

**Comment and Response Document
Triennial Review of Water Quality Standards
Amendments to 25 Pa Code Chapters 93 and 16**

July 2008

General Comments and Support

Comment:

Commentator had no objections to the proposed rule. (1) Another commentator indicated they believed the changes generally improve 25 Pa Code Chapter 93 and will allow the Department staff to better protect and manage the Commonwealth's waters and their uses. (3)

US EPA fully supports Pennsylvania's proposal to merge sections of the Water Quality Toxics Management Strategy – Statement of Policy (Chapter 16) into Chapter 93, the Commonwealth's Water Quality Standard Regulation. EPA is also pleased that PA is proposing to modify many of the human health criteria based on EPA's *2000 Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health*. (6)

Response:

Thank you for your supportive comments.

Specific Comments by Section or Topic

Comments Concerning Critical Use & Intervening Uses:

Comment:

It does not make sense to extend a protected water use to activities that qualify as potential pollution sources as defined in section 402 of the Commonwealth's Clean Streams Law (CSL). Both State and federal case law (Oley Twp, et al. vs. DEP; Wissahickon Spring Water, Inc EHB Docket; and PUD No. 1 of Jefferson County v. Washington Department of Ecology, 114 S. Ct. 1900 (1994)) define water pollution to include diminishment of water quantity. Therefore it is not reasonable to extend a protected water use to a water withdrawal source that may potentially pollute. You should not add "maintenance of golf courses and athletic fields and other commercial horticultural activities" to the definition of irrigation as a protected water use in 25 Pa. Code § 93.3. The commentator suggests these other irrigation uses will be protected through the protection of all other critical uses including all aquatic life, water supply, recreation and special protection uses currently in Chapter 93. Therefore, there is no need to expand the definition of irrigation beyond the agricultural uses that it presently contains. (3)

Response:

The current description of “irrigation” as a protected water use contains the undefined phrase “for growing crops.” The Department interprets irrigation to include commercial watering of plants. Irrigation water, withdrawn from a stream may adversely affect these operations if elevated in-stream levels of pollutants such as chlorides and total dissolved solids (TDS) are present. Adverse impacts on the irrigation use could occur without affecting a downstream potable water supply (PWS) use at the point of intake or instream aquatic life uses.

Comment:

We disagree with the additional sentence for critical use in section 93.7(a). This sentence is vague and may lead to inconsistent interpretations across DEP regions. Who determines when “other intervening, more sensitive uses” should be applied to a waterbody? What process and criteria are used to make this determination? How will this process be uniformly applied? The term “location” is undefined. **(2, 4, 10)**

Response:

The Department incorporated further clarification of the intended concept into the final rule. Protected and statewide water uses, identified in §§ 93.3 and 93.4, will be protected using criteria in §§ 93.6, 93.7, and 93.8. Based on the activities in the watershed, these decisions will be made on a case-by-case basis. Where needed, site-specific criteria may be developed to protect these uses, and it will be these criteria that will determine the sensitive critical use.

Natural Conditions:

Comment:

PA is proposing modifications in § 93.7(d) to clarify that considerations of natural quality for aquatic life protection now apply to Table 5, which is being created in this proposal, and Chapter 16, Appendix A Table 1, which is being re-purposed during this triennial review. Such determinations must be based on a set procedure that is specific enough to establish natural background concentrations accurately and reproducibly. The “Protocol for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations” Technical Guidance 391-2000-022, which has been identified as the procedure to be used in the past by the Department, no longer appears to be available. Background 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. **(6, 10)** The final-form regulation should include a clear explanation of the reasoning behind this amendment. **(10)**

Response:

The referenced “Protocol for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations” Technical Guidance, (DEP 391-2000-022) is still available, and the Department will continue to use this protocol to determine natural water quality conditions.

The Department recommends to the EQB that the reference to Chapter 16, Appendix A Table 1 not be added to § 93.7(d) because it is not applicable to a natural quality determination.

