

Notice of Final Rulemaking
Department of Environmental Protection
Environmental Quality Board
(25 Pa. Code, Chapter 105)
(Dam Safety and Waterway Management)
(Chapter 105 – Dam Safety Revisions)

Order

The Environmental Quality Board (Board) by this order amends 25 Pa. Code, Chapter 105 (relating to Dam Safety and Waterway Management). The amendments address the findings from an audit of the Dam Safety program by the Auditor General's office, clarify existing sections, as well as amend outdated sections.

This order was adopted by the Board at its meeting of _____.

A. Effective Date

These amendments will go into effect upon publication in the *Pennsylvania Bulletin* as final rulemaking.

B. Contact Persons

For further information contact Roger P. Adams, P.E., Division of Dam Safety, P.O. Box 8554, Rachel Carson State Office Building, Harrisburg, PA 17105-8554, (717) 772-5951; or Margaret O. Murphy, Assistant Counsel, Bureau of Regulatory Counsel, P.O. Box 8464, Rachel Carson State Office Building, Harrisburg, PA 17105-8464, (717) 787-787-7060. Persons with a disability may use the AT&T Relay Service by calling 1-800-654-5984 (TDD users) or 1-800-654-5988 (voice users). This final-form rulemaking is available electronically through the DEP Web site (<http://www.dep.state.pa.us>).

C. Statutory Authority

The final-form rulemaking is being made under the authority of Section 5 of the Dam Safety and Encroachments Act (35 P.S. §693.5), which grants the Board the authority to adopt such regulations and standards for the design, construction, operation, monitoring, maintenance, modification, repair and removal of dams and reservoirs, water obstructions and encroachments as are necessary and proper to carry out the purposes of the act, and Sections 1917-A and 1920-A of the administrative Code of 1929 (71 P.S. §§ 510-17 and 510-20).

D. Background of the Amendments

The purpose of the final rulemaking package is to amend the Department's Dam Safety and Waterway Management regulations to address the findings of a recent audit of the Dam Safety Program by the Auditor General's office and to incorporate amendments to strengthen the program. The Department proposes to amend its regulations to address the concerns of the Dam Safety Program and issues raised in the audit. The final rulemaking package will amend numerous sections within Chapter 105 to address Dam Safety Program concerns and address the audit findings by clarifying existing sections and amending outdated sections. The protection of the public will be improved by providing the Commonwealth the financial wherewithal to remove or otherwise modify unsafe or deficient high-hazard dams that are abandoned by their owner or when owners refuse to make necessary safety improvements. The protection of the public will also be

improved by the clarification of engineering design requirements necessary for the proper design and construction of dams.

In summary, the Board proposes to incorporate these amendments into the Dam Safety and Waterway Management Regulations (25 Pa. Code Chapter 105) in order to clarify and make existing regulations easier to understand and amend outdated sections.

The final-form rulemaking was approved by the Water Resources Advisory Committee on July 14, 2010.

E. Summary of Changes to the Final Rulemaking

The final amendments are to address the findings from an audit of the Dam Safety program by the Auditor General's office, clarify existing sections, as well as amend outdated sections. There are no companion federal regulations.

§ 105.13a Complete applications

This section was previously § 105.19, but was moved to new § 105.13a in an effort to keep the application-requirement sections together. Minor revisions were made to this section.

§ 105.13b Proof of financial responsibility

This section was previously § 105.20, but was moved to new §105.13b in an effort to keep the application requirements together. The following changes were made to this section:

- Proof of financial responsibility will now be required for all existing Hazard Potential Category 1 and Category 2 dams. The current regulation only requires proof of financial responsibility when a permit is issued for a dam. This change will ensure that sufficient funds are available for the continued operation and maintenance during the lifetime of all existing Hazard Potential Category 1 and Category 2 dams.
- The Department may, upon review, request an increase in the amount of the bond or other legal device noted in subsection 105.13b(a)(3) as necessary to ensure that sufficient funds are available for continued operation and maintenance during the lifetime of the facility. The Department may not increase this amount more than once every ten years unless the facility is being modified by permit.

§ 105.41 Notices and reports.

For dams, this section was amended to require the permittee or owner to schedule a pre-construction meeting between the permittee or owner, the Department, the contractor and the engineer responsible for construction supervision, at least 15 days but not more than 30 days prior to the commencement of construction unless a different time is established by the Department.

§ 105.42(a). Terms and conditions of Department permits and approvals

This section was amended to eliminate the requirement for the permittee to sign the permit, certifying acceptance of the terms and conditions of the permit, and returning a signed copy of the permit to the Department. The permittee is still required to sign an acknowledgement form, provided by the Department, acknowledging the terms, conditions, restrictions and covenants in the permit. This eliminates a duplication

of the permittee signing both the permit and acknowledgement form and streamlines the permit issuance process. The permit will now be effective upon the Department signing the permit and sending it to the permittee.

