

**NOTICE OF FINAL RULEMAKING
DEPARTMENT OF ENVIRONMENTAL PROTECTION
ENVIRONMENTAL QUALITY BOARD
[25 PA. Code, Chapter 93]**

Triennial Review of Water Quality Standards

Order

The Environmental Quality Board (Board) is amending 25 Pa. Code Chapter 93 (relating to water quality standards) as set forth in Annex A.

This order was adopted by the Board at its meeting of _____, 2008.

A. Effective Date

These amendments will be effective upon publication in the *Pennsylvania Bulletin* as final-form rulemaking.

B. Contact Persons

For further information contact Richard H. Shertzer, Chief, Division of Water Quality Standards, Bureau of Water Standards and Facility Regulation, 11th Floor, Rachel Carson State Office Building, P.O. Box 8467, (717) 787-9637 or Michelle Moses, Assistant Counsel, Bureau of Regulatory Counsel, 9th Floor, Rachel Carson State Office Building, P.O. Box 8464, Harrisburg, PA 17105-8464, (717) 787-7060. Persons with a disability may use the AT&T Relay Service by calling (800) 654-5984 (TDD users) or (800) 654-5988 (voice users). This proposal is available electronically through the Department of Environmental Protection's (Department) website (<http://www.depweb.state.pa.us>).

C. Statutory Authority

The final rulemaking is being made under the authority of Sections 5(b)(1) and 402 of The Clean Streams Law (35 P.S. §§ 691.5(b)(1) and 691.402), which authorize the Board to develop and adopt rules and regulations to implement provisions of The Clean Streams Law and Section 1920-A of The Administrative Code of 1929 (71 P.S. § 510-20), which grants to the Board the power and duty to formulate, adopt and promulgate rules and regulations for the proper performance of the work of the Department. In addition, Section 303 of the Federal Clean Water Act (33 U.S.C.A. § 1313) sets forth requirements for water quality standards and the Federal regulations in 40 CFR 131.32 (relating to Pennsylvania) set forth certain requirements for portions of the Commonwealth's antidegradation program and the Federal regulation in 40 CFR 131.41 (relating to Bacteriological criteria for those states not complying with Clean Water Act section 303(i)(1)(A)) sets forth bacteria criteria for coastal recreation waters in the Commonwealth.

D. Background and Summary

Section 303(c)(1) of The Clean Water Act requires that states periodically, but at least once every three years, review and revise as necessary, their water quality standards. This regulation constitutes Pennsylvania's current triennial review of its water quality standards.

Pennsylvania's water quality standards, which are codified in Chapter 93 and portions of Chapter 92, are designed to implement the requirements of Section 5 and 402 of The Clean Streams Law and Section 303 of the Federal Clean Water Act (33 U.S.C.A. § 1313). The water quality standards consist of the designated and existing uses of the surface waters of this Commonwealth, along with the specific numeric and narrative criteria necessary to achieve and maintain those uses and an antidegradation policy. Thus, water quality standards are in-stream water quality goals that are implemented by imposing specific regulatory requirements, such as treatment requirements and effluent limitations, on individual sources of pollution.

This final rule will revise the Chapter 93 (Water Quality Standards) regulation. These regulatory revisions will clarify requirements, and update the regulation to be consistent with federal regulatory changes where indicated, and preserve Pennsylvania-specific requirements to serve the citizens of the Commonwealth. This regulation may affect persons who discharge wastewater into surface waters of the Commonwealth or otherwise conduct activities, which may impact such waters.

Part of the triennial review requires that states reexamine water body segments that do not meet the fishable or swimmable uses specified in Section 101(a)(2) of the Federal Clean Water Act. The Department evaluated the two Pennsylvania water bodies where the uses are not currently met: (1) the Harbor Basin and entrance channel to Outer Erie Harbor/Presque Isle Bay (Drainage List X, § 93.9x) and (2) several zones in the Delaware Estuary (Drainage Lists E and G, §§ 93.9e and 93.9g).

The swimmable use designation was deleted from the Harbor Basin and entrance channel demarcated by U.S. Coast Guard buoys and channel markers on Outer Erie Harbor/ Presque Isle Bay because pleasure boating and commercial shipping traffic pose a serious safety hazard in this area. This decision was further supported by a Use Attainability (UAA) study conducted by the Department in 1985. Because the same conditions and hazards exist today, no change to the designated use for Outer Erie Harbor/Presque Isle Bay is proposed.

