

RULES AND REGULATIONS

Title 25—ENVIRONMENTAL PROTECTION

ENVIRONMENTAL QUALITY BOARD

[25 PA. CODE CH. 105]

Dam Safety and Waterway Management

[41 Pa.B. 219]

[Saturday, January 8, 2011]

The Environmental Quality Board (Board) amends Chapter 105 (relating to dam safety and waterway management). The final-form rulemaking addresses the findings from an audit of the Dam Safety Program (Program) by the Auditor General's office, clarifies existing sections and amends outdated sections.

This order was adopted by the Board at its meeting of October 12, 2010.

A. Effective Date

This final-form rulemaking will be effective upon publication in the *Pennsylvania Bulletin*.

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) 787-7060. Persons with a disability may use the Pennsylvania AT&T Relay Service, (800) 654-5984 (TDD users) or (800) 654-5988 (voice users). This final-form rulemaking is available through the Department of Environmental Protection's (Department) 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 (act) (32 P. S. § 693.5), which grants the Board the authority to adopt

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 Final-Form Rulemaking

The purpose of the final-form rulemaking is to amend the Department's dam safety and waterway management regulations to address the findings of a recent audit of the Program by the Auditor General's office and to incorporate amendments to strengthen the Program. The Department amends the regulations to address the concerns of the Program and issues raised in the audit. The final-form rulemaking amends numerous sections within Chapter 105 to address Program concerns and address the audit findings by clarifying existing sections and amending outdated sections.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 final-form rulemaking clarifies and makes the regulations easier to understand and amends 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-form rulemaking addresses the findings from an audit of the Program by the Auditor General's office, clarifies existing sections and amends outdated sections. There are no companion Federal regulations.

§ 105.13a. Complete applications

This section was previously § 105.19. The text 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. The text 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 former regulation only required proof of financial responsibility when a permit is issued for a dam. This amendment 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 in subsection (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 10 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 preconstruction 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 beginning 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 started on or before December 31st of the 5th year following permit issuance or other Department approval, the Department shall be notified 6 months prior to the anticipated start 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 Chapter 105.

If, at any time, the permittee or owner decides not to perform the work, the Department shall 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 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 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 Nonhigh and to bring the Hazard Potential Category designation in line with the revision that is expected in the National Dam Safety Program. The amendment is as follows:

	Category	Population at Risk	Economic Loss
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 part of former § 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 shall be met prior to the beginning of storage of water, fluid or semifluid behind a newly constructed or modified dam.

§ 105.134. *EAP*

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 as follows:

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 the Pennsylvania Emergency Management Agency (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 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 emergency action plan 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 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 amendments provided in Chapter 105:

Comment

§ 105.97. *Stability of structures.* The proposed amendment provided 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 United States Army Corps of Engineers and the commentator requested that Department reconsider the maximum factors for safety presented in the proposed rulemaking. Furthermore, the commentator is concerned that listing the required minimum factor of safety in the regulations does not allow for future changes in the industry:

Recommendation. The commentator recommended that the required factors of safety be deleted and published 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 United States Army Corps of Engineers.

In response to flexibility, the Department amended subsection (h) to include the following:

(h) The Department may 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.* A commentator requested a definition for calculating "highest mean monthly inflow."

Response

The Department agrees with the Department of Transportation's recommendation and amended subsection (a) 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-form rulemaking clarifies existing regulations to make 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-form rulemaking amends the Department's dam safety and waterway management regulations to address the findings of a recent audit of the Program by the Auditor General's office and to incorporate amendments to strengthen the Program. The audit highlighted

regulatory changes to improve the Program. The Department amends the regulations to address the concerns of the Program and issues raised in the audit. The final-form rulemaking amends numerous sections to address 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 owners 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 final-form rulemaking applies to owners or operators of dams. There are approximately 2,333 owners of 3,256 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 amendments to the final-form rulemaking 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 must 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, and the like) 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 Pennsylvania Public Utility Commission (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 when a bond or other legal device is not in place, the Commonwealth would be responsible, at its expense, to take 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

Financial assistance is not necessary. Dam owners affected by the final-form rulemaking will be advised by letter advising of the amendments and how they can comply with the changes. Because most of the amendments are for clarification purposes, there will be little effect on dam owners.

Paperwork Requirements

The only additional paperwork required would be the need 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 10 years.

