

Response Document

Chapter 105 Dam Safety Regulation Revisions

Responses to WRAC member comments from the April 8, 2009 meeting

- 105.13b Proof of financial responsibility

Comment:

How will the amount required for proof of financial responsibility be determined and how will the amount be updated or increased in the future? Will it be increased every 5 or 10 years?

Analysis and action:

The amount required for proof of financial responsibility will be site-specific and will be determined from a Department-prepared engineering estimate of the cost for removing the dam. The owner or permittee may prepare his own estimate for Department review and acceptance. For a waste or slurry impoundment where the dam cannot be removed, the owner or permittee will be required to provide an estimated cost for capping/closing the impoundment and diverting all runoff around the facility. The amount required for proof of financial responsibility will be reviewed every 10 years or sooner, if the facility is being modified by a permit or other Department authorization. The amount required for proof of financial responsibility will be updated using the Construction Cost Index as published by Engineering News Record. The Department will develop a guidance document for determining and updating the amount required for proof of financial responsibility.

- 105.88 Dam permit issuance

Comment:

Will there be a public notification of the issuance of an operation and maintenance permit after completion of construction of a new dam or modification of an existing dam?

Analysis and action:

The issuance of the operation and maintenance permit will be published in the PA Bulletin after successful completion of the project by the permittee and acceptance of the project by the Department.

- 105.97 Stability of Structures

Comment:

A question was raised regarding the appropriateness of a 1.1 factor of safety for the stability of an earthfill dam.

Analysis and action:

The 1.1 factor of safety is for normal pool with steady-state seepage conditions under seismic forces produced by the maximum credible earthquake. Larger factors of safety are required for more likely conditions, such as 1.5 for normal pool, steady-state seepage conditions or 1.4 for maximum pool, steady-state seepage conditions. The required factors of safety are those required by the US Army Corps of Engineers in Engineering Manual, EM 1110-2-1902.

- 105.98 Design flood criteria

Comment:

How are increases in rainfall due to climate change taken into account?

Analysis and action:

Sections 105.81(a)(7), 105.82(a)(5) and 105.89(a)(5) of the revised regulations requires that a hydrologic and hydraulic analysis report be submitted, which includes precipitation data and precipitation distribution information. The Department will, in its review of the hydrologic and hydraulic analysis, assure that precipitation data used is the correct data in accordance with the most recent or current data available from the National Oceanic and Atmospheric Administration (NOAA).

- 105.108 Completion certification and project costs

Comment:

Should the Department request more detailed project cost breakdown rather than just design, construction and inspection costs?

Analysis and action:

The intent of this requirement is to provide the Department with estimated project cost data sufficient to project future dam rehabilitation funding needs. The intent is not to require an overly detailed cost breakdown that may result in additional fees from the design engineer being passed on to the owner or permittee. Instead of detailed costs, projects will be classified generally by project feature type, such as, spillway addition or modification, addition of a buttress section for increased stability, overtopping protection, etc. Some projects may include more than one project feature type. In those cases, an estimated percentage of the total cost for each major feature of the project will be requested. A form will be created by the Department for ease in properly reporting the estimated project costs.

- 105.134 Emergency action plan

Comment:

Should the permittee be required to exercise the Emergency Action Plan (EAP)?

Analysis and action:

The Dam Safety and Encroachments Act requires that the dam owner develop an EAP, but does not require exercise of the EAP. Exercise of the EAP is an emergency management function and is best handled by the county emergency management agency. Currently, counties are encouraged by DEP Dam Safety to exercise EAPs for their larger dams, and many counties are starting to do so. With 1060 dams requiring an EAP and with 40 to 50 dams located in some counties, it would significantly add to a county EMA's workload to **require**

exercise of all EAPs. The EAP Guidelines require the owner to coordinate with the county EMA to exercise all or portions of the EAP as part of the county's all-hazard exercise program schedule. We do not propose any further action on this issue at this time.

- 105.134 Emergency action plan

Comment:

Should a notice that an EAP has been developed be required to be published in the local media?

Analysis and action:

The owner of a high hazard dam is already required to post Notices in public places that people frequent within the downstream inundation area of the dam such as, post offices, libraries, grocery stores, or gas stations. The Notice provides the location of the dam and advises where the EAP is available for public review. In addition, this regulation revision will now require the owner to certify annually to the Department that the Notices remain posted. It is anticipated that this additional requirement will reach more people than would be accomplished with an advertisement in local media. In addition, at the national level there is an on-going debate between the Dams Sector of the US Department of Homeland Security and FEMA over security vs. safety aspects of advertising this type of information in public media. We do not propose any action on this issue at this time until a National policy is developed. A requirement for publishing in the media the existence of an EAP can be added to the EAP Guidelines when the debate is resolved at the national level.