In April 1989 the Department cooperated with the Delaware River Basin Commission (DRBC), EPA and other DRBC signatory states on a comprehensive UAA study in the lower Delaware River and Delaware Estuary. This study resulted in appropriate recommendations relating to the swimmable use, which DRBC included in water use classifications and water quality criteria for portions of the tidal Delaware River in May 1991. The appropriate DRBC standards were referenced in Sections 93.9e and 93.9g (Drainage Lists E and G) in 1994. The primary water contact use remains excluded from the designated uses for river miles 108.4 to 81.8 because of continuing significant impacts from combined sewer overflows, and hazards associated with commercial shipping and navigation.

The Department's Water Resources Advisory Committee (WRAC), provided input on the proposed regulation at its May 10, 2006, October 13, 2006, and May 9, 2007. In addition, the Department presented the proposed rulemaking package to the Agricultural Advisory Board on August 22, 2007.

The regulation was adopted by the EQB as proposed rulemaking at its October 16, 2007 meeting. The proposed rulemaking was published in the *Pennsylvania Bulletin* on January 12, 2008 (38 Pa.B. 236, 248) with provision for a 45-day public comment period, including two public meetings and hearings that were held at the Department's Southcentral Regional Office in Harrisburg, PA on February 14, 2008. A correction was published in the *Pennsylvania Bulletin* on February 2, 2008 (38 Pa.B. 612) to correct the criteria for two chemicals found in the proposed Table 5, § 93.8c (relating to criteria for toxic substances). Based on a request received, the public comment period was extended an additional 30 days and closed on March 27, 2008, as published in the *Pennsylvania Bulletin* on February 23, 2008 (38 Pa.B. 976). The Board received public comments from 10 commentators including oral testimony from three witnesses at the February 14 public hearings. The comments received on the proposed regulation are summarized in Section E below.

The EQB has considered all of the public comments received on its proposed rulemaking in preparing this final regulation. The draft final regulation was discussed with WRAC on July 22, 2008 where the committee deliberated on aspects of the rulemaking including the adoption of state-wide criteria for molybdenum (Mo) and the proposed definition of "conventional treatment". Although WRAC approved the draft final rulemaking for consideration by the EQB, some members of the committee expressed their concerns with the Mo criteria and the health data used to create the particular criterion. WRAC also provided recommendations to further clarify the proposed definition for "conventional treatment", as it relates to the protection of the Potable Water Supply (PWS) use. The valuable input from the public and the collective knowledge and experience drawn from advisory committees and others on this proposal has been utilized to develop this regulation.

E. Summary of Responses to Comments and Changes to the Proposed Rulemaking

Comments were received from 10 commentators including the Independent Regulatory Review Commission (IRRC) and the U.S. Environmental Protection Agency (EPA Region 3) as a result of the public hearings and public comment period. The comments received covered four major topics: 1) the proposed statewide Mo criterion; 2) clarification of language being added to § 93.7(a) concerning intervening critical uses; 3) moving the toxics criteria from Chapter 16 to Chapter 93; and 4) clarification on how the site-specific criteria in Chapter 16, Appendix A Table 1 will be used.

Most of the comments received involved requests for the Board to justify the proposed statewide criterion for Mo. The decision to proceed with a statewide water quality criterion for Mo in the final-form rulemaking was based on the Department's need to establish a consistent statewide instream criterion for use in developing National Pollutant Discharge Elimination System (NPDES) effluent discharge limits by regional and central office staff. Pennsylvania has at least four active major NPDES permits that require Mo monitoring, and at least 2 additional facilities

that discharge Mo. The biological and chemical conditions of the receiving waters are not unique for those facilities currently known to discharge Mo from the conditions for other waters within the Commonwealth. Therefore, it is more effective to establish consistent, statewide protection from the toxic effects of Mo.

Mo is shown to cause gout-like symptoms, which is characterized by pain, swelling, inflammation and deformities of the joints, and in all cases an increase in the uric acid content of the blood. This condition was also accompanied by disorders of the gastrointestinal tract, liver and kidneys. Mo is considered to be a toxic metal and has also been labeled a teratogen because it can cause developmental deformities, as described in the Toxicity Profile - Toxicity Summary for Molybdenum prepared by the Oak Ridge National Laboratory and available at the on-line *Risk Assessment Information System (RAIS)*. In Chapter 93 a “toxic substance”, is defined as, “a chemical or compound in sufficient quantity or concentration which is, or may become, harmful to human, animal or plant life.”