H. Sunset Review

These regulations will be reviewed in accordance with the sunset review schedule published by the Department to determine whether the regulations effectively fulfill the goals for which they were 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 (April 24, 2010), 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 House and Senate Committees were provided with copies of the comments received during the public comment period, as well as other documents when requested. In preparing the final-form rulemaking, the

Department has considered all comments from IRRC, the House and Senate Committees and the public.

Under section 5.1(j.2) of the Regulatory Review Act (71 P. S. § 745.5a(j.2)), on November 17, 2010, the final-form rulemaking was deemed approved by the House and Senate Committees. Under section 5.1(e) of the Regulatory Review Act, IRRC met on November 18, 2010, and approved the final-form rulemaking.

J. Findings

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, 1 Pa. Code §§ 7.1 and 7.2.

(2) A public comment period was provided as required by law and all comments were considered.

(3) This final-form rulemaking does not enlarge the purpose of the proposed rulemaking published at 40 Pa.B. 2211.

(4) This final-form rulemaking is necessary and appropriate for administration and enforcement of the authorizing acts identified in Section C of this preamble.

K. Order

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

(a) The regulations of the Department, 25 Pa. Code Chapter 105, are amended by amending §§ 105.11, 105.13, 105.15, 105.20a, 105.23, 105.25, 105.26, 105.31, 105.34, 105.43, 105.44, 105.47, 105.51, 105.53, 105.63, 105.64, 105.71, 105.82, 105.91—105.94, 105.98, 105.103, 105.104, 105.106, 105.107, 105.111—105.113, 105.121—105.123, 105.131, 105.133, 105.134, 105.136 and 105.431; by deleting §§ 105.19, 105.20, 105.52, 105.101, 105.132 and 105.432; and by adding §§ 105.13a, 105.13b, 105.88, 105.89, 105.108 and 105.109 to read as set forth at 40 Pa.B. 2211; and by amending §§ 105.1, 105.4, 105.12, 105.14, 105.21, 105.35, 105.41, 105.42, 105.45, 105.46, 105.61, 105.81, 105.96, 105.97, 105.102 and 105.135 to read as set forth in Annex A, with ellipses referring to the existing text of the regulations.

(b) The Chairperson of the Board shall submit this order, 40 Pa.B. 2211 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, 40 Pa.B. 2211 and Annex A to IRRC and the Senate and House Committees as required by the Regulatory Review Act.

(d) The Chairperson of the Board shall certify this order, 40 Pa.B. 2211 and Annex A and deposit them with the Legislative Reference Bureau as required by law.

(e) This order shall take effect immediately.

JOHN HANGER,
Chairperson

(Editor's Note: For the text of the order of the Independent Regulatory Review Commission relating to this document, see 40 Pa.B. 7000 (December 4, 2010).)

Fiscal Note: Fiscal Note 7-452 remains valid for the final adoption of the subject regulations.

Annex A

TITLE 25. ENVIRONMENTAL PROTECTION

PART I. DEPARTMENT OF ENVIRONMENTAL PROTECTION

Subpart C. PROTECTION OF NATURAL RESOURCES

ARTICLE II. WATER RESOURCES

CHAPTER 105. DAM SAFETY AND WATERWAY MANAGEMENT

Subchapter A. GENERAL PROVISIONS

GENERAL

§ 105.1. Definitions.

The following words and terms, when used in this chapter, have the following meanings, unless the context clearly indicates otherwise:

* * * * *

Archaeological site—A known site of archaeological significance based on the Comprehensive State Plan for Conservation of Archaeological Resources. The Comprehensive State Plan is available from the Historic and Museum Commission.

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Contributory drainage area—Area upstream of a proposed or existing dam, water obstruction or encroachment that contributes runoff to a watercourse.

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Dam—An artificial barrier, together with its appurtenant works, constructed for the purpose of impounding or storing water or other fluid or semifluid, or a refuse bank, fill or structure for highway, railroad or other purposes which does or may impound water or other fluid or semifluid.

* * * * *

EAP—Emergency Action Plan—A formal document that identifies potential emergency conditions at a dam and specifies preplanned actions to be followed to minimize property damage and loss of life.

(i) The EAP contains procedures and information to assist the dam owner in issuing early warning and notification messages to responsible downstream emergency management authorities of the emergency situation.

