Dam Safety Enforcement Update

Briefing for the Board of Land and Natural Resources
March 25, 2021
DLNR Engineering Division
Flood Control and Dam Safety Section
Purpose of Briefing

• Dam Safety Program and Board Authority
• Enforcement Plan

Hawaii Dam and Reservoir Safety Program

...to protect the health, safety, and welfare of the citizens of the State by reducing the risk of failure of dams and reservoirs
Background and Recap of 2020 Board Briefing
Hazard Potential Classification

HIGH HAZARD - means a dam or reservoir failure will result in probable loss of human life.

SIGNIFICANT HAZARD - means a dam or reservoir 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.

LOW HAZARD - means a dam or reservoir failure will 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.
Overall Condition Assessment

- **Satisfactory**: No existing or potential dam safety deficiencies are recognized. Acceptable performance is expected under all loading conditions (static, hydrologic, seismic) in accordance with the applicable regulatory criteria or tolerable risk guidelines.

- **Fair**: No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency. Risk may be in the range to take further action.

- **Poor**: A dam safety deficiency is recognized for loading conditions which may realistically occur. Remedial action is necessary. POOR may also be used when uncertainties exist as to critical analysis parameters which identify a potential dam safety deficiency. Further investigations and studies are necessary.

- **Unsatisfactory**: A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.

Overall Condition Assessment Classifications based on the 2018 National Inventory of Dams

- 31% Poor
- 5% Unsatisfactory
- 2% Satisfactory
- 61% Fair
## Overall Condition Assessment

<table>
<thead>
<tr>
<th>Overall Condition Assessment</th>
<th>Kauai County</th>
<th>C&amp;C of Honolulu</th>
<th>Maui County</th>
<th>Hawaii County</th>
<th>Statewide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfactory</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Fair</td>
<td>27</td>
<td>5</td>
<td>44</td>
<td>4</td>
<td>80</td>
</tr>
<tr>
<td>Poor</td>
<td>23</td>
<td>5</td>
<td>8</td>
<td>5</td>
<td>41</td>
</tr>
<tr>
<td>Unsatisfactory</td>
<td>0</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>13</td>
<td>56</td>
<td>10</td>
<td>131</td>
</tr>
</tbody>
</table>
Gov’t Ownership of Regulated Dams

Hazard Classifications are based on the Pacific Disaster Center (PDC) Inundation Studies Initiated in 2006
Kauai County has two dams owned by both the State (DLNR) and the Kauai County
(these dams are accounted for in both the State and the County totals)
Honolulu has a dam with an assumed High Hazard Potential Classification dam, which has not been studied
Honolulu has two dams owned by the Federal Government (US Army)

<table>
<thead>
<tr>
<th>Hazard Potential Classification</th>
<th>Statewide</th>
<th>Kauai County</th>
<th>C&amp;C of Honolulu</th>
<th>Maui County</th>
<th>Hawaii County</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Dam Owned</td>
<td>State Owned</td>
<td>County Owned</td>
<td>Total Dam Owned</td>
<td>State Owned</td>
</tr>
<tr>
<td>High</td>
<td>122</td>
<td>13</td>
<td>17</td>
<td>48</td>
<td>8</td>
</tr>
<tr>
<td>Significant</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Low</td>
<td>5</td>
<td>3</td>
<td>1</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>131</td>
<td>16</td>
<td>19</td>
<td>52</td>
<td>11</td>
</tr>
</tbody>
</table>

Notes:
Federal 2%
State 14%
County 16%
Private 68%
Kaloko Dam Failure

March 14, 2006
Kaloko Dam Break, Kauai
7 lives lost

Photo credit: Star Bulletin
Incidents

December 11, 2008
Helemano 11 Overtopping, Oahu

March 14, 2006
Morita Reservoir Overtopping, Kauai

Kahena Dam Breach, Hawaii

1994
Horner Reservoir Breach, Maui

March 8, 2021
Kaupakalua Reservoir Overtopping, Maui
Hawaii Dam and Reservoir Safety Act of 2007
BLNR Authorities (HRS 179D)

