

<h1 style="text-align: center;">Regulatory Analysis Form</h1> <p style="text-align: center;">(Completed by Promulgating Agency)</p>		<p><i>INDEPENDENT REGULATORY REVIEW COMMISSION</i></p>
<p>(All Comments submitted on this regulation will appear on IRRC's website)</p>		
<p>(1) Agency Environmental Protection</p>		
<p>(2) Agency Number: Identification Number: 7-534</p>		<p>IRRC Number:</p>
<p>(3) PA Code Cite: 25 Pa Code, Chapter 93</p>		
<p>(4) Short Title: Water Quality Standards – Triennial Review</p>		
<p>(5) Agency Contacts (List Telephone Number and Email Address):</p> <p>Primary Contact: Laura Edinger; 717.783.8727; ledinger@pa.gov Secondary Contact: Jessica Shirley; 717.783.8727; jessshirley@pa.gov</p>		
<p>(6) Type of Rulemaking (check applicable box):</p> <p><input checked="" type="checkbox"/> Proposed Regulation <input type="checkbox"/> Final Regulation <input type="checkbox"/> Final Omitted Regulation</p>		<p><input type="checkbox"/> Emergency Certification Regulation; <input type="checkbox"/> Certification by the Governor <input type="checkbox"/> Certification by the Attorney General</p>
<p>(7) Briefly explain the regulation in clear and nontechnical language. (100 words or less)</p> <p>Section 303(c)(1) of The Clean Water Act requires that states periodically, but at least once every 3 years, review and revise as necessary, their water quality standards. Further, states are required to protect existing uses of their waters. This regulation is undertaken as part of the Department's ongoing review of Pennsylvania's water quality standards.</p> <p>The proposed regulation will update and revise Sections 93.1 and 93.6(a) by adding clarification, Table 3, at Section 93.7 by updating the aquatic life criterion for ammonia, the Bac₁ criterion for recreational use, and adding an aquatic life criterion for chloride; deleting reference to Appendix A, Table 1A in Section 93.8a(b) since Table 1A is being deleted in Chapter 16; removing reference to the Federal regulation in 40 CFR 131.32(a) in Section 93.3a(j)(3) since this federal promulgation had been removed by U.S. EPA; Sections 93.8c(a) and 93.8c(b), are updated to clarify that the criteria in Table 5 may apply to the Great Lakes System for those substances not listed in Table 6; toxic substances at Section 93.8c, Table 5, are being updated using the latest scientific information and policies developed by EPA under the Clean Water Act, section 304(a); clarifying the use of the Biotic Ligand Model (BLM) for the development of new or updated site-specific criteria for copper in freshwater systems in Section 93.8d(c); and identify a new on-line resource at Section 93.8d(f)(2), to maintain a publicly available list of site-specific criteria that have been developed, and are being used by the Department in permitting and other pollution control measures.</p> <p>There are also corrections to the water quality standards chapters for typographical and translation errors, and missed references associated with prior rulemaking and/or publication activities. This includes corrections to use designations and stream entries found in Drainage Lists at Sections 93.9a-93.9z, for revisions which are not</p>		

being addressed by separate stream redesignation rulemakings. These changes to the drainage lists are proposed to clarify stream names, segment boundaries, reformat the drainage lists, and to correct typographical and other errors.

(8) State the statutory authority for the regulation. Include specific statutory citation.

The Pennsylvania Clean Streams Law, Act of June 22, 1937 (P.L. 1987, No. 394) as amended, 35 P.S. § 691.1 et seq.

Section 1920-A of The Administrative Code of 1929, as amended, 71 P.S. § 510-20.

Section 303(c) of the Federal Clean Water Act, 33 U.S.C.A. § 1313(c).

(9) Is the regulation mandated by any federal or state law or court order, or federal regulation? Are there any relevant state or federal court decisions? If yes, cite the specific law, case or regulation as well as any deadlines for action.

Section 303(c) of the federal Clean Water Act and 40 CFR Part 131 require states to develop water quality standards that consist of designated uses, water quality criteria and antidegradation requirements. Such standards must “protect the public health or welfare and enhance the quality of water.” In addition, such standards must take into consideration water uses including public water supplies, propagation of fish and wildlife, recreational purposes, agricultural purposes and industrial purposes.

