dcr
Massachusetts

Subject: Public Safety Notice Regarding Spillway Adequacy

Dear Dam Owner:

The Department of Conservation and Recreation (DCR) Office of Dam Safety (ODS) is contacting you to share information pertaining to the spillway adequacy of dams. The term "adequate spillway capacity" is defined as the ability of a dam's existing primary spillway, as well as auxiliary spillway (if available), and other discharge/outlet works to pass the Spillway Design Flood (SDF) without overtopping the dam. Dam Safety regulations 302 CMR 10.03 defines the Spillway Design Flood as "the flood used in the design of a dam and its appurtenant works particularly for sizing the spillway(s) and outlet works, and for determining maximum temporary storage and height of dam requirements."

Details regarding the SDF applicable to your dam(s) are provided in Attachment A to this letter. Additional details regarding computing SDFs are provided in Attachment B to this letter.

ODS requests that you complete and return Attachment C to acknowledge receipt of this letter and provide updated contact information. Because ODS records indicate that your dam has an unknown spillway adequacy, it is recommended that you hire an engineer to review 1) all records pertaining to the adequacy of your dam's spillway, and 2) conduct and submit to ODS an updated hydrologic and hydraulic analysis demonstrating the spillway adequacy of your dam using an appropriate methodology. Please submit findings to ODS no later than 180 days from the date of this letter.

302 CMR 10.08 (7) states that when the spillway capacity of the existing dam does not meet stated criteria, the Commissioner may require the dam owner's engineer to perform a relative impact analysis. This analysis shall address such factors as: downstream impact area, capacity and/or condition of outlet work(s), overtopping potential, operation plans, consideration of incremental impacts of possible failure, and Emergency Action Plans. A reduction in the standard design flood may be allowed to such dam upon review and approval by the Commissioner.

As a dam owner, you are responsible for maintaining and operating your dam in a manner that is protective of public safety. Per 302 CMR 10.13 (1), you are reminded that a dam "owner shall be responsible and liable for damage to property of others or injury to persons, including but not limited to, loss of life resulting from the operation, failure of or mis-operation of a dam." You are therefore responsible for any adverse consequences that may occur downstream of your dam as a result of damage that occurs to your dam during an extreme rainfall event. It is recommended that you maintain the operability of your spillway and outlet works and always ensure they are free and clear of debris and obstructions to flow, especially during periods of significant rainfall and runoff events.

You are reminded that it is the obligation of the dam owner to contact and notify all applicable local, state, and federal permitting agencies prior to conducting any work at a dam including manipulation of water levels.

If you have any questions or require assistance responding to this request, please contact David Ouellette, P.E. of ODS by phone at 617-549-3553 or by email at David.Ouellette@mass.gov.

Thank you for your attention to this important public safety concern and for your anticipated cooperation.

Sincerely,

William C. Salomaa, Director
Office of Dam Safety

Attachment A

302 CMR 10.14 Design and Construction Criteria for New and Existing Dams

(6) Spillway Design

(a) The spillway system shall have a capacity to pass a flow resulting from a design storm, as indicated in the following table, unless the applicant provides calculations, designs and plans to show that the design flow can be stored, passed through, or passed over the dam without failure occurring.

SPILLWAY DESIGN FLOOD DESIGN STORM

Hazard Potential	Size	Existing Dams	New Dams
Low	small intermediate large	50 year 50 year 100 year	100 year 100 year 100 year
Significant	small intermediate large	100 year 100 year 500 year	500 year 500 year ½ PMF
High	small intermediate large	500 year ½ PMF ½ PMF	PMF PMF PMF

Attachment B
Spillway Design Floods (SDFs)

The 50, 100, or 500 year flood flow is usually determined by a registered Professional Engineer's analysis that applies the appropriate rainfall over a 24-hour period, as determined from National Oceanic and Atmospheric Administration's (NOAA) Atlas 14, to a rainfall-runoff model such as the U.S. Army Corps of Engineers Hydrologic Engineering Center Hydrologic Modeling System (HEC-HMS); or performing a peak discharge frequency analysis utilizing annual peak stream flows from an appropriate USGS gage record, if available. The USGS gage record technique may be appropriate if the dam/reservoir area does not contain significant surcharge storage and the peak flood discharge is going to be used for spillway design.

Attachment C
Acknowledgement

I acknowledge receipt of the DCR ODS letter regarding the adequacy of the spillway(s) of the following dam(s) owned by me to accommodate the applicable Spillway Design Flood:

- NATID: _____
- Dam Name: _____
- Location: _____
- Hazard Potential Classification: _____
- Size Classification: _____

_____ _____
Dam Owner Signature Typed or Printed Name

_____
Phone Number

_____
Mailing Address

_____
Email Address

Please return completed and signed form to:

Office of Dam Safety
180 Beaman Street
West Boylston, MA 01583

or

Dam.Safety@mass.gov