Comments were received during the public comment period, and discussed during the July 22, 2008 WRAC meeting, which suggested the Department used inappropriate data and methods to develop the proposed water quality criterion for Mo. The commentators contend that the Department did not consider the most recent and technically justifiable toxicological data in establishing the proposed Mo standard, nor did it properly calculate the standard. Commentators suggested that the Department base their determinations on another study (Pandey and Singh, 2002), which was thought to contain better data. Commentators also suggested the Department use the Benchmark Dose Method (BDM) as an improved way to estimate the point of departure for deriving toxicity factors. Commentators believed BDM is recommended by the US EPA and provides an improved method in comparison to NOAEL/LOAEL (no observed adverse effects level/lowest observed adverse effects level), which is an approach used by the Department.

The Department develops requested criteria in accordance with policies found in 25 Pa Code Chapter 16 (Water Quality Toxics management Strategy – Statement of Policy), and more specifically in the case for Mo, in accordance with § 16.32 (relating to guidelines for developing human health criteria for threshold level toxic effects).

Based on provisions in § 16.32(c)(2) “If EPA criteria have been evaluated, and have been determined to be inadequate to protect designated uses, or when no criteria have been developed for a substance identified or expected in a discharge, the Department will develop criteria following EPA’s standard toxicological procedures outlined in Exhibit 3-1 of the *Water Quality Standards Handbook, Second Edition, EPA 823-0-94-005A, August, 1994*, as amended and updated.” EPA’s toxicological procedures have been updated and are reflected in the *EPA Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health – 2000*.

The Department used information from the *US. EPA Integrated Risk Information System (IRIS)* to obtain supporting studies in developing a criterion for Mo. IRIS, is an electronic database containing information on human health effects that may result from exposure to various substances in the environment. IRIS is prepared and maintained by the EPA’s National Center for Environmental Assessment (NCEA) within the Office of Research and Development (ORD).

The Department originally developed a criterion for Mo using only toxicity data available in the IRIS data base. At the request of Langeloth Metallurgical Company, US EPA headquarters approved supplementing the IRIS database with additional sources of toxicity information obtained from a peer-reviewed toxicity report from Institute of Medicine (IOM), which was published by the National Academy Press. This updated combined dataset was then used to develop the best available scientifically calculated Mo criterion. The report by Pandey and Singh submitted by the commentator presents a single study based on the evaluation of selective male reproductive endpoints. This does not represent the most sensitive study population or response to Mo toxicity when compared to the IRIS and IOM studies.

The Department sought additional guidance from US EPA, Office of Science and Technology on the use of the BDM. While US EPA has approved the use of the BDM, it cannot be based on a single study, as suggested by the commentator. Data input to the BDM must be derived from several critical studies designed to establish the most sensitive toxic response.

U.S. EPA Headquarters and EPA Region 3 staff reviewed and concurred that the Department used the appropriate data and methodologies to develop the recommended statewide human health criterion for Mo.

Although no public comments were received regarding the proposed definition for “conventional treatment,” further refinements were made to the definition on final rulemaking based on discussion and recommendations by WRAC. Conventional treatment, for the purpose of surface water protection of the Potable Water Supply (PWS) use, should reflect the treatment processes required to filter and disinfect water. The water supply treatment scheme will not have to bear the burden of removing non-conventional pollutants that should otherwise be controlled by those discharging the pollutants.

A comment received expressed concern that there may be confusion if the entire section 40 CFR § 131.41 is adopted by reference at 25 Pa. Code § 93.9x (relating to Lake Erie). The commentator recommended the adoption of only paragraph (c) of the federal regulation. Upon further evaluation, 40 CFR §131.41(a) – (e) is incorporated into the state regulations on final rulemaking. Only paragraph (f) is excluded since it identifies a scheme for compliance schedules which is already addressed in 25 Pa. Code Chapter 92.

Based on comments received, revisions to the “Critical Use” footnote in § 93.7(a) regarding “other intervening, more sensitive uses.” were made. Protected and statewide water uses, identified in §§ 93.3 and 93.4, will be protected using criteria in §§ 93.6, 93.7, and 93.8c and site-specific criteria developed under 93.8d. Based on activities in the watershed that require the protection of intervening uses, site-specific criteria will be developed on a case-by-case basis.

