



East Barre Dam Flowage during 2023 Flood, Barre Town

Dam Failure Emergency Operation Planning and H.778

House Committee on Environment and Energy

January 4, 2026

Ben Green, PE – VTDEC Dam Safety Program – Section Chief

Sarah Moore – VTDEC Dam Safety Program - Administrator

Presentation overview:

- Brief overview of Dam Safety Program.
- Review Act 121 and establishment of Emergency Operations Planning (EOPs) Committee.
- Review EOP Committee's work and Final Report
- Discuss H.778



Waterbury Dam during Flood Operations

Brief Dam Safety Program Overview

- Located in the Water Investment Division (WID) within VTDEC
- "The mission of the DSP is to reduce risks to life, property, and the environment from dam incidents and dam failure through effective communication, education, regulation, and dam ownership"
- RESPONSIBILITIES:
 - dam regulation
 - dam ownership
- CURRENT STAFFING:
 - (2) licensed engineers, (3) staff engineers, (1) technician
 - (1) program administrator
 - (1) project/budget manager and (1) project engineer (recruiting)
- REGULATORY: 10 V.S.A Chapter 43: Dams, Non-federal, Non-power dams (Rules in development)
- DEC DAM OWNERSHIP: 14 dams including the (3) Winooski River Flood Control Dams



Lake Groton Dam, Groton

Act 121 Overview

- Act 121 (2024 Acts and Resolves, No. 121, Section 22) established the Study Committee on Dam Emergency Operations Planning.
- Committee tasked with making recommendations on how to improve regional emergency operation planning for hazards caused by a potential dam failure.
- Focused on Vermont's High Hazard Potential Dams, which are dams where failure cause probable loss of human life.



Study Committee on Dam Emergency Operations Planning **Report to the General Assembly**

Report Date: August 18, 2025

Primary Contacts:

Committee Chairperson:

Benjamin Green, PE, Dam Safety Engineer
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Authorizing Statute: 2024 Acts and Resolves, No. 121, Section 22

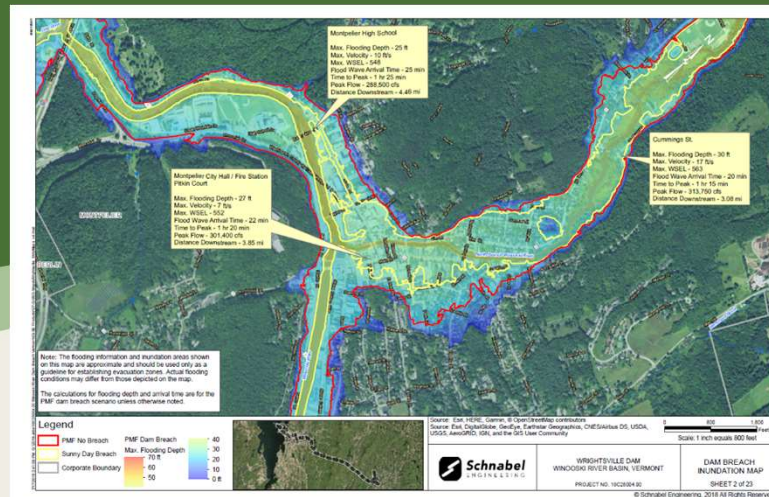
EOP Committee

COMMITTEE MEMBERS

- Ben Green, DSP
- Michaela Foody, VEM
- Chris Campany, Windham RPC
- Christian Meyer, Central VT RPC
- John Tedesco, GMP
- Scott Johnstone, MWL
- Jan Sotirakia, EMD, Chittenden
- William Lovett, Fire Chief/EMD, Rutland

SCOPE

- Participate in 9 meetings
- Identify all HIGH hazard potential dams in Vermont.
- Identify guiding principals and challenges
- Provide findings and recommendations in a legislative Report



High Hazard Potential Dams



- **HIGH Hazard Potential Dam** – a dam where failure or mis-operation will probably cause loss of a human life.
- Vermont currently has 74 HIGH hazard potential dams. Potential loss of human life estimates due to failure of these dams vary by dam and can be as few as 1 to in the hundreds.
- HIGH hazard potential dam failure is considered a low probability, high consequence event.

