

**Secretary's Order No.: 2010-W-0035**

**RE: Approving Final Amendments to 7 DE Admin. Code 7401,  
*State of Delaware Surface Water Quality Standards***

**Date of Issuance: November 9, 2010**

**Effective Date of the Amendment: December 11, 2010**

Under the authority vested in the Secretary of the Department of Natural Resources and Environmental Control ("Department" or "DNREC") the following findings, reasons and conclusions are entered as an Order of the Secretary in the above-referenced rulemaking proceeding.

**Background and Procedural History**

This Order considers the proposed regulatory amendments to 7 DE Admin. Code 7401, *State of Delaware Surface Water Quality Standards*. The purpose of this regulatory action is to ensure federal compliance with the Clean Water Act, and to satisfy current EPA requirements regarding same. It is the policy of the Department to maintain within its jurisdiction surface waters of the State of Delaware of satisfactory quality, consistent with public health and public recreation purposes, the propagation and protection of fish and aquatic life, and other beneficial uses of the water. Where conflicts develop between stated surface water uses, stream criteria, or discharge criteria, designated uses for each segment are paramount in determining the required stream criteria, which, in turn, become the basis of specific discharge limits or other necessary controls. Additionally, where existing facilities operating under a permit from this Department are required to reduce pollution concentrations or loadings due to the implementation of these Standards, a reasonable schedule for compliance may be granted

by DNREC, in accordance with standards or requirements established in applicable statutes and regulations. It is also the intent of the Department, in accordance with these Standards, to develop an agency-wide program to assess, manage, and communicate human health cancer risks from the major categories of environmental pollution under its jurisdiction.

The aforementioned proposed amendments to Delaware's existing Surface Water Quality Standards are the result of an exhaustive and comprehensive triennial review that started with DNREC Start Action Notice #2008-24, approved by the Secretary on October 29, 2008. The Department published the proposed regulatory amendments in the August 1, 2009 *Delaware Register of Regulation* and held a public hearing on September 2, 2009. The Department's presiding hearing officer, Lisa A. Vest, prepared a Hearing Officer's Report dated October 12, 2010 (Report). The Report recommends certain findings and the adoption of the proposed Amendments as attached to the Report as Appendix A.

### **Findings and Discussion**

I find that the proposed Amendments are well-supported by the record developed by the Department, and adopt the Report to the extent it is consistent with this Order. The Department's experts developed the record and drafted the proposed Amendments. Throughout the entire regulatory development process regarding this promulgation, the Department received public comment, as noted in the Report, and considered and responded to all timely and relevant public comments in making its determination.

I find that the Department's experts in the Watershed Assessment Section of the Division of Watershed Stewardship fully developed the record to support adoption of

these Amendments. With the adoption of the regulation amendments to 7 DE Admin. Code 7401, *State of Delaware Surface Water Quality Standards*, Delaware will be able to ensure compliance with the federal Clean Water Act and will satisfy EPA requirements.

In conclusion, the following findings and conclusions are entered:

1.) The Department has jurisdiction under its statutory authority to issue an Order adopting these proposed Amendments as final;

2.) The Department provided adequate public notice of the proposed Amendments, and provided the public with an adequate opportunity to comment on the proposed Amendments, including at a public hearing;

3.) The Department held a public hearing on September 2, 2009 on the proposed Amendments in order to consider public comments before making any final decision, and fully considered and responded to all timely and relevant comments received from the regulated community concerning this matter;

4.) The Department's Hearing Officer's Report, including its recommended record and the recommended Amendment as set forth in Appendix A, are adopted to provide additional reasons and findings for this Order;

5.) The recommended Amendments do not reflect any substantive change from the proposed regulation Amendment as published in the August 1, 2009, *Delaware Register of Regulations*;

6.) The recommended Amendments should be adopted as final regulation Amendments because Delaware will then be enabled to (1) ensure compliance with the federal Clean Water Act and will satisfy EPA requirements; and will (2) retain its ability

to perform site-specific studies on inorganic arsenic in fish and shellfish when warranted, and to issue public health advisories when and where appropriate, to not only reduce the public's exposure to inorganic arsenic, but to also provide the means to justify water quality based controls. Moreover, the regulation amendments are well supported by documents in the record; and

7.) The Department shall submit this Order approving the final regulation to the *Delaware Register of Regulations* for publication in its next available issue, and provide such other notice as the law and regulation require and the Department determines is appropriate.