Other commenters requested clarification on why the Board was moving selected criteria from Chapter 16 back into Chapter 93. Moving the criteria for toxic substances into Chapter 93 will give these criteria the full effect and advantage of regulation. This is appropriate since these criteria are not being changed or supplemented as frequently as originally anticipated. The

original incentive for listing criteria in the Statement of Policy was to allow for flexibility in the timing of criteria development and revision.

EPA supports the movement of criteria into regulation but requested clarification in § 93.8d(e) on how the site specific criteria in Chapter 16, Appendix A Table 1 will be used. Background or natural conditions are site-specific by nature, so EPA is unsure how such criteria will be incorporated into Table 5, which appears to include only statewide criteria. A new criterion placed in Chapter 16, Appendix A Table 1 will remain a site-specific criterion as originally developed and be incorporated into the appropriate portion of §§ 93.9a – 93.3z that relates to “Exceptions to Specific Criteria” unless, during rulemaking, it is determined that the same criterion has general statewide applicability.

A detailed description of the revisions to the Chapter 93 proposal follows:

§ 93.1. Definitions.

The proposed definition for “Conventional Treatment” is revised. The definition will reflect the treatment processes required to filter and disinfect water.

Conventional treatment – for the purpose of surface water protection of the Potable Water Supply (PWS) use, conventional treatment is coagulation, followed by filtration for the removal of solids, and disinfection for the control of pathogens to produce water for drinking and other human consumption.

§ 93.7. Specific water quality criteria.

The footnote for “Critical Use” in Table 3 is revised to clarify that intervening uses on a waterbody may be protected.

* *Critical Use*: The designated or existing use the criteria are designed to protect. More stringent site-specific criteria may be developed to protect other more sensitive, intervening uses.

In paragraph (d) of § 93.7, the reference to Chapter 16, Appendix A Table 1 will not be added, as proposed, because it is not applicable to a natural quality determination.

§ 93.8d. Development of site-specific water quality criteria.

§ 93.8d is restructured to further clarify how site-specific water quality criteria will be developed, reviewed, and promulgated. The Department will consider a request for site-specific criteria when: (1) there exist site-specific biological or chemical conditions of receiving waters which differ from conditions upon which the water quality criteria were based; (2) more stringent criteria are needed for a parameter listed in § 93.7 to protect more sensitive, intervening uses; or (3) there exists a need for a site-specific criterion for a substance not listed in Chapter 93, Table 5.

All scientific studies shall be performed in accordance with the procedures and guidance in Chapter 16 and the Water Quality Standards Handbook (EPA 1994), as amended and updated, including: "Guidance on the Determination and Use of Water-Effect Ratios for Metals" (EPA-823-B-94-001, February 1994); and the "Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health" (2000). Other guidance approved by the Department, which is based on other EPA approved or scientifically defensible methodologies, may be used. A proposed plan of study shall be submitted to the Department for review, consideration and approval prior to conducting these studies.

If the Department determines that site-specific criteria are appropriate according to one of the three conditions indicated above, and the studies were conducted according to appropriate scientific methodologies, the Department will: (1) publish the site-specific criterion in the *Pennsylvania Bulletin*, along with other special conditions under § 92.61(a)(5) (relating to public notice of permit application and public hearing) and provide for public participation and public hearing in accordance with §§ 92.61, 92.63 and 92.65; (2) maintain publicly available lists of site-specific criteria; (3) submit the methodologies used for site-specific criteria development to U.S. Environmental Protection Agency's Regional Administrator for review and approval, within 30 days of Department's final action; and (4) prepare a recommendation to the EQB in the form of proposed rulemaking, incorporating that criterion for the waterbody segment.

If the Department determines that new statewide criteria or modifications to statewide criteria are appropriate, the Department will prepare a recommendation to the EQB in the form of proposed rulemaking, incorporating the criteria into Chapter 93. The new criteria and changes to the criteria will become effective following adoption by the EQB as final rulemaking and publication in the *Pennsylvania Bulletin*.

F. Benefits, Costs and Compliance

1. *Benefits* - Overall, the Commonwealth, its citizens and natural resources will benefit from these recommended changes because they provide the appropriate level of protection in order to preserve the integrity of existing and designated uses of surface waters in this Commonwealth. Protecting water quality provides economic values to present and future generations in the form of clean water, recreational opportunities, and aquatic life protection. It is important that the citizens of the Commonwealth realize all of these benefits, and also to ensure that activities that depend on surface water or that may affect its chemical, biological and physical integrity can continue in a manner that is environmentally, socially and economically sound. Maintenance of water quality ensures its future availability for all uses.