Moving Portions of Chapter 16 into Chapter 93:

Comment:

Why is the Department moving the criteria back to Chapter 93? The proposed rule fails to explain the history of this change, which the commentator interprets as a reversal of a change only recently effected in 2000 following the Regulatory Basics Initiative. Therefore, the Board should not approve the changes in Chapter 16 from policy to regulations in Chapter 93. Also do not change section 93.8a(h) which established that the Department will amend Chapter 16 at intervals not exceeding one year. (3)

Response:

The original incentive for listing criteria in the Statement of Policy was to allow for flexibility in the timing of criteria development and revision. The recommendation to move the criteria for toxic substances into Chapter 93 is intended to give these criteria the full force and effect of regulation. The Department believes this is appropriate since, these criteria are not being changed or supplemented as frequently as originally anticipated.

Comment:

The conversion factor table §16.24(b) is being relocated to § 93.9b. The table includes a change to the lead conversion factor. This modification is not mentioned in the summary of issues, but appears to be a corrective action. Please confirm the basis of this modification. (6)

Response:

This does represent a corrective action, as suggested by the commentator. This conversion factor was actually effective prior to publication of the current proposal. The Legislative Reference Bureau published a corrective amendment for §16.24 (relating to metals criteria), at 35 Pa.B. 1223 on February 12, 2005, but the Department failed to update the draft Chapter 93 Annex that was already under development.

Comment:

EPA would like clarification on how the criteria in Chapter 16, Appendix A Table 1 will be considered. The Chapter 16 proposal indicates that this table will be renamed "Site-specific Water Quality Criteria for Toxic Substance" and that site-specific criteria will be housed there until a time that there is an opportunity to incorporate the criteria into Chapter 93, Table 5. (6)

Response:

A 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 –

93.9z that relates to “Exceptions to Specific Criteria” unless, during rulemaking, it is determined that the same standard has general statewide applicability.

Comments Concerning Proposed Criteria Revisions:

Arsenic (As) Criterion:

Comment:

US EPA Region 3 testified at the February 14, 2008 public hearing that they are pleased to see the Commonwealth intends to adopt the current National Primary Drinking Water Standard for arsenic as the criterion for the protection of human health. **(6)**

Response:

Thank you for your comment.

Nutrient Criteria:

Comment:

US EPA Region 3 also testified that they would like to take this opportunity to reiterate the importance of adopting protective nutrient criteria. They recognize that it is not reasonable to expect Pennsylvania to adopt such criteria during this triennial review, but they ask that once this triennial review is considered final the Commonwealth redouble its efforts to get these key protections in place. **(6)**

Response:

The Department is already aggressively taking steps to develop nutrient criteria through efforts that are independent of this triennial review, and intends to proceed with the necessary steps to develop the appropriate rulemaking to adopt the criteria as soon as the studies and data analysis are complete.

Molybdenum (Mo) Criterion:

Comment:

There is no need to develop a statewide water quality standard (WQS) for Mo to protect drinking water, nor has the State demonstrated any such need. There is no evidence that Mo is a substance that “Is expected to be found in discharges” nor is there any basis for concluding that, to the extent there is a need to address Mo in Langeloth Metallurgical Company’s discharge, it cannot be accomplished under the regulations as they now exist. **(2, 7, 9, 10)**

IRRC recommends that the Board clearly provide, in the final-form regulation, the justification for the inclusion of Mo in Table 5 of this section and the rationale behind the specific Human Health Criteria. **(10)**

Response:

The Department's recommendation for the Board to proceed with a statewide water quality criterion for Mo in ambient waters was based on a number of water quality criteria requests received from the Department's regional offices. Other program requests for Mo discharge limits are listed below. The biological or chemical conditions of the receiving waters for these multiple locations are not expected to differ in a way that would require development of site-specific criteria. Therefore, to maintain consistency, one statewide criterion, more effectively satisfies the needs of these issues than multiple site-specific efforts.