\_\_\_\_\_/s/ Collin P. O'Mara\_\_\_\_\_  
Collin P. O'Mara  
Secretary

## MEMORANDUM

**TO:** The Honorable Collin P. O'Mara  
Cabinet Secretary, Dept. of Natural Resources and Environmental Control

**FROM:** Lisa A. Vest  
Public Hearing Officer, Office of the Secretary  
Department of Natural Resources and Environmental Control

**RE:** Proposed Amendments to 7 DE Admin. Code 7401, *State of Delaware Surface Water Quality Standards*

**DATE:** October 12, 2010

---

### **I. Background:**

A public hearing was held on Wednesday, September 2, 2009, at 6:00 p.m. at the DNREC's Richardson and Robbins Auditorium, 89 Kings Highway, Dover, Delaware, to receive comment on the Department's proposal to amend 7 DE Admin. Code 7401, *State of Delaware Surface Water Quality Standards* ("Standards"). These proposed amendments are being promulgated by the Department in order to ensure federal compliance with the Clean Water Act, and to satisfy current EPA requirements regarding same.

It is the policy of the Department to maintain within its jurisdiction surface waters of the State of Delaware of satisfactory quality, consistent with public health and public recreation purposes, the propagation and protection of fish and aquatic life, and other beneficial uses of the water. Where conflicts develop between stated surface water uses, stream criteria, or discharge criteria, designated uses for each segment are paramount in determining the required stream criteria, which, in turn, become the basis of specific

discharge limits or other necessary controls. Additionally, where existing facilities operating under a permit from this Department are required to reduce pollution concentrations or loadings due to the implementation of these Standards, a reasonable schedule for compliance may be granted by DNREC, in accordance with standards or requirements established in applicable statutes and regulations. It is also the intent of the Department, in accordance with these Standards, to develop an agency-wide program to assess, manage, and communicate human health cancer risks from the major categories of environmental pollution under its jurisdiction.

The aforementioned proposed amendments to Delaware's existing Surface Water Quality Standards are the result of an exhaustive and comprehensive triennial review that started with DNREC Start Action Notice #2008-24, approved by the Secretary on October 29, 2008. At that time, Department staff began to evaluate and assess the various factors which affected human health criteria (as well as existing EPA studies and data), and subsequently developed a draft markup of proposed amendments to Delaware's current Surface Water Quality Standards. In order to promote public awareness of this proposed promulgation, a public workshop was held on January 7, 2009, at DNREC's Richardson and Robbins Auditorium, 89 Kings Highway, Dover, Delaware, so that these proposed amendments could be fully vetted to the public, and to provide Delawareans with an opportunity to obtain a greater understanding of the same.

Department staff kept interested parties abreast of all developments involving this proposed promulgation using a combination of e-mail notices, internet postings of documents and relevant links, and notices published in two (2) newspapers of statewide circulation. Preceding and during the aforementioned workshop, additional written

comments were requested, received and considered by the Department for inclusion in the proposed amendments to the current Standards. The proposed promulgation was published in the August 1, 2009 edition of the *Delaware Register of Regulations*.

It should be noted that no members of the public attended the hearing on September 2, 2009. To be in full compliance of State noticing requirements concerning such matters, however, the record for public comment was kept open through close of business on Friday, September 18, 2009. Subsequent to the date of the public hearing, but prior to the close of the record with regard to public comment, comments were received by the Department from the Surfrider Foundation (Delaware Chapter), John Austin, and U.S. EPA, and the same will be discussed in detail below. Proper notice of the hearing was provided as required by law.