High Hazard Potential Dams

Number of HIGH Hazard Potential Dams by Regulator

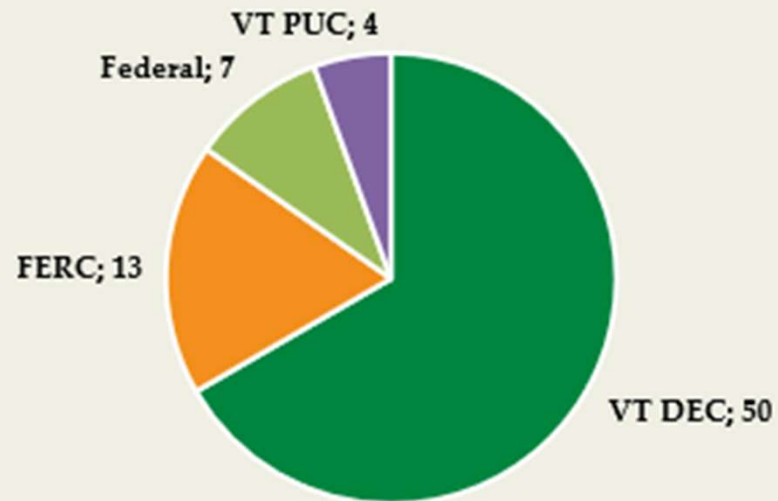


Chart of Vermont HIGH Hazard Potential Dams by Regulatory Authority

Number of HIGH Hazard Potential Dams by Ownership Type

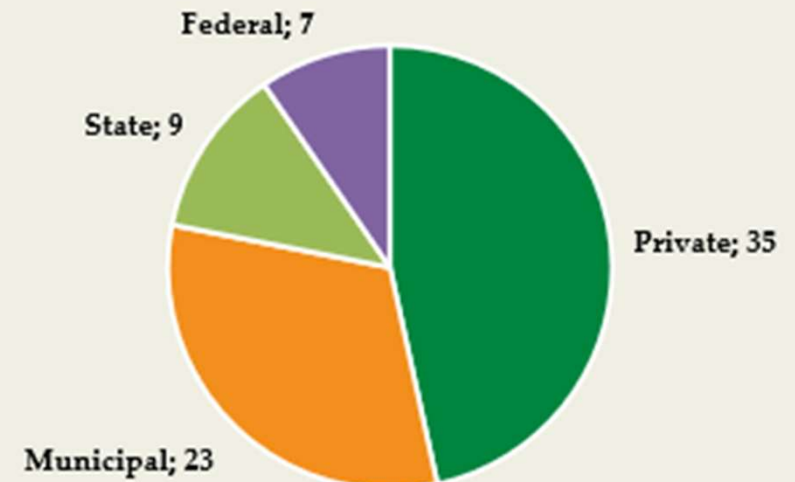


Chart of Vermont HIGH Hazard Potential Dams by Ownership Type

EAP vs. EOP

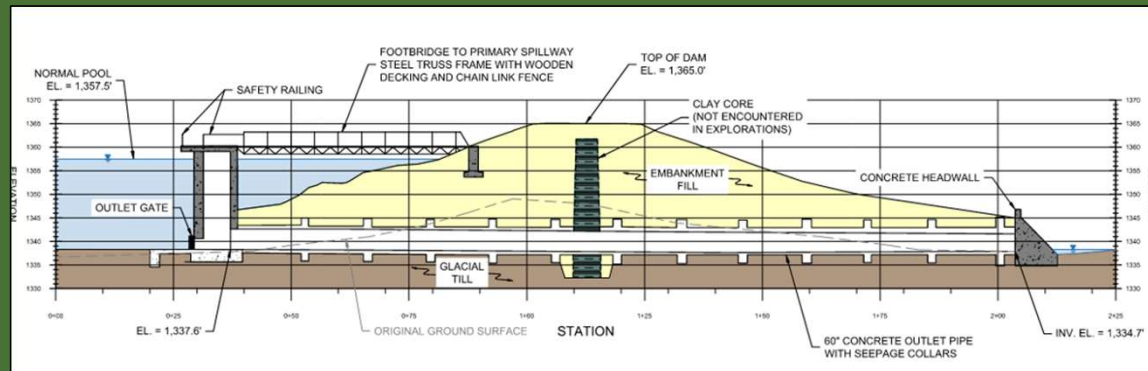
- **Emergency Action Plan (EAP)** – An ongoing, written plan prepared by a dam owner that identifies the area (or region) that would likely be inundated by the failure of a dam and identifies the actions that should be taken by the dam owner to protect life, property, lifelines, and the environment in the event of a dam failure or threatening condition at the dam. The plan is usually implemented in cooperation with the local, regional, and State emergency personnel. (§ 37-103 of the Vermont Dam Safety Rule)
- **Emergency Operations Plan (EOP)** – An ongoing plan prepared by local emergency managers and maintained by various jurisdictional levels for responding to a wide variety of potential hazards. It is a response-oriented plan that describes how people and property will be protected; details who is responsible for carrying out specific actions; identifies the personnel, equipment, facilities, supplies, and other resources available; and outlines how all actions will be coordinated. A dam failure EOP can be prepared by local emergency managers once an EAP has been prepared by a dam owner.