(ii) The EAP also contains inundation maps to show the emergency management authorities of the critical areas for action in case of an emergency.

* * * * *

Flowage easements—An acquired right of use of another person's land for water temporarily or permanently impounded by a dam or backwater from the installation, operation and maintenance of a water obstruction or encroachment.

* * * * *

Hydrologic and hydraulic analysis—

(i) A study of the effects of an encroachment or water obstruction on the flow carrying capacity of a watercourse.

(ii) A study determining the watershed runoff into a dam and reservoir and the resulting routed outflow from the dam and its spillway structures.

Incremental dam breach analysis—A process to determine the highest runoff event during which a dam failure would cause a threat to life, health, property or the environment in areas below the dam in excess of the threat level caused by the same runoff event with no dam failure.

* * * * *

Letter of Amendment for dams—A letter from the Department amending an existing Dam Permit for major maintenance, repair or improvement projects which do not involve modification to the top-of-dam elevation or modification of the normal pool reservoir elevation.

Letter of Authorization for dams—A letter from the Department approving major maintenance, repair or improvement projects which do not involve modification to the top-of-dam elevation or modification of the normal pool reservoir elevation of a dam which has not been previously permitted by the Department and meets the waiver of permit requirements under § 105.12(b)(1) or (2) (relating to waiver of permit requirements).

* * * * *

Limited Power and Water Supply Act—The act of June 14, 1923 (P. L. 700, No. 293) (32 P. S. §§ 621—625); and the act of June 14, 1923 (P. L. 704, No. 294) (32 P. S. §§ 591—600), regarding Limited Power Permits and Limited Water Supply Permits from the Water Supply Commission of Pennsylvania and the conditions thereof, to the flooding and use by holders of Limited Power Permits of lands owned by the Commonwealth, to the unlawful use for water or steam power developments of dams and changes in streams hereafter constructed or made otherwise than under Limited Power Permits, and to proceedings for the enforcement of this act.

Maintenance dredging—Periodic dredging conducted to accomplish one or more of the following purposes:

- (i) Maintain adequate depths for navigation.
- (ii) Assure proper passage of ice and flood flows.
- (iii) Preserve the safety, stability and proper operation of the dam, water obstruction or encroachment.
- (iv) Restore the natural or previously permitted reservoir capacity.
- (v) Restore flood protection projects to original design dimensions.

Major dam design revision—A revision to a previously approved or permitted dam design which requires either the Department's review or modeling of a revised hydrologic and hydraulic analysis of the dam and reservoir's capacity to pass or store, or both, the required spillway design flood; the Department's review or modeling of an analysis to determine the ability of the dam's spillway or decant to dewater after runoff events; or the Department's review or modeling of a stability analysis of the revised dam design.

Maximum credible earthquake—A seismic event with a 2% probability of exceedance in 50 years.

* * * * *

PMF—Probable maximum flood—The flood that may be expected from the most severe combination of critical meteorologic and hydrologic conditions that are reasonably possible in an area. The PMF is derived from the probable maximum precipitation (PMP) as determined on the

basis of the most recent data available from the National Oceanographic and Atmospheric Administration (NOAA).

* * * * *

Person—

(i) A natural person, partnership, association, corporation, public utility, municipality, municipal authority, political subdivision of this Commonwealth, receiver or trustee and a department, board, commission or authority of the Commonwealth.

(ii) Whenever used in a section prescribing and imposing a penalty or sanction, the term includes the members of an association and the officers of a corporation, municipality or municipal authority.

* * * * *

Reservoir filling plan—A plan that sets a schedule for the initial filling of the reservoir behind a new dam or the refilling of a reservoir after the rehabilitation of an existing dam.

* * * * *

Spillway—A device which safely conveys the design flood of a dam without endangering the dam's safety or integrity.

* * * * *

Wild trout streams—A stream identified as supporting naturally reproducing trout populations by the Fish and Boat Commission under 58 Pa. Code § 57.11 (relating to listing of wild trout streams). For a list of wild trout streams, contact the Fish and Boat Commission, www.fish.state.pa.us.

§ 105.4. Delegations to local agencies.

(a) Under section 17 of the act (32 P. S. § 693.17) and subject to this section, the Department may by written agreement delegate to a county conservation district or other county agency one or more of its regulatory functions including enforcement and the power to permit, inspect and monitor specified categories of water obstructions and encroachments.