The U.S. EPA urged the Department in a letter dated January 21, 2013 to include the federally recommended ammonia and recreational water quality criteria (RWQC) into the Commonwealth’s water quality standards. Also, the U.S. EPA specifically mentioned in their May 22, 2014 approval letter in reference to the 2013 Pennsylvania Triennial Review of WQS “that PADEP will address the issues of total dissolved solids, most notably chlorides, ammonia, and recreational criteria”, in their next triennial review.

(10) State why the regulation is needed. Explain the compelling public interest that justifies the regulation. Describe who will benefit from the regulation. Quantify the benefits as completely as possible and approximate the number of people who will benefit.

Section 303(c)(1) of the federal Clean Water Act and 40 CFR 131.20 require that states review their water quality standards and modify them, as appropriate, at least once every three years. The proposed regulation fulfills this requirement for Pennsylvania’s triennial review of water quality standards. This requirement is based upon recognition that the science of water quality is constantly advancing. Its purpose is to ensure that standards are based on current science, methodologies, and U.S. EPA mandates, recommendations and guidance. The federal mandate for states to develop water quality criteria is found at section 303(c)(2)(A) of the Clean Water Act (CWA).

The purpose of developing the water quality standards is to protect Pennsylvania’s surface waters. Pennsylvania’s surface waters, through the water quality standards program, are protected for a variety of uses including: drinking water supplies for humans, livestock and wildlife; fish consumption; irrigation for crops; aquatic life uses; recreation; and industrial water supplies. All the citizens of this Commonwealth will benefit from the regulation because it provides the appropriate level of water quality protection for all water uses.

By protecting the water uses, and the quality of the water necessary to maintain the uses, benefits may be gained in a variety of ways by all citizens of the Commonwealth. For example, clean water used for drinking water supplies benefits the consumers by lowering drinking water treatment costs and reducing medical costs associated with drinking water illnesses. Additionally, by maintaining water quality standards, clean surface water is available for irrigation of crops and livestock and for use in industrial processes. Clean surface waters also benefit the Commonwealth by providing for increased tourism and recreational use of the waters. Clean water provides for increased wildlife habitat and more productive fisheries.

(11) Are there any provisions that are more stringent than federal standards? If yes, identify the specific provisions and the compelling Pennsylvania interest that demands stronger regulations.

No. The proposed regulations are not more stringent than federal standards.

(12) How does this regulation compare with those of the other states? How will this affect Pennsylvania's ability to compete with other states?

Other states are also required to maintain water quality standards, based on the federal mandate at section 303(c) of the federal Clean Water Act and 40 CFR Part 131. If other states or tribes have not yet adopted similar CWA Section 304(a) criteria, they will be required to consider these criteria during their next triennial review. The proposed amendments will not put Pennsylvania at a competitive disadvantage to other states.

See attached summary Table – Summary: Ammonia, Chloride and Human Health Criteria for U.S. EPA Region 3 and Neighboring States.

PA DEP staff collaborated with Maryland Department of the Environment (MDE) staff to evaluate the Freshwater Chloride Development Methodology (MDE, August, 2013). and reviewed their data used in Maryland's chloride criteria development in the consideration of Pennsylvania's own aquatic life criteria for chloride.

(13) Will the regulation affect any other regulations of the promulgating agency or other state agencies? If yes, explain and provide specific citations.

No other state regulations are affected by this proposal.

State agencies that may cause pollution in surface waters could possibly be affected by this regulation. For example, if an agency's activity involves the discharge of pollutants into surface waters, the discharge must meet the water quality standards identified by this regulation.

(14) Describe the communications with and solicitation of input from the public, any advisory council/group, small businesses and groups representing small businesses in the development and drafting of the regulation. List the specific persons and/or groups who were involved. ("Small business" is defined in Section 3 of the Regulatory Review Act, Act 76 of 2012.)