- SCRO 10/04, Molycorp (York Co., superfund cleanup site)
- SWRO 10/04, Molycorp (now Chevron Mining) Washington Co.
10/06, Langeloth Metallurgical Company (Washington Co.)
- NERO 2/08, Georgia Pacific, Dixie Consumer Products - as active ingredient within chemical additive (Northampton Co.),

At least four active major NPDES permits now require Mo monitoring:

- May Environmental Tech Inc. (Westmoreland Co.)
- OSRAM Sylvania (Bradford Co.)
- PPL – Brunner Island Steam Electric Station (York Co.)
- Molycorp - now Chevron Mining (Washington Co)

The Department has identified a number of additional facilities that discharge molybdenum; primarily coal mining, power generation and specialty steel manufacturing.

Comment:

Until the public is provided with an adequate, meaningful explanation as to why there exists a need for the proposals relating to Mo, the same should be tabled. Mo is not a "toxic" substance and science has clearly shown Mo to be an essential micronutrient in plants, animals and humans. There is an insufficient level of concern to human health to merit a Mo standard based on the limited available data. **(2, 4, 5, 9, 10)**

It would be completely unreasonable and an abuse of discretion to adopt the proposals relating to Mo even absent any explanation as to how DEP arrived at instream water quality criteria of 210 ug/L. **(2, 5, 9, 10)**

Response:

The Department considers Mo to be a toxic substance. A "toxic substance", as defined in Chapter 93 is, "a chemical or compound in sufficient quantity or concentration which is, or may become, harmful to human, animal or plant life." Based on health assessment information in the *US EPA Integrated Risk Information System (IRIS)*, the *Risk Assessment Information System (RAIS) Toxicity Profile - Toxicity Summary for Molybdenum* prepared by the Oak Ridge National Laboratory, and the Institute of Medicine's (IOM) review of the scientific literature regarding dietary micronutrients, high concentrations of Mo are shown to cause gout-like symptoms, 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 is often accompanied by disorders of the gastrointestinal tract, liver and kidneys. Additionally, according to the above scientific sources, Mo is considered a teratogen because it can cause various developmental deformities, which are also considered toxic responses.

Comment:

Mo is an essential micronutrient and EPA has chosen not to adopt National drinking water standards. The proposed Mo standard is far more stringent than those of EPA and the neighboring States, which do not have a Mo standard, and will place PA industry at a competitive disadvantage. **(4, 5, 7, 9)**

Response:

Although Mo is considered an essential micronutrient, as described earlier it can also be toxic at higher concentrations.

EPA has added Mo to the Drinking Water Contaminant Candidate List (CCL3), based on the contaminants potential to occur in public water systems and the potential for public health concern, (Federal Register: February 21, 2008 (Volume 73, Number 35))[Page 9627-9654]

Mo is proposed as a water quality based criterion to protect human health. Other states that have regional and statewide human health criteria for Mo include:

- Regional: - Ohio – 120 ug/L (for Lake Erie basin)
- Statewide: - Michigan – 120 ug/L
- North Carolina – 160 ug/L (provisional)
- Colorado – 35 ug/L (groundwater)

Comment:

There is no known method for sufficiently removing Mo to such levels as to achieve an instream criterion as low as 210 ug/L. **(2, 5, 9, 10)**

Response:

While the Department recognizes the difficulties and complexities associated with treating for Mo, below are three possible options for wastewater treatment:

- 1) Iron co-precipitation with sand filtration
- 2) Ion exchange
- 3) Reverse osmosis.

In addition, there are waste capture, reuse, recycle and disposal options available. The feasibility of these options depend on, among other factors, the chemical form of the targeted contaminant, the flow and quality of the receiving stream, and the volume and nature of the wastewater, especially regarding other contaminants and the interferences or synergisms they may cause. However, of the available options and on a preliminary basis, iron co-precipitation with sand filtration appears to be the most feasible. It has been employed successfully in at least one application, treating molybdenum-

contaminated tailings and waste rock drainage at a closed molybdenum mine.

Comment:

Mo is not a carcinogen, there is no peer-reviewed science to support classifying Mo as a “Toxic Substance” for humans, and there exists a clear on-going debate among scientists as to the acceptable levels of Mo intake in humans. The “science” on the effects of Mo intake on humans is not sufficient to justify the proposed rulemaking. (2, 5, 9, 10)

Response:

The Department bases toxicity on the application as found in The Pa Code, Chapter 16, Water Quality Toxics Management Strategy – Statement of Policy, at Section 16.31: - Traditional toxicology is developed upon a theory that the “dose determines the poison”. Micro nutrients in excess of recommended daily allowances can become toxic.