(b) No delegation may be made of the authority to issue permits for a water obstruction or encroachment constructed, owned or maintained by the Commonwealth, a political subdivision or a public utility. Delegations may be made of the powers to inspect and monitor the activities, if the Department retains final authority to approve or disapprove permits, and concurrent authority to inspect, monitor and enforce the act.

(c) To the extent delegated by the agreement, the delegations may include the authority to enforce the act and this chapter and to exercise other powers and duties otherwise vested in the Department to implement the act with respect to the categories of water obstructions and encroachments covered by the delegation.

(d) A delegation agreement will:

(1) Specify the powers and duties to be performed by the delegated agency.

(2) Specify the categories of water obstructions and encroachment activities to be covered by the delegated agency.

(3) Provide for the commitment by the delegated agency of sufficient trained staff and resources to perform the powers and duties to be delegated.

(4) Require the delegated agency to maintain records of activities performed under the delegation.

(5) Provide for monitoring and supervision by the Department of performance by the delegated agency of the functions delegated under the agreement.

(e) A permit for a water obstruction or encroachment issued by a delegated agency is subject to review by the Department, unless the right of review is waived by the Department. A permit issued by a delegated agency shall become effective 30 days following the receipt of notice by the Department of issuance, unless the permit is disapproved by the Department or an appeal is filed with the Department under section 17 of the act.

(f) When the Department delegates one or more of its regulatory functions to a local agency, the Department will retain the concurrent power to inspect and monitor categories of water obstructions and encroachments and to enforce the act and this chapter.

PERMIT APPLICATIONS

§ 105.12. Waiver of permit requirements.

(a) Under section 7 of the act (32 P. S. § 693.7), the requirements for a permit are waived for the following structures or activities, regardless of when commenced. If the Department upon complaint or investigation finds that a structure or activity which is eligible for a waiver, has a significant effect upon safety or the protection of life, health, property or the environment, the Department may require the owner of the structure to apply for and obtain a permit under this chapter.

(1) A dam not exceeding 3 feet in height in a stream not exceeding 50 feet in width, except wild trout streams designated by the Fish and Boat Commission.

* * * * *

(10) A navigational aid or marker, buoy, float, ramp or other device or structure for which a permit has been issued by the Fish and Boat Commission under 30 Pa.C.S. § 5123(a)(7) (relating to general boating regulations).

* * * * *

(b) The requirements for a permit for existing structures or activities, as provided in section 6(c) of the act (32 P. S. § 693.6(c)), are waived for the following structures or activities, if construction was completed prior to July 1, 1979. If the Department upon complaint or investigation finds that a structure or activity which is eligible for a waiver, has a significant effect upon safety or the protection of life, health, property or the environment, the Department may require the owner of the structure or activity to apply for and obtain a permit under this chapter.

* * * * *

(2) A dam which the Department determines, on the basis of preliminary data submitted by the applicant, is of Size Classification C and Hazard Potential Classification 4, as defined in § 105.91 (relating to classification of dams and reservoirs) and does not have a significant effect on coastal resources or an adverse impact on the environment.

* * * * *

§ 105.14. Review of applications.

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(b) In reviewing a permit application under this chapter, the Department will use the following factors to make a determination of impact:

- (1) Potential threats to life or property created by the dam, water obstruction or encroachment.
- (2) Potential threats to safe navigation created by the dam, water obstruction or encroachment.
- (3) The effect of the dam, water obstruction or encroachment on the property or riparian rights of owners upstream, downstream or adjacent to the project.
- (4) The effect of the dam, water obstruction or encroachment on regimen and ecology of the watercourse or other body of water, water quality, stream flow, fish and wildlife, aquatic habitat, instream and downstream uses and other significant environmental factors.
- (5) The impacts of the dam, water obstruction or encroachment on nearby natural areas, wildlife sanctuaries, public water supplies, other geographical or physical features including cultural, archaeological and historical landmarks, National wildlife refuges, National natural landmarks, National, State or local parks or recreation areas or National, State or local historical sites.

(6) Compliance by the dam, water obstruction or encroachment with applicable laws administered by the Department, the Fish and Boat Commission and river basin commissions created by interstate compact.

