

STATEMENTS OF POLICY

Title 25—ENVIRONMENTAL PROTECTION

DEPARTMENT OF ENVIRONMENTAL PROTECTION
[25 PA. CODE CH. 16]

Water Quality Toxics Management Strategy (Great Lakes Initiative (GLI))

The Department of Environmental Protection (Department) is amending Chapter 16 (relating to water quality toxics management strategy—statement of policy) to implement the Federal Great Lakes Water Quality Guidance (GLI).

The Commonwealth's water quality standards, which are set forth in part in Chapter 93 (relating to water quality standards), implement sections 5 and 402 of The Clean Streams Law (35 P. S. §§ 691.5 and 691.402) and section 303 of the Federal Clean Water Act (33 U.S.C.A. § 1313). Water quality standards consist of these designated uses of the surface waters of this Commonwealth and the specific numeric and narrative criteria necessary to achieve and maintain those uses. Chapter 16 is a water quality policy for regulating toxic pollutants in wastewater discharges. It sets forth the guidelines for the development of criteria for toxic substances, and lists water quality criteria and analytical methods and detection limits for toxic substances. Chapter 16 is directly referenced as a support policy document in the Department's toxic substances regulation in § 93.8a (relating to toxic substances).

The GLI requirements, promulgated on March 23, 1995 (60 F. R. 15366), provide for consistent protection for fish and shellfish in all waters of the Great Lakes System and for the people and wildlife who consume them. The GLI focuses on long lasting-pollutants called bioaccumulative chemicals of concern (BCCs) that accumulate in the food web of large lakes. The major elements of the GLI are water quality criteria to protect human health, aquatic life and wildlife, methodologies for criteria development, procedures for developing effluent limits for point sources, and antidegradation policies and procedures. States are required to adopt water quality standards, antidegradation policies and implementation procedures "as protective as" the GLI.

The Commonwealth's GLI strategy has two major objectives. The first is to, wherever possible, maintain Statewide consistency (including equal human health protection), so that unequal requirements are not focused on specific regions of this Commonwealth. The second is to provide a special degree of protection to the unique resource known as the Great Lakes System in this Commonwealth. To meet these objectives, the Department proposes applying scientifically sound methodologies, from both current practice and as identified in the GLI, Statewide. Exceptions to Statewide procedures are made when the unique character of the Great Lakes System demands special consideration. For example, BCCs pose a particular threat to the Great Lakes because of the long retention of pollutants in the Lakes, which contrasts with the ability of streams to flush out those pollutants via their flow. For this reason, application of procedures for BCCs is different for the Great Lakes than in other waters of this Commonwealth.

Prior to publication of the proposed changes, the Air and Water Quality Technical Advisory Committee (AWQTAC) was briefed on several occasions on the GLI and the Commonwealth's proposals. The AWQTAC submitted comments to the Department, which were considered during the development of the policy statement. Public input was solicited through a public meeting in Erie on September 5, 1995, on the requirements of the GLI; the availability of a proposed strategy and request for comments in February 1996 on the Department's Web site; and two meetings on June 5, 1996, one with an ad hoc Great Lakes Technical Committee and the second with the public, to discuss the proposed strategy. In addition, the Department has sent representatives to participate in meetings with the Council of Great Lakes Governors Working Group and Technical Subcommittee, which provide a forum for the states to discuss how each is addressing the requirements of the GLI.

A description of proposed changes to Chapter 16 designed to implement the GLI was published at 26 Pa.B. 6220 (December 28, 1996) (the proposed policy). The proposed changes were developed to complement proposed regulatory changes to Chapter 93. Final GLI regulatory changes were approved by the Environmental Quality Board (Board) on September 16, 1997. Finalization of these changes to Chapter 16 completes the Commonwealth's adoption of GLI related provisions.

The proposed policy provided for a 45-day public comment period. A public hearing on the proposal was held on February 12, 1997, in Erie. During the public comment period, the Department received comments from eight commentators. Based on the comments received, the Department has made several revisions to the proposed policy. The Department will also be developing separate implementation guidance for several of the new GLI provisions.

Contact Persons

For further information, contact Edward R. Brezina, Chief, Division of Water Quality Assessment and Standards, Bureau of Watershed Conservation, PO Box 8555, Harrisburg, PA 17105-8555 (express mail: Rachel Carson State Office Building, 400 Market Street, 10th Floor, Harrisburg, PA 17101-2301), (717) 787-9637, or William J. Gerlach, Assistant Counsel, Bureau of Regulatory Counsel, 9th floor Rachel Carson State Office Building, PO Box 8465, Harrisburg, PA 17105-8465, (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). The statement of policy is also available electronically through the Department's Web site (<http://www.dep.state.pa.us>).