➢ Consider dams and reservoirs as important water resources for the State that provide significant benefits to the general public, including irrigation for agriculture and other important uses, and acknowledge the need for dams and reservoirs to be consistently maintained and operated in a safe and feasible manner that sustains their roles as important water resources; provided that public safety concerns are addressed;

➢ Establish Rules

➢ Catalog and Maintain Inventory of Regulated Dams and Reservoirs

➢ Approve, Suspend or Revoke Dam Safety Permits for Construction, Alteration, & Removal

➢ Issue Certificates of Approval to Impound

➢ Issue Orders for Remedial Measures

➢ Enforcement Actions including Civil Penalties and Placing liens on Property
Major Functions of the Dam Safety Program

- Permits - New, Alteration, or Removal
- Inspections
- Enforcement Actions
- Technical Assistance
- Certificate to Impound Water
- Emergency Preparedness Assistance
- Training & Outreach
- Inventory & Classifications
- Assistance
State of Hawaii  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
Engineering Division  
Honolulu, Hawaii 96813  

January 24, 2020

Board of Land and Natural Resources  
State of Hawaii  
Honolulu, Hawaii

REQUEST THAT THE BOARD DELEGATE AUTHORITY TO THE CHAIRPERSON AND THE CHAIRPERSON’S DESIGNEE, THE POWERS AND DUTIES IDENTIFIED IN HAWAII ADMINISTRATIVE RULES CHAPTER 13-190.1 “DAMS AND RESERVOIRS” EXCEPT FOR HAR CHAPTER 13-190.1 SECTIONS 13-190.1-14(C), 13-190.1-23(B), 13-190.1-43, AND 13-190.1-44; AND AUTHORIZE THE CHAIRPERSON TO SIGN OTHER NECESSARY DOCUMENTS RELATED TO THESE POWERS AND DUTIES

The Engineering Division (Division) hereby submits for your approval a request to delegate certain administrative powers of Hawaii Administrative Rule Title 13, (HAR) Chapter 190.1, entitled “Dams and Reservoirs” to the Chairperson or the Chairperson’s designee. HAR Chapter 190.1 details the administrative processes in carrying out the Board’s duties set forth in Hawaii Revised Statutes (HRS) Chapter 179D, “the Hawaii Dam Safety Act of 2007”.

BLNR Dam Safety Roles (in green)

- **Training & Outreach**
- **Inventory & Classifications**
- **Inspections**
- **Enforcement Actions**
- **Emergency Preparedness Assistance**
- **Certificate to Impound Water**
- **Technical Assistance**
- **Permits - New, Alteration, or Removal**

- Board shall Approve Issuance of Certificates
- Board may Set / Charge Administrative Penalty And Impose Liens
- Board shall Approve Dam Safety Permits
Dam Safety Enforcement
Enforcement Actions

Notice of Deficiency

Board Action

Civil Resource Violation
Notice of Deficiency

What triggers an NOD?

• Dam poses a safety risk, or is at risk of failure
  ✓ Dam owner violates a regulation(s)
  ✓ Unaddressed dam deficiencies
  ✓ Dam in unsatisfactory or poor condition
Notice of Deficiency

Owner/Operator Mitigation Options

- Monitoring of deficiencies
- Retain consultant
- Complete required studies

Dam Safety Permit Application

- Submit completed Dam Safety permit application

Initiate Construction

- Start construction

Department will set Remediation Milestones

Failure to meet these milestones will result in Enforcement Actions issued administratively or by the Board of Land & Natural Resources
### Dam Safety Administrative Penalties Schedule