(7) The extent to which a project is water dependent and thereby requires access or proximity to or siting within water to fulfill the basic purposes of the project. The dependency must be based on the demonstrated unavailability of any alternative location, route or design and the use of location, route or design to avoid or minimize the adverse impact of the dam, water obstruction or encroachment upon the environment and protect the public natural resources of this Commonwealth.

(8) Present conditions and the effects of reasonably foreseeable future development within the affected watershed upstream and downstream of the dam, water obstruction or encroachment:

* * * * *

(c) In reviewing a permit application under § 105.11(c) (relating to permit requirements) and section 6(c) of the act (32 P. S. § 693.6(c)) for the operation and maintenance of an existing dam, water obstruction or encroachment, the Department will use the following factors:

(1) Potential threats to life, property or safe navigation created by the continuing operation or maintenance of the project.

(2) Adverse impact on stream flow, water quality or the environment which might be reduced or mitigated by reasonable changes in the operation of the project.

(3) Compliance of the operation and maintenance of the project with applicable laws administered by the Department, the Fish and Boat Commission and river basin commissions created by interstate compact.

(d) The Department may review a permit application for the operation and maintenance of existing projects without regard to the design criteria and construction requirements in Subchapters B—J. If the Department finds that an existing dam, water obstruction or encroachment is unsafe or adversely affects property or the environment, it may consider application of criteria and requirements reasonably necessary to correct the conditions.

PERMIT ISSUANCE, TRANSFER AND REVOCATION

§ 105.21. Criteria for permit issuance and denial.

(a) In addition to the other requirements of this chapter, a permit application will not be approved unless the applicant demonstrates that the following conditions are met:

(1) The application is complete and accurate.

(2) The proposed project or action complies with the standards and criteria of this title and with other laws administered by the Department, the Fish and Boat Commission and river basin commissions created by interstate compact.

(3) The proposed project or action will adequately protect public health, safety and the environment.

(4) The proposed project or action is consistent with the environmental rights and values secured by Pa. Const. Art. I, § 27 and with the duties of the Commonwealth as trustee to conserve and maintain public natural resources of this Commonwealth.

(5) The applicant has not been found to be in continuing violation of this title or other laws administered by the Department, the Fish and Boat Commission, or a river basin commission created by interstate compact, including, but not limited to, a violation of an adjudication and order, agreement, consent order or decree, whether or not the applicant's violation resulted in an order or civil penalty assessment.

(6) The applicant has submitted adequate proof of financial responsibility, if required under § 105.13b (relating to proof of financial responsibility).

(b) A permit issued under this chapter shall be subject to the general and special conditions regarding construction, operation, maintenance, inspection and monitoring of a project or action that the Department may deem necessary to assure compliance with the requirements and purposes of this chapter, the act, the Flood Plain Management Act (32 P. S. §§ 679.101—679.601) and other laws administered by the Department, the Fish and Boat Commission and river basin commissions created by interstate compact.

(c) The Department may not issue a permit to operate and maintain a dam, water obstruction or encroachment constructed without a permit unless one of the following is met:

(1) The Department determines that the structure or activity complies with the standards and criteria of this title, including replacement in accordance with § 105.20a (relating to wetland replacement criteria), and with other laws administered by the Department, the Fish and Boat Commission and river basin commissions created by interstate compact.

(2) The Department determines that the structure or activity does not comply with the standards and criteria of this title and with other laws administered by the Department, the Fish and Boat Commission and river basin commissions created by interstate compact, that the effect on wetlands will be mitigated, and at least one of the following is met:

(i) Restoration would cause destruction of a dwelling occupied by a person who had no role in the planning or construction of the project.

(ii) Restoration may result in more long term damage than would be caused by allowing the project to remain in place.

(iii) Restoration would be unsuccessful due to material changes in the condition of the site and its surrounding area.

(iv) There are extraordinary circumstances which preclude restoration.

(d) The reason for denial of a permit application and appeal procedures will be communicated in writing to the applicant.

(e) In an appeal from a Department action concerning a permit application to operate and maintain a dam, water obstruction or encroachment, the applicant has the burden of proving that there is no reasonable basis for the Department's action.

SUBMERGED LANDS OF THE COMMONWEALTH—LICENSES AND ANNUAL CHARGES

§ 105.35. Charges for use and occupation of submerged lands of this Commonwealth.

* * * * *

(c) Charges may not be imposed under section 15 of the act or section 514 of The Administrative Code of 1929 for the following categories of activities and structures:

(1) An activity or structure constructed, owned or operated by a department, commission or agency of the Commonwealth or the Federal government.