The Water Resources Advisory Committee (WRAC) was briefed on the scope of the regulation at the February 18, 2015, meeting, and provided on-going updates on the review and regulatory development at the August 12th

and November 18, 2015, meetings. WRAC was also provided a draft of the proposed regulatory amendments in January 2016, so they could consider the amendments and make recommendations at the March 24, 2016 meeting, where WRAC voted to present this rulemaking package to the Board. In addition, the Department provided to the Agricultural Advisory Board (AAB) on February 25, 2016, a regulatory review that included the triennial review of water quality standards. Also, DEP provided to the Citizens Advisory Council (CAC) on June 21, 2016, an overview of the triennial review and development of the chloride criteria.

The public will be afforded the opportunity to comment on this proposed regulation during a 60-day public comment period, in addition to public hearings.

(15) Identify the types and number of persons, businesses, small businesses (as defined in Section 3 of the Regulatory Review Act, Act 76 of 2012) and organizations which will be affected by the regulation. How are they affected?

Persons proposing new or expanded activities or projects resulting in pollution to surface waters of the Commonwealth may be affected by the proposed regulations. For example, dischargers of pollutants will be required to provide effluent treatment or best management practices that will protect and maintain the designated uses and other water quality standards identified in this proposed regulation. Such treatment and practices may result in higher design, engineering, construction, and treatment costs. However, it is not possible to identify the total number of persons, businesses and organizations that will be affected by the regulation, or the potential associated costs. It is not possible to predict the future business decisions of existing or potentially new entities that choose to conduct associated activities that will be affected by these regulations. Therefore, it is not possible or practicable to quantify their technology needs and BMP costs that may be associated with these future activities. The proposed regulations do, however, establish a clear and appropriate set of goals, objectives and targets to which these persons, businesses, and organizations can plan and design towards.

Point source discharges that contain very high concentrations of chloride may be affected by this rulemaking. The impact of the proposed criteria will depend to a large extent on site-specific factors, including comparison of the size of the discharge flow to that of the receiving water flow and the hardness and sulfate concentration of the receiving water. Typical municipal sewage plants do not contain very high concentrations of chloride and we do not expect that they will be affected by this rulemaking. Certain centralized waste treatment facilities that treat oil and natural gas wastewater and were exempted from the Chapter 95 treatment requirements promulgated in 2010 would be affected. However, these facilities are all in the process of upgrading treatment to Chapter 95 standards. These treatment upgrades have been a direct result of documented impacts on aquatic life by the Department and the U.S. Fish and Wildlife Service. These aquatic life impacts have demonstrated the need for the new chloride criteria.

Point sources that could be affected by this rulemaking include certain coal-fired power plants; primary metals processing facilities (electroplaters); landfill leachate discharges; oil stripper well discharges; and paper mills. Again, it is difficult to predict exactly to what extent facilities may be affected, since any impact will depend on the size, hardness, and sulfate content of the receiving water. In some cases, the only action that may be required is moving the discharge to allow for additional dilution in receiving waters. Municipal sewage plants receiving hauled-in or indirect discharges of industrial wastewater containing very high concentrations of chloride may have to discontinue receiving those hauled-in wastes, or otherwise require the indirect discharges to reduce their chloride loading. Certain minor discharges, such as reverse osmosis reject water, could possibly be affected if the receiving water is very small. Elevated chloride in stormwater runoff associated with salt distribution piles may require additional best management practices to reduce the chloride contamination of the stormwater runoff.

Ammonia is used in agriculture in connection with fertilizers. It is also used in metal finishing, pharmaceuticals, processing of crude oil and corrosion protection. It may also be present in surface water discharges of municipal effluent. No impact or minimal impact is expected for the great majority of point source discharges in Pennsylvania. In those cases where additional treatment for ammonia may be needed, minimal cost impact is expected because ammonia is highly treatable. Treatment usually involves only time allowed for biological degradation and exposure to atmospheric oxygen.

Bacteria are common one-celled organisms and are a natural component of surface waters. While most are not harmful to humans, some can cause illness and disease. Fecal coliforms and *E. coli* are commonly found in the gastrointestinal tract and feces of warm-blooded animals, and are therefore indicators of fecal contamination from human and animal wastes, as well as potential for other harmful pathogens and disease-causing organisms being present in the water. All point source discharges in Pennsylvania containing treated sewage already are required to disinfect their wastewater and no additional treatment will be required to achieve this revised criterion. Treatment usually involves filtration and addition of disinfectants such as chlorine, ozone, or ultra-violet (UV) light to kill or deactivate microorganisms.