§ 105.43. Time limits.

This section was amended for dams as follows:

- The dam permit or other Department approval for construction or modification will not have a completion date.
- If the work authorized has not commenced on or before December 31 of the 5th year following permit issuance or other Department approval, the Department must be notified six months prior to the anticipated commencement of work so that the project design can be reassessed and reauthorized.
- During the design reassessment the Department may require revisions to the design due to changes in site conditions, dam classification, new technology or revisions to this Chapter.
- If, at any time, the permittee or owner decides not to perform the work, the Department must be notified in writing and the dam permit or Department approval will become void.

§ 105.81. Permit applications for construction and modification of dams and reservoirs

This section was rewritten to more clearly outline the information that needs to be submitted with the application in order to better inform the regulated community of the information required.

§ 105.82. Permit applications for operation and maintenance of existing dams and reservoirs.

This section was rewritten to more clearly outline the information that needs to be submitted with the application in order to better inform the regulated community of the information required.

§ 105.88. Dam Permit Issuance.

This new section explains the issuance of a dam permit. The Department will now issue a permit for construction upon approval of application for a new dam or modification of an existing dam. Upon satisfactory completion of work the Department will issue an operation and maintenance permit for the dam.

§ 105.89. Letters of Amendment and Letters of Authorization for modification of dams and reservoirs.

This new section explains the use of a Letter of Amendment and Letter of Authorization for authorizing the modification of a dam or reservoir where a permit is not required. Also, it outlines the information required to be submitted for review and approval of the authorization.

§ 105.91(b). Classification of dams and reservoirs.

This section was amended to add a fourth Hazard Potential Category to eliminate confusion of existing regulations Category 2 High and Category 2 Non-High and to bring the Hazard Potential Category designation in line with the revision that is expected in the National Dam Safety Program. The revision is as follows:

<i>Category</i>	<i>Population at Risk</i>	<i>Economic Loss</i>
1	Substantial (Numerous homes or small businesses or a large business or school.)	Excessive such as extensive residential, commercial, or agricultural damage, or substantial public inconvenience.
2	Few (A small number of homes or small businesses.)	Appreciable such as limited residential, commercial, or agricultural damage, or moderate public inconvenience.
3	None expected (No permanent structures for human habitation or employment.)	Significant damage to private or public property and short duration public inconvenience such as damage to storage facilities or loss of critical stream crossings.
4	None expected (No permanent structures for human habitation or employment.)	Minimal damage to private or public property and no significant public inconvenience.

§ 105.97. Stability of structures

This section was expanded to explain the conditions under which the dam must be demonstrated to be stable.

§ 105.98. Design flood criteria.

This section was amended to more clearly explain how the spillway design flood is determined.

§ 105.107. Final Inspection

This section was added to require a final inspection with the permittee or owner, the permittee or owner's supervising engineer, and the Department's field representative at the completion of work to construct a new dam or the modification of an existing dam.

§ 105.108. Completion Certification and Project Costs

§ 105.109. As-built Plans

These two new sections were a part of old § 105.107. These sections were added and rewritten to better explain the requirements and the information that needs to be submitted at the completion of work to construct a new dam or to modify an existing dam.

§ 105.111. Commencement of storage of water, fluid or semifluid

This section was expanded to better explain the requirements which must be met prior to the commencement of storage of water, fluid or semifluid behind a newly constructed or modified dam.

§ 105.134. Emergency action plan

This section was rewritten to more accurately explain the requirements and steps in developing an emergency action plan needed in protecting the public in the event of a dam emergency. Some of the changes are:

- Prior to submitting the emergency action plan for review or approval, the permittee or owner shall schedule a meeting with the county emergency management coordinators for those counties affected by the dam's failure.
- Each submission of the emergency action plan shall be signed by the dam owners, the dam operators, and the county emergency management coordinators for those counties affected by the dam's failure signifying concurrence with the emergency action plan.
- The emergency action plan shall be prepared in accordance with the most recent emergency action plan guidelines developed by the Department and PEMA.
- Upon approval of the emergency action plan, the permittee or owner shall provide a copy of the signed approved emergency action plan to the municipal emergency management agencies and the emergency response agencies listed in the emergency action plan.
- Within 60 days of the date of the Department's approval letter, the permittee or owner shall provide the Department a written statement certifying that a signed approved copy of the emergency action plan has been provided to each municipal emergency management agency and to each emergency response agency listed in the emergency action plan.
- Within 60 days of the date of the Department's approval letter, the permittee or owner shall provide the Department a written statement certifying that the Notices have been posted in the locations listed in the emergency action plan. The permittee or owner shall certify in each subsequent annual inspection report that the notices remain posted or were reposted in the locations listed in the emergency action plan.
- The emergency action plan shall be reviewed and updated every 5 years or the frequency interval indicated in the most recent EAP guidelines developed by the Department and PEMA.
- The Department may require the emergency action plan be updated, as necessary, if there is a new owner or operator of the dam, if changes occur in the downstream inundation area, or if there is a change in the Hazard Potential Category.