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Violation</th>
<th>Authorities</th>
<th>Fine - First Violation</th>
<th>Fine - Repeat Violation*</th>
<th>Chronic Violator#</th>
<th>Other Penalties^</th>
<th>Compliance Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>MINOR</td>
<td><strong>Impoundment Certificate Violations</strong></td>
<td>HRS §§179D-6, 21; HAR §13-190.1-11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5-1</td>
<td>Failure to file an application to impound</td>
<td>HAR §§13-190.1-12, 51</td>
<td>Up to $500</td>
<td>Up to $1,000</td>
<td>May take Board action</td>
<td></td>
<td>Comply within 21 days or as directed</td>
</tr>
<tr>
<td>5-2</td>
<td>Unsafe impoundment after being noticed by the Department</td>
<td>HAR §13-190.1-14(f)</td>
<td>Up to $1,000</td>
<td>Up to $2,000</td>
<td>May take Board action</td>
<td></td>
<td>Comply within 21 days or as directed</td>
</tr>
<tr>
<td>5-3</td>
<td>Impoundment in violation of restrictions, terms or conditions of certificate</td>
<td>HAR §13-190.1-15</td>
<td>Up to $1,000</td>
<td>Up to $2,000</td>
<td>May take Board action</td>
<td>Suspension of Approval to Impound</td>
<td>Comply within 21 days or as directed</td>
</tr>
<tr>
<td><strong>Permit Violations</strong></td>
<td></td>
<td>HRS §179D-6, HAR §13-190.1-20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5-4</td>
<td>Violation of permit terms, conditions or schedules</td>
<td>HAR §13-190.1-20</td>
<td>Up to $1,000</td>
<td>Up to $2,000</td>
<td>May take Board action</td>
<td>Suspension of permit</td>
<td>Comply within 21 days or as directed</td>
</tr>
<tr>
<td>5-5</td>
<td>Failure to furnish requested information or submit required documents or reports</td>
<td>HRS §179D-6(b)(3) HAR §§13-190.1-30 and 31</td>
<td>Up to $1,000</td>
<td>Up to $2,000</td>
<td>May take Board action</td>
<td>Suspension of permit</td>
<td>Comply within 21 days or as directed</td>
</tr>
<tr>
<td>5-6</td>
<td>Conducting minor construction work on dam without permit+</td>
<td>HAR §13-190.1-20(a)</td>
<td>Up to $1,000</td>
<td>Up to $2,000</td>
<td>May take Board action</td>
<td></td>
<td>Comply within 21 days or as directed</td>
</tr>
<tr>
<td>5-7</td>
<td>Conducting moderate or major construction work on dam without permit+</td>
<td>HAR §13-190.1-20(a)</td>
<td></td>
<td></td>
<td></td>
<td>Land Board action required</td>
<td></td>
</tr>
</tbody>
</table>

*This table used to determine the fine amounts for first and repeat violations. For chronic violators, the table can be used to discern between minor and major violations. (If not marked MINOR, it’s a MAJOR.)*
### Dam Safety Administrative Penalties Schedule

This table used to determine the fine amounts for first and repeat violations.

For chronic violators, the table can be used to discern between minor and major violations. *(If not marked **MINOR**, it’s a **MAJOR**.)