Mo is not a carcinogen, but, as discussed earlier, it is a teratogen based on the occurrence of developmental and skeletal deformities with exposures at higher levels, which is a toxic characteristic. DEP regulation defines ‘Toxic Substance’ as - A chemical or compound in sufficient quantity or concentration which is, or may become, harmful to human, animal or plant life.

Comment:

The methodology utilized by the Department to establish the uncertainty factor (UF) for calculating the health-based standard can be manipulated to achieve any desired outcome for a WQS and DEP’s use of the UF of 30 times in this instance is excessive and unjustifiable. (7)

Response:

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 molybdenum, 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 IRIS to obtain supporting studies in developing a criterion for Mo. IRIS, is EPA’s electronic database, which is prepared and maintained by the EPA’s National Center for Environmental Assessment (NCEA) within the Office of Research and Development (ORD), containing information on human health effects that may result from exposure to various substances in the environment. Additional

sources of toxicity information were obtained from the IOM (Dietary Reference Intakes for Vitamin A, Vitamin K, Arsenic, Boron, Chromium, Copper, Iodine, Iron, Manganese, Molybdenum, Nickel, Silicon, Vanadium, and Zinc(2000) Food and Nutrition, National Academy of Press), at the request of Langeloth Metallurgical Co, and as recommended and approved by US EPA.

DEP's calculation of the Mo criterion is based on the peer-reviewed toxicity data and protocols listed in an earlier response. The uncertainty factor (UF) of 30 is recommended in the IRIS toxicity report, and the report published by the National Academies Press. The UF was also approved by a senior toxicologist in the US EPA Office of Water and by a water quality standards coordinator in US EPA Region 3.

US EPA Headquarters staff reviewed and concurred that the Department used the appropriate data, and methodologies to develop the proposed recommended criterion for molybdenum.

Comment:

The proposed Mo standard did not consider the most recent and technically justifiable toxicological data (Pandey and Singh, 2002), and was calculated improperly. (5, 7) It was also suggested the Department should use the Benchmark Dose Method (BDM), which the commentator believes EPA now recommends using as an improved way to estimate the point of departure for deriving toxicity factors. This was described as an improvement over using the NOAEL/LOAEL (no observed adverse effects level/lowest observed adverse effects level) approach used by the Department. (5)

Response:

The Department originally developed a criterion for Mo using only toxicity data available in the IRIS data base. At the request of LMC, US EPA headquarters approved supplementing the IRIS database with the peer-reviewed toxicity report from the IOM, published by the National Academies 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 selected 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.

Comment:

If adopted, the Mo standard should apply at the point of existing or planned surface potable water supply withdrawal, per 25 Pa. Code section 96.3(d) (5, 7)

Response:

The potable water supply use is protected statewide. Moving the point of regulation for Mo to the water supply intake will leave the intervening stream reach vulnerable to the human health toxic effects associated with this pollutant.

Site-Specific Criteria Development:

Comment:

Commentator recommended that section 93.8d(2) specify that, when the waters in question contain federally-listed, threatened or endangered species, the Department will coordinate with the US Fish and Wildlife Service from the study phase through to the final decision making process, to ensure the listed species are protected. **(1)**

Response:

The Department currently coordinates this consultation with the US Fish and Wildlife Service through the US Environmental Protection Agency and will continue to do so.

Comment:

PA is proposing to add language to the new § 93.8d(2)(b) to provide reference to various other procedures and guidances that may be considered when developing site-specific criteria. EPA is recommending that PA only refer generally to “PADEP and EPA procedures and guidances” in this section, and to refer the reader to Chapter 16, where a more inclusive list of acceptable methods, and an explanation of their intended applications, can be maintained. **(6)**

Response:

The references in § 93.8d(b) to specific US EPA and PADEP guidance or acceptable methods is not intended to be limiting. As such, this section also indicates that other guidance approved by the Department, which is based on other EPA approved or scientifically defensible methodologies, may be used. Section 93.8d(c) also indicates that a proposed plan of study is to be submitted to the Department prior to conducting these studies.