See also human health criteria rationale and technical documents referenced in #28 explaining the types of industries that may be affected by changes to the toxics criteria.

The proposed regulation will be implemented through the Department's permit and approval actions.

(16) List the persons, groups or entities, including small businesses, which will be required to comply with the regulation. Approximate the number that will be required to comply.

All persons, groups or entities with proposed or existing point source discharges containing the pollutants that are included in this proposed rulemaking into surface waters of the Commonwealth must comply with the regulation. Although all facilities must comply, we expect that fewer than 50 facilities may be required to implement any changes to operations or treatment practices related to the new chloride criterion.

Also, see response #15.

(17) Identify the financial, economic and social impact of the regulation on individuals, small businesses, businesses and labor communities and other public and private organizations. Evaluate the benefits expected as a result of the regulation.

All citizens of the Commonwealth, both present and future, will benefit from having clean water that is protected and maintained. Any reduction in the total toxic load in Pennsylvania waterbodies is likely to have a positive effect on the human health of Pennsylvanians. This will translate into an as yet unknown economic benefit through avoided cleanup or remediation costs later in time, as well as avoided costs for the treatment and caring for persons with diseases and disabilities that can be reasonably attributed to environmental contaminants in surface water.

Reduced toxics in Pennsylvania's waterways will likely increase recreational fishing and tourism to swimming and fishing locations throughout the state. Additionally, cleaner rivers and fish may lead to increased birding and wildlife viewing opportunities, as the benefits of cleaner water and fish work themselves up the food chain,

resulting in substantial economic benefits. Persons who recreate on the waters and who fish, both for sport and consumption, will benefit from better water quality protection.

A reduction in toxics found in Pennsylvania's waterways may lead to increased property values for properties located near rivers or lakes. The study, *The Effect of Water Quality on Rural Nonfarm Residential Property Values*, (Epp and Al-Ani, American Journal of Agricultural Economics, Vol 61, No. 3 (Aug. 1979)), used real estate prices to determine value of improvements in water quality in small rivers and streams in Pennsylvania. Water quality, whether measured in pH or by the owner's perception, has a significant effect on the price of adjacent property. Their analysis showed a positive correlation between water quality and housing values. They concluded that buyers are aware of the environmental setting of a home and that differences in the quality of nearby waters affects the price paid for a residential property.

A 2006 study from the Great Lakes region estimated that property values were significantly depressed in two regions associated with toxic contaminants (PAHs, PCBs, and heavy metals). The study showed that a portion of the Buffalo River region (approx. 6 miles long) had depressed property values of between \$83 million and \$118 million for single-family homes, and between \$57 million and \$80 million for multi-family homes as a result of toxic sediments. The same study estimated that a portion of the Sheboygan River (approx. 14 miles long) had depressed property values of between \$80 million and \$120 million as the result of toxics. "*Economic Benefits of Sediment Remediation*," <http://www.nemw.org/Econ> . While this study related to the economic effect of contaminated sediment in other waters in the Great Lakes region, the idea that toxic pollution depresses property values is easily transferable to Pennsylvania. A reduction in toxic pollution in Pennsylvania's waters has a substantial economic benefit to property values in close proximity to waterways.

There are economic benefits to be gained by maintaining clean water for potable and other water supply uses. Water suppliers, and their customers, may benefit from lower pretreatment costs if water is withdrawn that meets the surface water quality standards. Assuring the availability of clean water will cut down on the costs to consumers for purchasing household pretreatment/water filtration systems and bottled water. See "*The Real Cost of Bottled Water*," San Francisco Chronicle, Feb. 18th, 2007, <http://www.sfgate.com/green/article/The-real-cost-of-bottled-water-2647986.php> which estimates the cost of bottled water to be anywhere between 240 and 10,000 times more expensive than tap water. An additional benefit to greater reliance on tap water is the reduction of containers that need to be recycled or disposed of in landfills. Persons may incur a cost benefit by reducing their dependence on bottled waters and household water filtration systems based on their confidence in source water quality.