Guiding Principles Identified by Committee

- EAPs and EOPs are proactive emergency planning documents whose effectiveness are directly attributed to the effort invested.
- There is need for increased dam safety awareness amongst municipalities.
- EAPs are developed and maintained by dam owners and focus on communicating dam incidents to downstream EMDs and preventing dam failure.
- EOPs are municipal emergency plans to protect people and property from potential dam failures.
- A regularly updated EAP that meets regulatory standards is needed for EOPs to be effective.
- At the local level, support from municipal leadership for emergency preparedness is needed.
- Trust and relationship building between all parties is the key to success in planning.
- The planning team must include local EMDs due to their local expertise, knowledge of their manpower, capabilities, and equipment.
- More funding opportunities are needed to assist municipalities in emergency preparedness associated with HIGH hazard potential dams.

DSP's Role

- Dam Owner: Responsible for developing and maintaining EAPs for our dams and sharing these plans with downstream communities.
- Dam Regulator: Will be responsible (pending upcoming rules) for requiring owners of HIGH and SIGNIFICANT hazard dams to develop, maintain, and update EAPs for their dams.



Study Committee Findings and Recommendations

- With lack of regional authorities/government in Vermont, keeping the responsibility at the Municipal level is recommended.
- Pilot project recommended to produce EOPs for 1/2 State-owned dams to test process and determine accurate costs.
- Successes and challenges, best completion methods, lessons learned, recommended guidance, instructional materials, and templates to support effective EOPs should be documented.
- EOP funding supported by State and Federal opportunities.
- The Committee considered four options for EOP development:

Recommendations for EOP Preparation

Option 1 – Municipality Prepares Dam Failure EOP

- Current system
- Unsupported/unfunded, low compliance

Option 2 – RPC assists municipalities with municipality-specific EOP preparation

- Municipality maintains responsibility
- Supported by RPC

Option 3 – VEM Regional Coordinators assist municipalities with preparing EOPs

- Municipality maintains responsibility
- Supported by VEM

Option 4 – A Consultant is hired to develop EOPs for pre-set number of HIGH hazard dams

- Municipality maintains responsibility
- Supported by Consultant managed by VEM, DSP, or other

Bill H.778 – DSP Comments

- Bill proposes VEM develop EOPs for every dam with a Population at Risk (PAR) of
 - 100 to 999: Includes ~22 DEC regulated dams - 2 state-owned, 9 municipal, 11 private.
 - 1,000 or greater: Includes ~11 DEC regulated dams - 3 state-owned, 6 municipal, 2 private
 - High Hazard Dams not regulated by DEC (Public Utility Commission (4), FERC (13), and Federal (7)) do not have readily available PAR estimates. Ability to gain PAR will have to be investigated, may require navigating Critical Energy Infrastructure Information.
- Limits scope to subset of DEC regulated dams, excludes dams regulated by PUC, FERC, Feds.
- Suggests a single EOP be prepared for each dam. EOPs will need be needed for each municipality within a flood inundation zone of a dam for this project to accomplish its goals.
- Suggests VEM coordinate with the dam owner regarding substance of the required EOP. Dam owners are not emergency management professionals and likely not well suited for this task.
- VEM submit completed EOP to each municipality in the dam failure flood inundation zone. Each municipality will need to have their own customized EOP developed with local input to be valuable.
- Pilot Project: State dams with PAR >1,000 are Waterbury Dam, Wrightsville Dam, and East Barre Dam. May be value to perform pilot on one DEC flood control dam and a dam with a lower PAR in a more rural area with less resources outside Winooski River Valley.

Thank you! Questions?

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Wrightsville Dam during Flood Operations