Section 93.9 and Stream Drainage Lists:

Comment:

In section 93.9(b) change the word “standard” to “criterion” in the amendment that indicates “if a water quality standard is more stringent than those in this title,” to insure use of comparative numeric criteria rather than qualitative or narrative standards. **(2, 4)**

Response:

In this context, the Department is referring specifically to the larger concept of the water quality standards, which includes the protected uses, the narrative and specific numeric criteria to protect the uses, and antidegradation provisions that apply to shared or downstream waters.

Comment:

US EPA noted in their comments that Newtown Creek, which is in Drainage List E (§ 93.9e), is spelled incorrectly, and is described as being in Berks rather than Bucks County. They note that corrections have not been proposed in this action, but they are bringing it to the Board's attention for consideration. (10)

Response:

Thank you for your comment. The Department has notified the Legislative Reference Bureau, which has agreed to publish a corrective amendment since the error was generated following codification of revisions to this portion of the Code that resulted during a previous rulemaking. Therefore, the Board is not required to take any further action on this correction.

Comment:

In § 93.9x, the Board is adopting by reference the Federal water quality standards regulation at 40 CFR 131.41, as applicable to the water contact use in Lake Erie. EPA understands that this will incorporate the criteria listed at 40 CFR 131.41(c). We recommend that the Board specifically reference 40 CFR 131.41(c). This would avoid confusion which could arise from seeming to adopt 40 CFR 131.41 (c) and 131.41(d). To include 40 CFR 131.4(d) would appear to contradict the effort of the State itself adopting the criteria and the language in 40 CFR 131.41 limiting the application of the Federal criteria upon EPA's approval of such adoption. (6)

Response:

The Department reviewed the concern that there may be confusion if the entire section 40 CFR 131.41 is adopted by reference. The recommendation to only adopt paragraph (c) of that section will add to confusion regarding implementation of the new standard and will not incorporate the definitions for the categories of use (high, moderate, light and infrequent). The regulation in paragraph (d) clearly articulates when state-adopted criteria apply and its incorporation does not appear to contradict any future state effort to develop criteria. On final rulemaking, the Department will recommend to the Board that section 40 CFR 131.41 (except paragraph (f)) be incorporated by reference. The requirements for schedules of compliance referenced in paragraph (f) are addressed in 25 Pa Code Chapter 92.

Comments Regarding Chapter 16

Comment:

In §§ 16.11(b), 16.32(c)(2) and 16.33(f)(2) the Board is proposing to add citations to clarify that EPA has added new methodologies for the development of human health criteria. This section mentions the *National Recommended Water Quality Criteria: 2002*. EPA suggests that the structure of the sentence could imply that this document is guidance for developing criteria, whereas it actually housed EPA's specific criteria recommendations. Also note that this document has been updated by EPA to reflect published information issued in 2002 and 2003. EPA recommends the sentence be

modified to read: “The EPA has updated the criteria or issued new criteria since 1980 based on new data, and more recently, new methodologies for developing human health criteria as summarized in the *Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health* (EPA-822-B-00-004, October 2000). EPA’s current criteria recommendations can be found in the National Recommended Water Quality Criteria (EPA-822-H-04-001, 2004), as amended and updated.” (6)

Response:

Thank you for your comment. This change will be incorporated in the final rulemaking.

Comment:

In § 16.32(b), Pennsylvania is proposing to replace “bioaccumulation” with “bioconcentration.” It should be noted that EPA now recommends the use of bioaccumulation factors (BAFs) in the 2000 *Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health*, although until BAFs can be developed, EPA continues to accept the use of bioconcentration factors (BCFs). (6)

Response:

Thank you for your comment. The Department intends to follow EPA’s recommendations to use BAF’s, but if not available, will use BCF’s until the BAF is developed.