By controlling toxics at the point of discharge, users downstream will not have to bear the costs associated with cleaning up someone else's discharge before the water can be used. For example, fewer toxics in surface waters may reduce costs incurred by downstream surface water users who have to pre-treat water for industrial or commercial use (i.e. food processors). Also, reductions at the point of discharge reduce the costs for water suppliers who will have to treat water that is high in toxics at their intakes to meet drinking water standards. Passing on the treatment to water suppliers will increase costs to drinking water customers. Any intervening water uses such as irrigation and fish consumption, between the point of discharge and the point of use, will be protected by limiting the amount of toxics that may be discharged. Under these scenarios, multiple surface water users will benefit—industrial, agricultural, commercial, and potable water users.

There are also economic benefits to be gained by having clearly defined remediation standards for surface waters. Under Pennsylvania's Land Recycling and Environmental Remediation Standards Act, liability relief is available, by operation of law, if a person demonstrates compliance with the environmental remediation standards established by the law. Surface water quality criteria are used to develop remediation standards under the law. Persons performing remediation depend upon these criteria to obtain a liability relief benefit under the law. An article in the Duquesne University Law Review discusses the importance of liability

limitation as “vital to the participation in the remediation process.” The article recognizes that “liability protection provides the missing ingredient—financial incentive—for undertaking the cleanup of an industrial site.” See “*COMMENT: Pennsylvania's Land Recycling Program: Solving the Brownfields Problem with Remediation Standards and Limited Liability*,” Creenan, James W. and Lewis, John Q., *Duquesne University Law Review*, 34 *Duq. L. Rev.* 661 (Spring 1996). Industrial land redevelopers will benefit from these regulations by having financial certainty when choosing a surface water cleanup standard and by being eligible for liability relief under state law.

Also, see response #15.

(18) Explain how the benefits of the regulation outweigh any cost and adverse effects.

Health and welfare benefits to all citizens of the Commonwealth accrue from protecting the surface waters of the Commonwealth at the appropriate level. The benefits from substantial revenue and jobs associated with popular fisheries, and other industries that rely on clean water, outweigh the cost and adverse effects associated with selective effluent treatment technology and best management practices for those who cause pollution of the waters.

Section 4 of the Pennsylvania Clean Streams Law (Declaration of Policy) clearly indicates the benefits of, and how it is essential to maintain clean, unpolluted waters, if Pennsylvania is to attract new manufacturing industries and to develop Pennsylvania’s full share of the tourist industry; to have adequate out of door recreational facilities in the decades ahead; and that it is the objective of the Clean Streams Law not only to prevent further pollution of the waters of the Commonwealth, but also to reclaim and restore to a clean, unpolluted condition every stream in Pennsylvania that is presently polluted. The prevention and elimination of water pollution is recognized as being directly related to the economic future of the Commonwealth. Section 4 of the Clean Streams Law was amended July 31, 1970 (P.L.653, No. 222).

Also, see response #15 and #17.

(19) Provide a specific estimate of the costs and/or savings to the regulated community associated with compliance, including any legal, accounting or consulting procedures which may be required. Explain how the dollar estimates were derived.

Specific estimates of costs and savings cannot be determined because each activity that will result in pollution to waters in this Commonwealth must be reviewed based on site-specific considerations. These site-specific considerations include, but are not limited to the size, flow volume, and the chemical, biological and physical properties of both the receiving water and the effluent discharge. These unique parameters result in site-specific requirements. National Pollutant Discharge Elimination System (NPDES) permits and other approvals will be required for discharges to waters of this Commonwealth using the water quality uses and criteria identified in the proposed regulations.

(20) Provide a specific estimate of the costs and/or savings to local governments associated with compliance, including any legal, accounting or consulting procedures which may be required. Explain how the dollar estimates were derived.

No costs will be imposed directly upon local governments by this proposed regulation. This proposal is based on and will be implemented through existing Department programs, procedures and policies. However, certain

municipalities or municipally-owned entities that discharge pollutants to surface waters may be affected by this proposed regulation as described in #15. The costs associated with permits and performance or design requirements will be site-specific and will be based on effluent limitations or best management practices and the appropriate protections for a particular waterbody.