(2) A project or activity constructed, or operated primarily for the benefit of a State building or a State institution.

(3) A flood control project constructed, owned or operated by an agency of the Commonwealth, the Federal government or a municipality.

(4) A project or activity constructed, owned or operated by a political subdivision of this Commonwealth which provides potable water supply, sewage disposal or other similar services necessary for public health and welfare, or in connection with a service for which no fees or charges other than general taxes are imposed.

(5) A facility to provide access to the general public to water for recreational boating, fishing, hunting, swimming or other recreation where the access is provided without charge or on a nonprofit basis.

(6) A structure or facility constructed and operated exclusively to improve fish habitat, under a cooperative agreement with the Fish and Boat Commission.

(7) A private recreational dock constructed under a general permit.

(d) The annual charges imposed in subsections (a) and (b) may be revised by the EQB after approval by the Governor and reasonable notice to the holder of a license issued under this section.

(e) This section does not apply to a crossing contiguous to or in a State park or State forest lands. Easements for the crossings shall be administered in accordance with section 514 of The Administrative Code of 1929 and the park and forest land management practices of the Department of Conservation and Natural Resources.

(f) The removal of sand, gravel and other valuable minerals from submerged lands of this Commonwealth are subject to the royalty and agreement provisions established under section 1908-A of The Administrative Code of 1929 (71 P. S. § 510-8).

CONSTRUCTION REQUIREMENTS AND PROCEDURES

§ 105.41. Notices and reports.

(a) Except for work authorized under §§ 105.12(a), 105.64 and Subchapter L (relating to waiver of permit requirements; emergency permits; and general permits), the permittee shall meet the following:

(1) For permits or approvals issued for water obstructions or encroachments, requirements to provide notice of commencement of work and status reports, if any, shall be identified in conditions of the permit or by order of the Department.

(2) For permits or approvals issued for dams, the permittee or owner shall schedule a preconstruction meeting between the permittee or owner, the Department, the contractor and the engineer responsible for construction supervision. The preconstruction meeting must be conducted 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. Thereafter, a detailed report on the status of construction must be submitted monthly to the Department of Environmental Protection, Division of Dam Safety, until construction has been completed.

(b) The Department may require submission of additional reports, as it deems necessary, on the status of construction.

§ 105.42. Terms and conditions of Department permits and approvals.

(a) The permittee shall fully inform the engineer or contractor responsible for the supervision and conduct of work of the terms, conditions, restrictions and covenants covered by a permit, Letter of Amendment, Letter of Authorization, or other Department approval issued under this chapter.

(b) Prior to the commencement of construction, the permittee shall file an acknowledgment form provided by the Department, signed by the permittee and other project personnel, as specified on the form, acknowledging the terms, conditions, restrictions and covenants in the

permit and, required by the Department, for a Letter of Amendment or Letter of Authorization. Unless the acknowledgment form has been completed and filed, the permit or other Department approval is void.

(c) A copy of the permit or other Department approval and the acknowledgment form must be available at the work site for inspection upon request by an officer or agent of the Department or another Federal, State, county or municipal agency.

§ 105.45. Inspections by the Department.

Work, structures and land covered under a permit or other Department approval issued under this chapter shall at all times be subject to inspection by representatives of the Department, and the permittee or owner shall allow representatives of the Department to enter a property, premises or place associated with the permitted or approved project for the purposes of the inspection.

§ 105.46. Implementation of erosion and sedimentation control plans.

(a) During the construction of a dam, water obstruction or encroachment, the permittee shall follow the erosion and sediment control plan prepared in accordance with Chapter 102 (relating to erosion and sediment control) and submitted as part of the application.

(b) Construction must be done in a manner to minimize erosion of banks and bed of the stream and disturbance of the regimen of the stream.

INVESTIGATION AND CORRECTION OF UNSAFE CONDITIONS— EMERGENCY PROCEDURES

§ 105.61. Procedures for investigations.

The Department may, if it finds there is reasonable cause to suspect the existence of conditions adversely affecting the safety of a dam, water obstruction or encroachment, order the owner to conduct investigations, studies, tests and analyses that may be required to properly evaluate the safety of the structure. The investigations, studies, tests and analyses shall be accomplished under the supervision of a registered professional engineer, experienced in the design, construction, operation and maintenance of the facilities and approved by the Department, and shall be accomplished in accordance with methods the Department may prescribe. Failure to conduct the ordered investigations, studies, tests and analyses and provide the investigation results of the activities to the Department on request will constitute adequate grounds for revocation or suspension of a permit.

