part of the annual fee became due and payable to the department until the date of payment.

(c) For the purposes of this section, "height of the dam" means the vertical distance, to the nearest foot, from the natural bed of the stream or

watercourse at the downstream toe of the barrier, as determined by the department, or from the lowest elevation of the outside limit of the barrier, as determined by the department, if it is not across a stream channel or watercourse, to the maximum water storage elevation. [Eff. FEB 20 2012 ] (Auth: HRS §179D-6) (Imp: HRS §179D-6)

DEPARTMENT OF LAND AND NATURAL RESOURCES

The repeal of Chapter 13-190 and the adoption of Chapter 13-190.1, Hawaii Administrative Rules, on the Summary Page dated November 22, 2010, were adopted on November 22, 2010, following public hearings held on Kauai on October 12, 2010; on Oahu on October 13, 2010; on Maui on October 14, 2010; and on Hawaii on October 15, 2010; and after public notice was given in the Honolulu Star Advertiser on September 10, 17, & 24, 2010 and on October 1, 2010, Hawaii Tribune Herald on October 1 & 8, 2010, and Maui News and Kauai News on September 27, 2010 and on October 6, 2010.

The repeal of chapter 13-190 and the adoption of chapter 13-190.1, Hawaii Administrative Rules, shall take effect ten days after filing with the Office of the Lieutenant Governor.

  
WILLIAM J. AILA, JR., Chairperson  
Board of Land and Natural Resources

APPROVED AS TO FORM:

LIEUTENANT GOVERNOR'S  
OFFICE

  
Deputy Attorney General

Date: 12/5/11

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APPROVED:  
  
NEIL ABERCROMBIE, Governor  
State of Hawaii

2-8-12  
Date

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Date Filed