The Department is aware of some specific activities that must be carried out to protect public health and safety, which may cause temporary excursions of the chloride criteria. The specific activity being discussed is the application of de-icing materials to roadways and sidewalks for protection of public safety. Therefore, the Department plans to work with all stakeholders that apply de-icing materials to develop a set of best management practices that will minimize the frequency and magnitude of any episodic criteria exceedances.

A municipality may derive additional revenue and employment from the tourism industries that are attracted to recreation associated with protected and improved surface waters, such as anglers, boaters, swimmers and others interested in outdoor recreation.

(21) Provide a specific estimate of the costs and/or savings to state government associated with the implementation of the regulation, including any legal, accounting, or consulting procedures which may be required. Explain how the dollar estimates were derived.

No costs will be imposed directly upon state governments by this proposed regulation. This proposal is based on and will be implemented through existing Department programs, procedures and policies. However, certain state agencies or state-owned entities that discharge pollutants to surface waters may be affected by this proposed regulation as described in #15. The costs associated with permits and performance or design requirements will be site-specific and will be based on effluent limitations or best management practices and the appropriate protections for the particular waterbody.

There are de-icing activities that must be carried out to protect public health and safety that may cause temporary excursions of the chloride criteria. DEP will work with all stakeholders that apply de-icing materials to develop a set of best management practices that will minimize the frequency and magnitude of any episodic criteria exceedances. There may be costs incurred in developing and implementing best management practices, but these may, in part, be offset by savings in reducing the amount of deicing materials used without jeopardizing public safety.

The state may derive additional revenue and employment from the tourism industries that are attracted to recreation associated with the surface waters, such as anglers, boaters, swimmers, and others interested in outdoor recreation.

Also, see response #17.

(22) For each of the groups and entities identified in items (19)-(21) above, submit a statement of legal, accounting or consulting procedures and additional reporting, recordkeeping or other paperwork, including copies of forms or reports, which will be required for implementation of the regulation and an explanation of measures which have been taken to minimize these requirements.

Each activity that will result in pollution to waters of this Commonwealth requires a review that is based on site-specific considerations, including the specific pollutant(s) expected or known to be in the discharge to waters of this Commonwealth. Existing Department procedures will be used to implement this proposed regulation. Persons proposing new or expanded activities or projects which result in discharges to waters of the

Commonwealth will be required to implement treatment of effluent or best management practices and the appropriate protections for a particular waterbody.

(23) In the table below, provide an estimate of the fiscal savings and costs associated with implementation and compliance for the regulated community, local government, and state government for the current year and five subsequent years.

	Current FY Year 15/16	FY+1 Year 16/17	FY+2 Year 17/18	FY+3 Year 18/19	FY+4 Year 19/20	FY+5 Year 20/21
SAVINGS:	\$	\$	\$	\$	\$	\$
Regulated Community	Not Measurable	Not Measurable	Not Measurable	Not Measurable	Not Measurable	Not Measurable
Local Government	“	“	“	“	“	“
State Government	“	“	“	“	“	“
Total Savings	“	“	“	“	“	“
COSTS:						
Regulated Community	Not Measurable	Not Measurable	Not Measurable	Not Measurable	Not Measurable	Not Measurable
Local Government	“	“	“	“	“	“
State Government	“	“	“	“	“	“
Total Costs	“	“	“	“	“	“
REVENUE LOSSES:						
Regulated Community	Not Measurable	Not Measurable	Not Measurable	Not Measurable	Not Measurable	Not Measurable
Local Government	“	“	“	“	“	“
State Government	“	“	“	“	“	“
Total Revenue Losses	“	“	“	“	“	“

(23a) Provide the past three-year expenditure history for programs affected by the regulation.

Program	FY -3 (2013-14)	FY -2 (2014-15)	FY -1 (2015-16)	Current FY (2016-17)
160-10381 Enviro Protection Operations	\$75,184,000	\$84,438,000	\$80,624,000	\$89,066,000
161-10382 Enviro Program Management	\$25,733,000	\$28,517,000	\$25,834,000	\$30,025,000

(24) For any regulation that may have an adverse impact on small businesses (as defined in Section 3 of the Regulatory Review Act, Act 76 of 2012), provide an economic impact statement that includes the following:

(a) An identification and estimate of the number of small businesses subject to the regulation.