Subchapter B. DAMS AND RESERVOIRS

PERMITS, LETTERS OF AMENDMENTS AND LETTERS OF AUTHORIZATIONS

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

(a) In addition to the information required under §§ 105.13, 105.13a, 105.13b and 105.15, permit applications under this subchapter for the construction or modification of dams and reservoirs must provide the following information:

(1) Reports and data detailing the conduct and results of investigations and tests necessary to determine the safety, adequacy and suitability of design, including:

(i) Data concerning subsoil and rock foundation conditions.

(ii) Data concerning exploratory pits, drilling, coring and tests to determine seepage rates.

(iii) Data concerning the strength tests necessary to measure the physical properties and behavior of foundations and embankment materials at the dam or reservoir site.

(iv) Data concerning the geology of the dam site or reservoir area, indicating possible hazards such as faults, weak seams and joints.

(v) Data concerning availability and quality of construction materials.

(vi) A "Dam Stability Report" as required under § 105.97 (relating to stability of structure).

(vii) Other information as may be necessary to determine the safety, adequacy and suitability of the design, including the design calculations for the dam, which shall be made available to the Department on request.

(2) Site plan and cross sectional views required under § 105.13(d)(1)(i) (relating to permit applications-information and fees).

(3) Construction plans, specifications and design reports to evaluate the safety, adequacy and suitability of the proposed dam, reservoir and appurtenant works in order to determine compliance with this chapter.

(4) A schedule indicating proposed commencement and completion dates for construction.

(5) For projects involving storage of fluids or semifluids other than water, information concerning the chemical content, viscosity and other pertinent physical characteristics of the fluid or semifluid impounded.

(6) An instrumentation plan including justification and design for the installation of permanent monitoring instruments to measure the performance of the dam. If no instrumentation is considered necessary, justification shall be provided.

(7) A hydrologic and hydraulic analysis, submitted as a separate report, which includes:

- (i) The size, shape and characteristics of the drainage basin.
 - (ii) Current precipitation data and precipitation distribution information as required by the Department.
 - (iii) Streamflow records.
 - (iv) Flood flow records and estimates.
 - (v) An incremental dam breach analysis, storage capacity and reservoir surface area for normal pool and maximum storage elevations.
 - (vi) Other hydrologic and hydraulic determinations necessary for the design and operation of the dam.
 - (8) For existing dams, copies of the structure's most recent inspection reports.
 - (9) EAP if required under § 105.134 (relating to EAP).
 - (10) Proof of title or adequate flowage easements for land area below the top of the dam elevation that is subject to inundation.
 - (11) An Operation and Maintenance Manual for the dam as required under § 105.131 (relating to operation, maintenance and monitoring).
 - (12) Other information the Department may require.
- (b) The Department may waive specific information requirements of this section in writing, if the Department finds that specific information is not necessary to review the application.

CLASSIFICATION AND DESIGN CRITERIA FOR APPROVAL OF CONSTRUCTION, OPERATION, MODIFICATION AND MAINTENANCE

§ 105.96. Outlet works.

(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.

(b) In determining the reasonable time period for drainage of the reservoir, the dam owner, the dam owner's engineer, and the Department may consider, without limitation, the following factors:

- (1) The damage potential posed by possible failure of the dam.
 - (2) The risk and nature of potential failure and the time likely to be available to avert the failure after notice of conditions threatening the safety or stability of the dam.
 - (3) The purpose of the dam and reservoir.
 - (4) The capacity and stability of available drainage courses to convey the waters released from the reservoir in the event of emergency drainage.
 - (5) The influence of rapid drawdown on the stability of the dam, its appurtenant works and the upstream natural slopes of the reservoir.
- (c) Under normal conditions, the maximum rate of drawdown for reservoirs impounded by earthfill dams should not exceed 1 foot per day without prior approval by the Department. Under emergency conditions, the maximum rate of partial or complete drawdown of reservoirs must be approved by the Department, when feasible.
- (d) Each outlet works must include upstream closure, trashrack, and a means of dissipating the energy of flow at its outlet to assure conveyance of flow without endangering the safety and integrity of the dam or the natural environment of the stream.