## **II. Summary of Hearing Record:**

At the time of the hearing on September 2, 2009, David Wolanski, DNREC Water Quality Standards Coordinator, Watershed Assessment Section of the Division of Watershed Stewardship, offered the Department's eight (8) exhibits pertaining to these proposed amendments, and this Hearing Officer entered them into the formal hearing record developed in this matter. Included within those Departmental exhibits was a copy of the Start Action Notice for this promulgation (SAN No. 2008-24), copies of the legal notices regarding the holdings of the public workshop and the public hearing, copies of the e-mails and attachments issued from the Department to triennial review stakeholders, copies of related EPA reference rules and documents upon which the Department relied in the drafting of these proposed amendments, and copies of the actual proposed

amendments to 7 DE Admin. Code 7401, to wit: Delaware's existing *Surface Water Quality Standards*.

With regard to the proposed amendments to Delaware's existing regulations governing Surface Water Quality Standards (SWQS), the Department is proposing changes to criteria for the following chemicals for human health criteria, as a result of changes in parameters used to calculate their criteria as published in the EPA Integrated Risk Information System (IRIS) database: acrolien, toluene,1,1,1-trichlorethane. It should be noted that some changes in the IRIS database did not trigger changes in the criteria that were more stringent as a result of drinking water MCLs. Additionally, a number of typographical errors in the prior standards were corrected for this review<sup>1</sup>. It should also be noted that the Department made no changes to any of the proposed criteria that were published for public comment prior to the public hearing held regarding this matter.

Of particular note is the fact that, in February of 2010, the EPA released for public review and/or comment a draft revision to its IRIS Toxicological Review for inorganic arsenic (EPA, 2010). The comment period for this EPA draft document closed in April of 2010, and at this time the EPA is still preparing responses to the same. As of the date of the Department's formal Technical Response Memorandum (October 1, 2010), the EPA has not finalized a new IRIS report. The EPA IRIS database is updated continuously (and irregularly), as EPA takes action on available information for various chemicals and compounds after a lengthy public process. The EPA's inorganic arsenic review may not be complete for years, if ever. Department personnel are advised of changes to the database as EPA makes them, and will respond to changes in the IRIS

database for any chemicals and compounds as the circumstances dictate, including inorganic arsenic. A change in the database would not, on its own, trigger changes in water quality standards to be effective immediately. Rather, in the absence of a pressing public health issue, the Department expects that future changes in the IRIS database will be accounted for in the following triennial review(s).

As noted previously, there were no members of the public present at the public hearing held regarding this proposed promulgation. Subsequent to that hearing, however, but prior to the close of the record with regard to receipt of public comment (the deadline for which was set at the time of the hearing as being September 18, 2009), the Department received comments from the Surfrider Foundation (Delaware Chapter), the U.S. EPA, and John Austin. The Department reviewed each of these comments thoroughly and completely, and responded to the same in a formal Technical Response Memorandum forwarded to this Hearing Officer dated October 1, 2010. This Report will now address the comments received by the Department in this matter in detail.

**Surfrider Foundation (Delaware Chapter):**

Melissa Dombrowski and Bill Winkler, Sr. provided comments to the Department on behalf of the Surfrider Foundation (Delaware Chapter) regarding this proposed promulgation. Specifically, this organization requested that DNREC promulgate additional *new* regulations requiring that permanent signage regarding Harmful Algae Blooms (Red Tides) be installed at public beaches in the Delaware Bay and along the Atlantic Coastline. These beaches would include the towns of Broadkill, Lewes, Rehoboth Beach, Dewey Beach, Bethany Beach, South Bethany Beach, Fenwick Island, and all Delaware State Parks from Cape Henlopen to Fenwick Island. The required

---

<sup>1</sup> Most notably, the Fresh Water Chronic fish and Wildlife mercury criteria corrected a decimal point error.

signage, pursuant to this request, would explain the symptoms of *Karenia brevis*, whose brevetoxin causes symptoms that can be misdiagnosed as a heart attack or asthma attack for people with asthma and/or COPD.