Persons with proposed or existing discharges into surface waters of the Commonwealth must comply with the regulation. Also, see response #15.

(b) The projected reporting, recordkeeping, and other administrative costs required for compliance with the proposed regulation, including the type of professional skills necessary for preparation of the report or record.

Each activity that will result in pollution to waters of this Commonwealth requires a review that is based on site-specific considerations. National Pollutant Discharge Elimination System (NPDES) permits will be required for discharges to waters and water quality standards identified in the proposed regulations. Existing Department procedures will be used to implement this proposed regulation.

(c) A statement of probable effect on impacted small businesses.

Each activity that will result in pollution to waters of this Commonwealth requires a review that is based on site-specific considerations. National Pollutant Discharge Elimination System (NPDES) permits and other approvals will be required for discharges to waters, using the water quality criteria and standards identified in the proposed regulations. Existing Department procedures will be used to implement this proposed regulation.

(d) A description of any less intrusive or less costly alternative methods of achieving the purpose of the proposed regulation.

There were no non-regulatory alternatives or less intrusive methods available to consider in this case.

In addition to the flexibility afforded by the regulatory mechanisms in the NPDES permitting program, the water quality regulations include a provision that allows for the development of site-specific water quality criteria, in lieu of the statewide criteria, under certain circumstances. In particular, if site-specific biological or chemical conditions of the receiving waters differ from the conditions upon which the statewide criteria are based, the Department will consider a request for site-specific criteria. A discharger has the opportunity to weigh the costs of developing a site-specific standard against the usage of an existing statewide standard.

(25) List any special provisions which have been developed to meet the particular needs of affected groups or persons including, but not limited to, minorities, the elderly, small businesses, and farmers.

There are no such provisions in this proposed regulation.

(26) Include a description of any alternative regulatory provisions which have been considered and rejected and a statement that the least burdensome acceptable alternative has been selected.

There were no non-regulatory alternatives available to consider in this case.

There were no alternative regulatory schemes to consider in achieving the correct level of protection for the waters of the Commonwealth. The proposed regulations reflect the results of a periodic and on-going scientific evaluation of regulatory criteria, as required by all states under the federal Clean Water Act.

The U.S. EPA urged the Department in a letter dated January 21, 2013 to include the federally recommended ammonia and recreational water quality criteria (RWQC) into the Commonwealth's water quality standards. Also, the U.S. EPA specifically mentioned in their May 22, 2014 approval letter in reference to the 2013 Pennsylvania Triennial Review of WQS "that PADEP will address the issues of total dissolved solids, most notably chlorides, ammonia, and recreational criteria", in their next triennial review.

(27) In conducting a regulatory flexibility analysis, explain whether regulatory methods were considered that will minimize any adverse impact on small businesses (as defined in Section 3 of the Regulatory Review Act, Act 76 of 2012), including:

(a) The establishment of less stringent compliance or reporting requirements for small businesses.

There were no less stringent compliance or reporting requirements to consider in this case. Any WQ criteria that are less stringent than those proposed were not protective enough for the waters of the Commonwealth and would negate the benefits listed in Question #17.

There were no alternative regulatory schemes to consider in achieving the correct level of protection for the waters of the Commonwealth. The proposed regulations reflect the results of a scientific evaluation of regulatory criteria.

(b) The establishment of less stringent schedules or deadlines for compliance or reporting requirements for small businesses.

There were no non-regulatory alternatives available to consider in this case.

Schedules of compliance and reporting requirements to meet the proposed standards may be considered when permit or approval actions are taken. They are not considered as part of this scientific evaluation of the correct water quality criteria needed to protect surface waters.

(c) The consolidation or simplification of compliance or reporting requirements for small businesses.

Schedules of compliance and reporting requirements to meet the proposed standards may be considered when permit or approval actions are taken. They are not part of this scientific evaluation and establishment of the correct water quality criteria needed to protect surface waters.