F. Summary of Comments and Responses on the Proposed Rulemaking

The language referenced in comments pertaining to both dams and water obstructions and encroachments, where the Department had proposed changes, will be reverted back to the existing language and the comments will be addressed in the Water Obstructions and Encroachments 105 regulation package currently under review by the Department.

The following comments were taken into consideration and revisions provided in Chapter 105:

COMMENT:

105.97. Stability of Structures. The proposed regulation provides minimum factors of safety for various analyses such as 1.7 for maximum pool for a gravity dam. This factor of safety is significantly greater than 1.1 that is currently required by the Corps of Engineers and we request that Department of Environmental Protection (DEP) reconsider the maximum factors for safety presented in the proposed regulation. Furthermore, we are concerned that listing the required minimum factor of safety in the regulations does not allow for future changes in the industry:

Recommendation: We would recommend that you remove the required factors of safety and publish them in a separate document, such as design guidance. This will give the department the ability to rapidly respond to advancements in the field of dam engineering rather than needing to rewrite the regulations.

RESPONSE:

The Department feels that the factors of safety should be in the regulations so they are binding. Currently, the factor of safety required for a concrete gravity dam at maximum pool is 1.7 per the Corps of Engineers (refer to Attachment A).

In response to flexibility, the Department has also revised the draft regulations to include the following:

(h) The Department may, at its discretion, consider a revised factor of safety for a class of dams or reservoirs when it can be demonstrated that the factor of safety provides for the integrity of the dams or reservoirs and adequately protects life and property.

COMMENT:

105.96. Outlet works. Define how to calculate “highest mean monthly inflow.”

RESPONSE:

The Department agrees with PennDOT’s recommendation and has revised the draft regulations as follows:

(a) Dams must include a device to allow the complete draining of the reservoir unless the Department determines that an outlet works is not feasible for a specific dam. At minimum, the device must be sized to pass a minimum of 70% of the highest mean monthly inflow at the site plus the capacity to drain the top 2 feet of reservoir storage below normal pool in 24 hours. The highest mean monthly flow shall be determined from statistics of an appropriate stream gage, as approved by the Department, transferred to the dam site by the ratio of the drainage areas. The Department may require an increased size to provide for the integrity of the dam and to protect life and property with an adequate margin of safety.

G. Benefits, Costs and Compliance

Benefits

The final amendments will clarify existing regulations, making them easier for the regulated community to understand and to better assure proper planning, design, construction, operation, maintenance and monitoring of dams and reservoirs to protect the health, safety, welfare and property of the public and protect the water quality and natural regime of watercourses.

The final rulemaking package is to amend the Department’s Dam Safety and Waterway Management regulations to address the findings of a recent audit of the Dam Safety Program by the Auditor General’s office and to incorporate amendments to strengthen the program. The audit highlighted regulatory changes to improve the dam safety program. The Department proposes to amend its regulations to address the concerns of the Dam Safety Program and issues raised in the audit. The final rulemaking package will amend numerous sections within Chapter 105 to address Dam Safety Program concerns and address the audit findings by clarifying existing sections and amending outdated sections. The protection of the public will be

improved by providing the Commonwealth the financial wherewithal to remove or otherwise modify unsafe or deficient high-hazard dams that are abandoned by their owner or when owners refuse to make necessary safety improvements. The protection of the public will also be improved by the clarification of engineering design requirements necessary for the proper design and construction of dams.

Compliance Costs

The regulations will apply to any owner or operator of a dam. There are approximately 2333 owners of 3256 dams that are affected by the existing regulations. The following table shows a breakdown of the ownership type:

Ownership	New Hazard Potential Category			
	Category 1	Category 2	Category 3	Category 4
County Owned	78	0	2	22
Municipally Owned	183	10	38	331
Privately Owned	340	73	221	1685
State Owned	89	5	17	162

- Category 1: Substantial population at risk, 10 or more people, or numerous small businesses or a large business or school.
- Category 2: Few people at risk, less than 10 people or a small number of small businesses.
- Category 3: No population at risk, but significant damage to private or public property and short duration public inconvenience.
- Category 4: No population at risk and only minimal damage to private or public property and no significant public inconvenience