The request for such permanent signage was made along with additional comments from this organization noting concerns with the State of Delaware's current public notification system for potential health hazard events. Other communicative concerns were noted with respect to the public notifying DNREC of health issues, such as the aforementioned Red Tide symptoms. Further comments referenced the problems that surfaced in 2008 with the Department of Health and Social Services issuing electronic notices to Delaware health care professionals regarding Red Tide symptoms, in that there was no requirement for professionals in the medical community to sign up for such notifications. It is the opinion of the Surfrider Foundation that additional regulations on permanent signage to protect public health as noted above are needed, as events such as Harmful Algae Bloom (Red Tide) are unpredictable and can happen at any time, and since the current system of public notification of such events has not been working effectively.

In response to these comments, the Department notes that Delaware's SWQS regulations exist to protect this State's surface water designated uses by (in part) setting maximum levels of contaminants that are protective of said uses. The implementation of criteria designed to protect human and environmental health is accomplished by numerous State agencies and programs which are involved in day-to-day management activities. Further, blooms of *Karenia* and other toxic organisms are sporadic and

therefore best addressed through focused and timely public education efforts, not through Surface Water Quality Standards regulations.

**U.S. EPA**

Larry Merrill, Acting Associate Director, Office of Standards, Assessment & TMDLs, Water Protection Division, provided two comments to the Department concerning this proposed promulgation. The first comment concerns DNREC's proposed modification of Table 2, Water Quality Criteria for Protection of Human Health, to update Toxicity Equivalence Factors (TEF) for several congeners of 2, 3, 7, and 8-TCDD. DNREC is proposing this modification to reflect the most recent World Health Organization (WHO) recommended values. EPA recommended that DNREC include in the triennial review record a reference for the WHO recommended values. The Department has now included that reference as requested.<sup>2</sup>

Secondly, DNREC is also proposing modifications to the human health criteria for Acrolein, Toluene and 1,1,1-Trichloroethane. As the proposed criteria do not reflect EPA's 304(a) recommendations for these parameters, EPA believes that DNREC should include in the triennial review record information adequate for EPA to determine that the numeric criteria are scientifically defensible as required by 40 CFR §131.11(b)(1). In response to this comment from EPA, DNREC notes that the Department proposed criteria in accordance with its document entitled "Key Factors for the 2009 Revision of Water Quality Standards", contained within the Department's formal Technical Response Memorandum dated October 1, 2010, and the spreadsheet used for this review is available electronically for further review.

---

<sup>2</sup> Reference – Van den Berg et al: the 2005 World Health Organization Re-evaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds.

*John Austin*

John Austin provided comments to the Department subsequent to the public hearing which noted numerous concerns as to Delaware's water quality criteria, specifically, with regard to the presence of arsenic. Mr. Austin believes that the Department must adopt a more stringent numeric water quality criterion to protect humans from possible adverse health effects associated with ingesting inorganic arsenic in water and fish and/or shellfish. As Mr. Austin noted in his comments, arsenic is a known human carcinogen. Mr. Austin further noted that the EPA recommended human health water quality criterion for fish/shellfish consumption is 0.14 ug/L and that the EPA recommended criterion for water plus fish/shellfish consumption is 0.018 ug/L (EPA, 2002); in contrast, the Department has a single human health water quality criterion of 10 ug/L.

Mr. Austin further noted that, in prior discussions with DNREC, the Department has maintained its arsenic criteria to be protective, and "...cited fish tissue programs to insure the risk from fish consumption is acceptable". In response to DNREC's stance on this issue, Mr. Austin disagrees, and notes the following:

DNREC has not sampled in areas near potential pollution sources, and with budget limitations has not been able to mount a consistent fish tissue-monitoring program. Furthermore, by failing to set AWQC at the one excess cancer in a population of one million level, the proposed criteria allows significant degradation of water quality from ambient levels.