2. *Compliance Costs* - These final-form amendments to Chapter 93 may impose additional compliance costs on the regulated community. These regulatory changes are necessary to improve total pollution control. The expenditures necessary to meet new compliance requirements may exceed that which is required under existing regulations.

Persons conducting or proposing activities or projects must comply with the regulatory requirements relating to designated and existing uses. Persons expanding a discharge or adding a new discharge point to a stream could be adversely affected if they need to provide a higher level

of treatment to meet the more stringent criteria for selected parameters or there are changes in designated and existing uses of the stream. These increased costs may take the form of higher engineering, construction or operating cost for wastewater treatment facilities. Treatment costs are site-specific and depend upon the size of the discharge in relation to the size of the stream and many other factors. Therefore, it is not possible to precisely predict the actual change in costs. Economic impacts would primarily involve the potential for higher treatment costs for new or expanded discharges to streams that are redesignated. The initial costs from technologically improved treatments may be offset over time by potential savings from and increased value of improved water quality through these improved and possibly more effective or efficient treatments.

3. *Compliance Assistance Plan*—The final-form rulemaking has been developed as part of an established program that has been implemented by the Department since the early 1980s. The revisions are consistent with, and based on existing Department regulations.

This final-form rulemaking will be implemented, in part, through the NPDES permitting program. No additional compliance actions are anticipated. Staff is available to assist regulated entities in complying with the regulatory requirements if questions arise.

4. *Paperwork Requirements*—The regulatory revisions should have no significant paperwork impact on the Commonwealth, its political subdivisions, or the private sector.

G. Pollution Prevention

Water quality standards are a major pollution prevention tool because they protect water quality and designated and existing uses. The final-form rulemaking will be implemented through the Department's permit and approval actions. For example, the NPDES bases effluent limitations on the designated use of the stream and the water quality criteria necessary to achieve designated and existing uses.

H. Sunset Review

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

I. Regulatory Review

Under Section 5(a) of the Regulatory Review Act (71 P.S. § 745.5(a)), on December 21, 2007, the Department submitted a copy of the proposed rulemaking published at 38 Pa.B. 236, to the Independent Regulatory Review Commission (IRRC) and to the Chairpersons of the Senate and House Environmental Resources and Energy Committees (Standing Committees) for review and comment.

Under Section 5(c) of the Regulatory Review Act (71 P.S. § 745.5(c)), the Department provided IRRC and the Standing Committees with copies of the comments received on the proposed regulation, as well as other documentation.

The Department and Board have considered all public comments in preparing this final-form rulemaking. Under section 5.1(j.2) of the Regulatory Review Act (71 P.S. § 745.5a(j.2)). This final-form rulemaking was (deemed) approved by the House and Senate Committees on _____, 2008. Under section 5.1(e) of the Regulatory Review Act, IRRC met on _____, 2008, and approved the final-form rulemaking.

J. Findings of the Board

The Board finds that:

(1) Public notice of proposed rulemaking was given under sections 201 and 202 of the act of July 31, 1968 (P.L. 769, No. 240) (45 P.S. §§ 1201 and 1202) and regulations promulgated thereunder at 1 Pa. Code §§ 7.1 and 7.2.

(2) A public comment period was provided as required by law. In addition, Board hearings were held, and the public comment period was extended. All comments were considered.

(3) This final-form rulemaking does not enlarge the purpose of the proposal published at 38 Pa.B. 236, or the correction published at 38 Pa.B. 612.

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

K. Order of the Board

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

(a) The regulations of the Department, 25 PA Code Chapter 93, are amended by amending §§ 93.1, 93.3, 93.7, 93.8, 93.8a, 93.8b, 93.8c, 93.8d, 93.8e, 93.9, 93.9a – 93.9o, 93.9q, 93.9v, 93.9x, 93.9z to read as set forth in Annex A, with ellipses referring to the existing text of the regulation.

(b) The Chairperson of the Board shall submit this order and Annex A to the Office of General Counsel and the Office of Attorney General for approval and review as to legality and form, as required by law.

(c) The Chairperson shall submit this order and Annex A to the Independent Regulatory Review Commission and the Senate and House Environmental Resources and Energy Committees as required by the Regulatory Review Act.

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

(e) This order shall take effect immediately upon publication in the *Pennsylvania Bulletin*.

JOHN HANGER
Acting Chairperson
Environmental Quality Board