The only additional cost in the final revisions to the regulation is for providing proof of financial responsibility. Proof of financial responsibility will be required from private individuals or businesses who own an existing Hazard Potential Classification Category 1 or Category 2 dam. The proof of financial responsibility shall be a bond or other legal device of a form acceptable to the Department, payable to the Commonwealth, which guarantees proper construction, repair, operation and maintenance, inspection and monitoring, and removal, if necessary, of the facility. The cost is derived from an engineering estimate for the removal of the dam, and is dam-specific based on the size and type (earthfill, concrete, stone masonry, etc.) of dam. The proof of financial responsibility can be met by providing the Department with a Surety Bond or a Collateral Bond secured by a Negotiable Bond, Cash, Certified Check, Cashier's Check, Treasurer's Check, Irrevocable Letter of Credit, or Certificate of Deposit. The amount of the bond or other legal device could range from \$25,000 to \$200,000 per dam. This would be the actual cost to the owner if they used a Negotiable Bond, Cash, Certified Check, Cashier's Check, Treasurer's Check, or Certificate of Deposit. If the owner provides a Surety Bond or Irrevocable Letter of Credit the actual cost would range from \$250 to \$4,000 annually. Because most of the privately owned dams are generally on the smaller side, the amount of the bond and annual maintenance cost will be toward the lower end of the range. Businesses regulated by the PUC need only provide a certificate of public convenience from the PUC to meet the proof of financial responsibility requirement. Ownership of the dam by a governmental agency meets the requirement to provide proof of financial responsibility. Should this amendment not be approved the cost to the Commonwealth could be significant. In cases where no bond or other legal device is in place, the Commonwealth would be responsible, at its expense, to take such corrective actions. This would be necessary when a dam hazard emergency develops and the owner is unwilling or unable to take corrective actions necessary to prevent dam failure and potential loss of life downstream.

Compliance Assistance Plan

No financial assistance is necessary. Dam owners affected by the revisions will be advised by letter advising of the changes and how they can comply with the changes. Because most of the revisions are for clarification purposes there will be little effect on the dam owner.

Paperwork Requirements

The only additional paperwork required would be that required to obtain the necessary proof of financial responsibility. This is not an annual requirement as the amount needed for proof of financial responsibility is updated every ten years.

H. Sunset Review

This regulation will be reviewed in accordance with the sunset review schedule published by the Department to determine whether the regulation effectively fulfills the goals for which it was intended.

I. Regulatory Review

Under section 5(a) of the Regulatory Review Act (71 P.S. § 745.5(a)), on April 14, 2010, the Department submitted a copy of the notice of proposed rulemaking, published at 40 *Pa.B.* 2211, to the Independent Regulatory Review Commission (IRRC) and the Chairpersons of the House and Senate Environmental Resources and Energy Committees for review and comment.

Under section 5(c) of the Regulatory Review Act, IRRC and the Committees were provided with copies of the comments received during the public comment period, as well as other documents when requested. In preparing these final-form regulations, the Department has considered all comments from IRRC, the Committees and the public.

Under section 5.1(j.2) of the Regulatory Review Act, on _____, these final-form regulations were deemed approved by the House and Senate Committees. Under section 5.1(e) of the Regulatory Review Act, IRRC met on _____ and approved the final-form regulations.

J. Findings of the Board

The Board finds that:

- (1) Public notice of proposed rulemaking was given under sections 201 and 202 of the act of July 31, 1968 (P.L. 769, No. 240) (45 P.S. §§ 1201 and 1202) and regulations promulgated thereunder at 1 *Pennsylvania Code* §§ 7.1 and 7.2.
- (2) A public comment period was provided as required by law, and all comments were considered.
- (3) These regulations do not enlarge the purpose of the proposal published at 40 *Pennsylvania Bulletin* 2211 Saturday April 24, 2010.
- (4) These regulations are necessary and appropriate for administration and enforcement of the authorizing acts identified in Section C of this order.

K. Order of the Board

The Board, acting under the authorizing statutes, orders that:

- (a) The regulations of the Department of Environmental Protection, *25 Pennsylvania Code*, Chapter 105, are amended to read as set forth in Annex A.
- (b) The Chairperson of the Board shall submit this order and Annex A to the Office of General Counsel and the Office of Attorney General for review and approval as to legality and form, as required by law.
- (c) The Chairperson of the Board shall submit this order and Annex A to the Independent Regulatory Review Commission and the Senate and House Environmental Resources and Energy Committees as required by the Regulatory Review Act.
- (d) The Chairperson of the Board shall certify this order and Annex A and deposit them with the Legislative Reference Bureau, as required by law.
- (e) This order shall take effect immediately.

BY:

JOHN HANGER
Chairperson
Environmental Quality Board