In response to Mr. Austin's comments, the Department researched these issues in detail, and determined the following: The adoption of new criteria for arsenic without a strong scientific justification would (1) undermine the credibility of the Department; (2)

increase the odds of misinterpretation of ambient data; and (3) potentially lead to misguided and costly challenges. Thus, the changing of the current arsenic criterion is not warranted at this time. In support of its conclusion, the Department prepared a formal response to Mr. Austin's comments, which includes a list of the reference materials researched and reviewed by Department staff while preparing said response. The Department's formal response to John Austin's comments regarding this proposed promulgation is contained within the Department's formal Technical Response Memorandum dated October 1, 2010.

For the Secretary's review, and in order for the Secretary to gain a thorough understanding of this proposed promulgation, a copy of the above-referenced proposed amendments are attached hereto as Appendix "A", and the same are expressly incorporated into this Hearing Officer's Report. Additionally, a copy of the formal Technical Response Memorandum prepared by the Department's Division of Watershed Stewardship, Watershed Assessment Section, dated October 1, 2010, is attached hereto as Appendix "B", and is expressly incorporated into this Hearing Officer's Report as well.

It should be noted that the Department adhered to all appropriate Delaware statutes and the regulatory development process in this matter, and that the Department has met the required public notice obligations regarding this proposed amendment. It should also be noted that the Department has reviewed this proposed amendment in the light of the Regulatory Flexibility Act, and believes the same to be lawful, feasible and desirable, and that the recommendations as proposed should be applicable to all Delaware citizens equally.

### **III. Conclusions and Recommendations:**

Based on the record developed in this matter, I conclude that the Department has provided appropriate reasoning regarding the need for the proposed amendments to 7 DE Admin. Code 7401, *State of Delaware Surface Water Quality Standards*. Accordingly, I recommend promulgation of this proposed amendment in the customary manner provided by law.

Further, I recommend the following findings:

1. The Department has jurisdiction under its statutory authority, 7 Del.C., Chapter 60, to make a determination in this proceeding;
2. The Department provided adequate public notice of both the public workshop and the public hearing in a manner required by the law and regulations;
3. The Department held a public hearing in a manner required by the law and regulations;
4. The Department has reviewed this proposed amendment in the light of the Regulatory Flexibility Act, and believes the same to be lawful, feasible and desirable, and that the recommendation as proposed should be applicable to all Delaware citizens equally;
5. Promulgation of the aforementioned proposed amendment to 7 DE Admin. Code 7401, *State of Delaware Surface Water Quality Standards*, will ensure compliance with the federal Clean Water Act and will satisfy EPA requirements;

6. The aforementioned proposed amendment to 7 DE Admin. Code 7401 will enable the Department to retain its ability to perform site-specific studies on inorganic arsenic in fish and shellfish when warranted, and to issue public health advisories when and where appropriate, to not only reduce the public's exposure to inorganic arsenic, but to also provide the means to justify water quality based controls;
7. The Department believes that changing the current arsenic criterion is not warranted at this time, as the adoption of new criteria for arsenic without a strong scientific justification would (1) undermine the credibility of the Department; (2) increase the odds of misinterpretation of ambient data; and (3) potentially lead to misguided and costly challenges;
8. The Department has an adequate record for its decision, and no further public hearing is appropriate or necessary;
9. The Department's proposed amendments to this regulation, as published in the August 1, 2009 *Delaware Register of Regulations* and as set forth within Appendix "A" hereto, are adequately supported, not arbitrary or capricious, and are consistent with the applicable laws and regulations. Consequently, they should be approved as a final regulation amendment, which shall go into effect ten days after their publication in the next available issue of the *Delaware Register of Regulations*; and

10. The Department shall submit the proposed regulation amendment as final to the *Delaware Register of Regulations* for publication in its next available issue, and shall provide written notice to the persons affected by the Order.

/s/ Lisa A. Vest  
LISA A. VEST  
Public Hearing Officer