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Violation</th>
<th>Authorities</th>
<th>Fine - First Violation</th>
<th>Fine - Repeat Violation</th>
<th>Chronic Violator#</th>
<th>Other Penalties#</th>
<th>Compliance Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>MINOR</td>
<td>Failure to maintain required O&amp;M plan</td>
<td>HAR §13-190.1-40.1</td>
<td>Up to $500</td>
<td>Up to $1,000</td>
<td>Make take Board action</td>
<td>Suspension of permit</td>
<td>Comply within 21 days or as directed</td>
</tr>
<tr>
<td>MINOR</td>
<td>Failure to submit required EAP or EAP updates (high and significant dam owners)</td>
<td>HAR §13-190.1-42</td>
<td>Up to 500</td>
<td>Up to $1,000</td>
<td>Make take Board action</td>
<td>Suspension of permit</td>
<td>Comply within 21 days or as directed</td>
</tr>
<tr>
<td></td>
<td>Failure to cooperate with the Board's agents in carrying out HRS Chapter 179D duties</td>
<td>HRS §§179D-6(b)(4), 30(3)</td>
<td>Up to $1,000</td>
<td>Up to $2,000</td>
<td>Make take Board action</td>
<td>Suspension of permit</td>
<td>Comply within 21 days or as directed</td>
</tr>
<tr>
<td>MINOR</td>
<td>Failure to allow DLNR staff or representative access to dam or reservoir</td>
<td>HAR §13-190.1-46</td>
<td>Up to $1,000</td>
<td>Up to $2,000</td>
<td>Make take Board action</td>
<td>Suspension of permit</td>
<td>Comply within 21 days or as directed</td>
</tr>
<tr>
<td>MINOR</td>
<td>Failure to furnish requested information by stipulated deadline</td>
<td>HRS §179D-30(5)</td>
<td>Up to 500</td>
<td>Up to $1,000</td>
<td>Make take Board action</td>
<td>Suspension of permit</td>
<td>Comply within 21 days or as directed</td>
</tr>
<tr>
<td></td>
<td>Failure to pay the annual dam owner fee</td>
<td>HAR §13-190.1-52</td>
<td>10% of the delinquency plus interest</td>
<td>Make take Board action</td>
<td>Suspension of permit</td>
<td>Comply within 21 days or as directed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Failure to complete corrective actions as ordered by the Board or its agent</td>
<td>HRS §179D-5(b)(16), HAR §§13-190.1-32, 40(c)</td>
<td>Up to $1,000</td>
<td>Up to $2,000</td>
<td>Make take Board action</td>
<td>Suspension of permit</td>
<td>Comply within 21 days or as directed</td>
</tr>
<tr>
<td></td>
<td>Failure to timely address unsafe or emergency conditions</td>
<td>HAR §13-190.1-41</td>
<td>Up to $2,000</td>
<td>Up to $4,000</td>
<td>Make take Board action</td>
<td>Suspension of permit</td>
<td>Comply within 21 days or as directed</td>
</tr>
<tr>
<td></td>
<td>Failure to repay costs of emergency actions</td>
<td>HAR §13-190.1-41(d) and (e)</td>
<td>Up to $1,000</td>
<td>Up to $2,000</td>
<td>Make take Board action</td>
<td>Suspension of permit</td>
<td>Comply within 21 days or as directed</td>
</tr>
</tbody>
</table>
Penalty Calculation
For Board Action

Penalty = $ (Risk from dam failure)

- Major or minor violation
- Hazard classification
- Overall condition

Note: Based on an internal guideline Dam Safety Violation Penalties Framework

- Major violations are associated with CRVS items 5-2, 5-3, 5-4, 5-5, 5-6, 5-7, 5-10, 5-11, 5-13, 5-14, 5-15, and 5-16. Table 1 shows the penalty guideline framework for these items.

<table>
<thead>
<tr>
<th>Hazard Classification</th>
<th>High</th>
<th>Sign</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>$20K</td>
<td>$15K</td>
<td>$5K</td>
</tr>
<tr>
<td>Significant</td>
<td>$25K</td>
<td>$20K</td>
<td>$10K</td>
</tr>
<tr>
<td>Poor</td>
<td>UNSATISFACTORY</td>
<td>Overall Condition Classification</td>
<td></td>
</tr>
</tbody>
</table>

Table 1. Penalty guideline framework for the major violations.

- Minor violations are associated with the remaining CRVS items 5-1, 5-8, 5-9, and 5-12. Table 2 shows the penalty guideline framework for these items.

<table>
<thead>
<tr>
<th>Hazard Classification</th>
<th>High</th>
<th>Sign</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>$5K</td>
<td>$5K</td>
<td>$5K</td>
</tr>
<tr>
<td>Significant</td>
<td>$5K</td>
<td>$5K</td>
<td>$5K</td>
</tr>
<tr>
<td>Poor</td>
<td>UNSATISFACTORY</td>
<td>Overall Condition Classification</td>
<td></td>
</tr>
</tbody>
</table>

Table 2. Penalty guideline framework for the minor violations.
Recap of Dam Safety Enforcement Plan

**Notice of Deficiency**
- Informs dam owner of violation(s)
- Remediation schedule & deadlines

**Civil Resource Violation**
- Unaddressed items from Notice of Deficiency
- First or second violators (typically)
- Fines up to $4,000 per incident

**Board Enforcement Action**

**Board Action**
- Chronic violators
- Fines up to $25,000 per incident per day
- Other, additional actions

**DLNR Enforcement Actions**
Thank you

Q & A