Comment:

The Department needs to clarify what will be included in Appendix A, Table 1. In § 16.51(a) it is stated that this Appendix will list site-specific human health and aquatic life criteria that have been developed or reviewed and approved by the Department. However, the Summary of Amendments for Chapter 16 indicates that “site-specific criteria that are developed or approved by the Department will be housed in Appendix A, Table 1 until a time that there is an opportunity for a final rulemaking by the Board that incorporates the criteria into Chapter 93, Table 5.” EPA would support the permanent placement of site-specific criteria in Appendix A, Table 1 of Chapter 16, but does not believe that Chapter 93, Table 5 is an appropriate location for site-specific criteria. Please provide clarification on how DEP intends to use Appendix A, Table 1. (6, 10)

Response:

The Department provided additional clarification in Chapter 16, as well as Chapter 93. Appendix A, Table 1 will be used as a temporary location for newly developed site-specific criteria. These new site-specific criteria will be incorporated, through rulemaking actions, into the appropriate portion of §§ 93.9a – 93.9z that relates to “Exceptions to Specific Criteria”.

Other Comments

Comments Regarding Chapter 96:

Comment:

Why are PWS water quality standards applied differently for different parameters with no explanation? Six of the 10 WQS (identified for PWS use) listed in Chapter 93 are listed in section 96.3. There is no explanation why color, iron, manganese and bacteria are not listed in section 96.3. Was it arbitrary for those selected, or are the non-listed parameters excluded in error? (4)

Response:

Since 1985 (15 Pa.B. 551), the Environmental Quality Board differentiated between the points of application for the criteria associated with TDS, nitrite-nitrate nitrogen, phenolics and fluoride. The points of application for these specific pollutants were identified as the point of withdrawal of potable water supply systems for protection of the statewide potable water use. The Board also indicated that the point of application for other uses (such as fish and aquatic life) is the point of wastewater discharge.

In 2002 (32 Pa.B. 6101), the Board added sulfates and chlorides to this list because there are no adverse human health effects from these substances at the levels they are regulated. The Board further states that effluent limitations required for discharges of these substances are calculated using critical (or stringent) conditions that include a requirement that the criteria be met 99% of the time, even at the low-flow condition known as Q7-10 (that is, the lowest 7-day consecutive flow in a 10-year period), a condition that is seldom reached, even in drought conditions. This provides an additional margin of safety built into the effluent limitations to protect the potable water supplies, prior to withdrawal. In addition, other surface water uses will be protected by application of general criteria and other criteria listed in §§ 93.6 and 93.7 (relating to general water quality criteria; and specific water quality criteria).

The Department is currently evaluating this provision as part of a comprehensive review of 25 Pa Code Chapter 96.

**List of Commentators
Triennial Review of Water Quality Standards
May 2008**

ID	Name/Address	Submitted 1-Page Summary	Provided Testimony	Requested Final Rulemaking
1.	David Densmore US Department of the Interior Fish and Wildlife Service Pennsylvania Field Office State College, PA			
2.	Gene Barr, Vice President Government and Public Affairs Pennsylvania Chamber of Business and Industry Harrisburg, PA			
3.	Douglas J. Austen, Ph.D., Executive Director Pennsylvania Fish and Boat Commission Harrisburg, PA 17106	X		
4.	George Ellis, President Pennsylvania Coal Association Harrisburg, PA 17101			
5.	Carmen Venezia Manager, Safety and Environment Osram Sylvania Towanda, PA 18848	X		
6.	Denise P. Hakowski Water Quality Standards Specialist Office of Standards, Assessment & Information Mgmt Water Protection Division U.S. Environmental Protection Agency, Region III Philadelphia, PA 19103		X	
7.	Robert R. Dorfler Vice President and General Manager Langeloth Metallurgical Company Langeloth, PA 15054			
8.	Cheryl Hicks, Legislative Director (on behalf of) Senator J. Barry Stout 46 th Senatorial District Eighty Four, PA 15330		X	
9.	Thomas Ondrejko Metallurgical Engineer Langeloth Metallurgical Company Langeloth, PA 15054		X	
10.	Independent Regulatory Review Commission Harrisburg, PA 17101			