

Response from VT Dam Safety Program pertaining to the Chairs' question on how rulemaking would differ on what we do now (current practice).

The current situation, guidance instead of prescriptive rules, allows for case by case and site specific flexibility. It would be impossible to write rules to address every situation. Even if separate sections or tiers were created based upon hazard class, the ability to tailor a design to an individual case would be limited. This would place a burden upon dam owners and likely lead to fewer repairs, totally contrary to the desire of the Dam Safety Program. This would likely lead to adversarial unsafe dam proceedings with dam owners, consuming staff time and limiting ability to conduct inspections and work with willing owners. This is in addition to the anticipated arduous task of writing, reaching consensus, and approval of all-encompassing rules as laid out H.37.

1108. RULEMAKING

1108(b)(1) Standards for the siting and design of dams that consider both existing and projected conditions that may affect the safety of a project during construction or during the operational life of the dam.

Current Practice:

- Dams capable of impounding greater than 500,000 cubic feet of water or other liquid must receive authorization from the VT DEC before constructing, enlarging, raising, lowering, reconstructing, altering, removing, or breaching. (10 VSA §1082)
- Any person who proposes to undertake an action subject to regulation pursuant to §1082 shall apply in writing (10 VSA §1083).
- 10 VSA §1080(4), §1083(b), §1090, and application guidance (page 5 of 6) require and expect that all dams will be designed in accordance with generally accepted modern engineering practices by qualified and experienced professional engineers licensed in the State of Vermont.
- Although VT DEC has not formally adopted specific design criteria, general standards that are used by the department are identified on page 5 of 6 of the application guidance.
- 10 VSA §1087 requires that upon receipt of an application, an engineer investigate the property, review the plans and specifications, and make additional investigations as it considers necessary to ensure that the project adequately provides for public safety.
- 10 VSA §1086 requires that VT DEC must find that the proposed project will serve the public before an Order (permit) is issued for the project. One of the 14 criteria evaluated is public safety.
- 10 VSA §1090 requires that authorized construction or other action be supervised by a licensed engineer employed by the applicant. Upon completion of the project, the engineer shall certify in writing that the project has been completed in conformance with the approved plans and specifications. This certification is required as a condition in the Order.

Conclusion: The Dam Safety Program feels that the statute (10 VSA Chapter 43), application requirements, application review, and the required construction supervision and certification meet the intent of 1108(b)(1) without the need for rulemaking.

1108(b)(2) Standards for dam operation, including operation plans to be prepared and implemented by dam owners.

Current Practice:

- An Operation and Maintenance (O&M) Manual is generally required for all new construction and most reconstruction and alterations, in accordance with the application guidance (page 4 of 6). Included, as appropriately, are: project description, records, photos; operating practices for gates, spillways, etc.; maintenance practices; inspections, frequency for owner/operator and owner's engineer; inspection check lists; recordkeeping, etc.
- O&M plans are usually required via the issued Order.

Conclusion: The Dam Safety Program feels that the statute (10 VSA Chapter 43), application requirements, application review, and Order are adequate to meet the intent of 1108(b)(2)

1108(b)(3) Requirements for monitoring, inspecting, and reporting conditions affecting the safety and operation of a dam

Current Practice:

- These would be covered under the O&M Manual discussed above.
- Conclusion: The Dam Safety Program feels that the statute (10 VSA Chapter 43), application requirements, application review, and Order are adequate to meet the intent of 1108(b)(2)

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1108(b)(4) Requirements for preparing and implementing emergency action plans by dam owners when determined necessary by the Secretary.

Current Practice:

- In accordance with the application guidance, an Emergency Action Plan (EAP) is recommended for all dams, particularly Class I (high hazard) structures. An EAP is required for all new Class I and Class II dams. The EAP should be developed in coordination with the affected municipalities and be acceptable to them. Coordination with Vermont Emergency Management is also recommended.
- The Dam Safety program has been using the FEMA dam safety grant to assist High Hazard dam owners in completing EAPs. Once the High Hazard Dams are completed, Significant Hazard

Dams will begin. The cost of a complete EAP is typically \$15,000 to \$20,000 with inundation mapping.

Conclusion: Public safety can be improved with increased numbers of EAPs, especially for High and Significant Hazard dams. It would take over ten years to complete EAPs for the Significant Hazard dams based on the current FEMA grant amounts. EAPs, especially for High Hazard dams, are required in the Order or offered to the dam owner via the FEMA grant. The Dam Safety program feel the intent of 1108(b)(4) is being met with the use of the FEMA grant and Orders to increase the number of EAPs. Specific rules may require EAPs to be completed in a faster time frame than can be accomplished with the use of the FEMA grant and Orders, however it is likely the compliance rate would be low due to the high cost to dam owners.