§ 105.97. Stability of structures.

- (a) Dams must be structurally sound and be constructed of sound and durable materials. The structure must be stable during and at the completion of construction.
- (b) As part of the permit application for the construction or modification of a dam, the design engineer shall submit to the Department, under professional seal and certification, a report entitled "Dam Stability Report" which clearly demonstrates to the Department that the requirements of subsection (a) have been satisfied. At a minimum, this report must address the following considerations:
- (1) The physical properties of the materials available for construction.
 - (2) A stability analysis based on the properties of the structure's materials and on the seismic forces and seepage conditions affecting the structure.
 - (3) The methods of construction.
 - (4) The conditions of operation of the dam and reservoir.

(c) Earthfill dams must be demonstrated to be stable for the following conditions:

- (1) Normal pool with steady-state seepage conditions with a factor of safety of 1.5.
- (2) Maximum pool with steady-state seepage conditions with a factor of safety of 1.4.
- (3) Sudden drawdown from normal pool conditions with a factor of safety of 1.2.
- (4) Normal pool with steady-state seepage conditions under seismic forces produced by the maximum credible earthquake with a factor of safety of 1.1.
- (5) Completion of construction with no pool with a factor of safety of 1.3.

(d) Gravity dams must be demonstrated to be stable for the following conditions:

- (1) Normal pool with appropriate uplift pressures, ice loads and silt loads with a factor of safety of 2.0.
- (2) Maximum pool with appropriate uplift pressures and silt loads with a factor of safety of 1.7.
- (3) Normal pool with appropriate uplift pressures and silt loads under seismic forces produced by the maximum credible earthquake with a factor of safety of 1.3.

(e) For gravity dams, the overturning stability is acceptable when the resultant of all forces acting on the dam is located as follows:

- (1) Within the middle third of the structure for normal pool conditions.
- (2) Within the middle half of the structure for maximum pool conditions.
- (3) Within the structure for earthquake conditions.

(f) For gravity dams, the foundation bearing pressures must be less than or equal to the allowable for no pool, normal pool and maximum pool conditions and less than 133% of the allowable for earthquake conditions.

(g) The factors of safety for earthfill dams or gravity dams must be the higher of:

- (1) The factors of safety in subsections (c) and (d).
- (2) The factors of safety in the most recent Engineering Manuals developed by the United States Army Corps of Engineers relating to stability of dam structures.

(h) The Department may 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.

CONSTRUCTION REQUIREMENTS AND PROCEDURES

§ 105.102. Personnel and supervision.

(a) The permittee or owner shall file with the Department, at least 15 days prior to the commencement of construction, a statement setting forth the name and employer, including contact information, of the following:

- (1) The professional engineer responsible for oversight and supervision of construction.
- (2) Representatives of the professional engineer.
- (3) Contractors conducting the work authorized by the permit, letter of amendment or letter of authorization as required by the Department.

(b) Work must be conducted under the oversight and supervision of a professional engineer. The professional engineer or a representative of the professional engineer shall be on the work site during significant construction activities until the completion of the dam.

OPERATION, MAINTENANCE AND EMERGENCIES

§ 105.135. Dam hazard emergencies.

(a) For the purposes of this section, a dam hazard emergency means a condition which the Department, permittee or owner of the dam reasonably finds constitutes an imminent threat to life or property above or below a dam, whether arising from the condition of the dam and appurtenant works or extraordinary natural conditions, affecting the safety and stability of the dam, including flood, earthquake and ice jam.

(b) The emergency procedures and the EAP required under §§ 105.63 and 105.134 (relating to emergency procedures; and EAP) shall be followed by the permittee and owner of a dam or reservoir in the event of an actual or potential dam hazard emergency.

(c) If a dam hazard emergency exists, the permittee or owner of the dam shall immediately notify appropriate emergency management officials identified in the emergency action plan required under §§ 105.63 and 105.134 of the existence of the hazard and request the authorities to initiate appropriate action to assure protection of life and property; and the permittee or owner shall immediately take actions as authorized by the Department necessary to prevent dam failure or loss of life or property.

(d) The Department, upon determining that a dam hazard emergency exists, will notify the owner immediately to take actions the Department determines are necessary to prevent dam failure or loss of life or property.

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