(d) The establishment of performance standards for small businesses to replace design or operational standards required in the regulation.

The proposed regulations represent performance standards. They identify the instream goals for water quality protection and do not identify the design or operational standards that must be used to meet the goals.

(e) The exemption of small businesses from all or any part of the requirements contained in the regulation.

There were no such exemptions of small businesses to consider in this case.

(28) If data is the basis for this regulation, please provide a description of the data, explain in detail how the data was obtained, and how it meets the acceptability standard for empirical, replicable and testable data that is supported by documentation, statistics, reports, studies or research. Please submit data or supporting materials with the regulatory package. If the material exceeds 50 pages, please provide it in a searchable electronic format or provide a list of citations and internet links that, where possible, can be accessed in a searchable format in lieu of the actual material. If other data was considered but not used, please explain why that data was determined not to be acceptable.

Please see the attached rationale documents for criteria development and specific literature reviews and citations.

In addition to attached rationale documentation, more reference material can be accessed as described below: DEP assessed the peer reviewed technical documentation for the recommended ammonia criteria and found it was scientifically sound. The document can be accessed at <https://www.epa.gov/wqc/aquatic-life-criteria-ammonia>

DEP assessed the peer reviewed technical documentation for the recommended recreational criteria for bacteria and found it was scientifically sound. The document can be accessed at <https://www.epa.gov/sites/production/files/2015-10/documents/rwqc2012.pdf>

DEP assessed the peer reviewed technical documentation for the recommended human health criteria and found it was scientifically sound. The document can be accessed at <https://www.epa.gov/sites/production/files/2015-10/documents/human-health-2015-update-factsheet.pdf>

A summary of the chloride criteria development can be found at <http://files.dep.state.pa.us/PublicParticipation/Advisory%20Committees/AdvCommPortalFiles/WRAC/2016/Chloride Presentation for 032416 WRAC meeting.pdf>

DEP used the approved EPA methodology to assess the chloride toxicity data and derive the chloride criteria. DEP has assessed this peer reviewed methodology and found it was scientifically sound. <https://www.epa.gov/sites/production/files/2016-02/documents/guidelines-water-quality-criteria.pdf>.

Chloride toxicity data used to develop the criteria came from two sources. The EPA Integrated Risk Information System (IRIS) provided EPA approved chloride toxicity test results. DEP assessed the peer reviewed results and found it was scientifically sound. <https://www.epa.gov/iris>.

The second source of data were toxicity tests conducted by the Stroud Water Research Center. DEP has assessed this report and found it was scientifically sound. http://files.dep.state.pa.us/Water/Drinking%20Water%20and%20Facility%20Regulation/WaterQualityPortalFiles/Chlorides/Chloride_bioassay_2014_report%20Final.pdf.

The equation to adjust chloride for hardness and sulfate was derived from the EPA final report “Acute Toxicity of Chloride To Select Freshwater Invertebrates, September 2008”. DEP has assessed this report and found it was scientifically sound. The state of Iowa also adopted the equation for their chloride criteria. http://www.fwspubs.org/doi/suppl/10.3996/052013-JFWM-033/suppl_file/patnodereference+s5.pdf. www.in.gov/idem/files/wpcb_2012_mar_11-320_factsheet.pdf.

(29) Include a schedule for review of the regulation including:

- | | |
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| A. The date by which the agency must receive public comments: | <u>Quarter 1, 2017</u> |
| B. The date or dates on which public meetings or hearings will be held: | <u>TBD</u> |
| C. The expected date of promulgation of the proposed regulation as a final-form regulation: | <u>Quarter 3, 2017</u> |
| D. The expected effective date of the final-form regulation: | <u>Upon publication in the PA Bulletin</u> |
| E. The date by which compliance with the final-form regulation will be required: | <u>Upon publication in the PA Bulletin</u> |
| F. The date by which required permits, licenses or other approvals must be obtained: | <u>When permits or approvals are issued or renewed</u> |

(30) Describe the plan developed for evaluating the continuing effectiveness of the regulations after its implementation.

This regulation will be reviewed on a triennial basis. As newer science is developed, the standards will be updated.