Summary of Major Changes and Amendments

Two of the amendments the Department is making to the proposed policy can be considered to be major amendments which involve changes to aquatic life and human health criteria and methodologies for Great Lakes waters.

1. Changes to Aquatic Life Criteria and Methodologies

In the proposed policy, the Department indicated it was not proposing any major changes to the current Statewide aquatic life criteria development procedures and water quality criteria. It also indicated it would not be using the refined database that is included in the GLI, or changing its present policy for using residue based values in the derivation of criteria continuous concentrations (chronic criteria) for mercury. The Department's reasons for not

proposing changes were: (1) the Environmental Protection Agency (EPA) had not endorsed the refined database (which is not Great Lakes specific) for National application; and (2) since the refined database does not provide for any special provisions for the Great Lakes system, Statewide consistency should be maintained.

During the comment period, the Department received several comments that supported its position on maintaining Statewide consistency in the development and application of aquatic life criteria. However, it also received comments from the EPA indicating that some of the criteria the Department proposed retaining were not "as protective as" those required by the GLI. Also, the EPA has now made the new data used in the GLI available for use on a National basis.

On the basis of the EPA's comments, and the fact that the refined data is available for use on a National basis, the Department has changed its position, and is now incorporating (with some minor exceptions) the GLI aquatic life criteria into Chapter 16. This change will, at least temporarily, cause the criteria for the Great Lakes portion of this Commonwealth to be different from the criteria in the remainder of this Commonwealth. The Department will seek public comments on any future proposals to incorporate the GLI criteria Statewide.

2. Changes to Human Health Criteria and Methodologies

In its proposed policy, the Department indicated that, with the exception of health based criteria for BCCs, it intended to retain and use its existing Statewide human health criteria as well as the basis for the criteria, which includes an average daily fish consumption rate of 6.5 grams/day.

In its comments, the EPA indicated that the Department's proposal was satisfactory for carcinogens because (the numerical values of) the Commonwealth's criteria are more stringent than the values in the GLI. (The GLI carcinogen criteria are based on a fish consumption rate of 15 grams/day and a 10^{-5} cancer risk level). However, the EPA also indicated that the Department's proposal for continued use of Statewide criteria for threshold human health pollutants would not be satisfactory, because the statewide values are not as stringent as those included in the GLI. The EPA suggested that for threshold human health criteria, the Commonwealth adopt a fish consumption rate of 15 grams/day.

Two other comments on human health criteria were also received. In one, it was recommended that the Commonwealth adopt the GLI standards (15 grams/day of fish consumption together with a 10^{-5} cancer risk level). In the other, it was recommended that the Commonwealth retain the current Statewide 10^{-6} level of protection, but that it be applied in the Great Lakes region using a fish consumption rate of 15 grams/day.

Based on these comments, the Department has modified the proposed policy. Specifically, the basis for calculation of human health criteria in the Great Lakes system has been modified so that all human health criteria are based on a fish consumption rate of 15 grams/day (and ingestion of 2 liters of water per day). When coupled with 10^{-6} cancer risk level specified in § 93.8a, this increased fish consumption rate results in human health carcinogen criteria for the Great Lakes system that are (about) two times more stringent than in the rest of this Commonwealth, and 10 times more stringent than provided for in the GLI. Threshold human health criteria for the Great Lakes system are also (about) two times more stringent than the rest of this Commonwealth.

The Department believes that this change is consistent with the two objectives enunciated for the GLI. Statewide consistency is being maintained in terms of cancer risk levels, while at the same time, special Great Lakes specific circumstances are being accounted for.

The human health and aquatic life criteria changes described in this summary have been incorporated into § 16.61(b)(4) (relating to special provisions for the Great Lakes System). The previously proposed table of "Great Lakes Human Health Criteria for BCCs" has been deleted and a new table of "Great Lakes Aquatic Life and Human Health Criteria" has been added. The new table contains all criteria developed to this time for the Great Lakes System. Additional criteria will be developed as needed following the methods in § 16.61(b). In addition, a new § 16.61(c) has been added to assure that guidances to implement the GLI will be as protective as the GLI. Additional information about these changes is presented as follows.

Description of Amendments

In addition to the major changes previously described, several other changes have been made to the proposed policy. These changes, and the reasons for them, are described as follows:

<i>Section</i>	<i>Description of Changes</i>
	<i>Changes with Statewide Applicability</i>
16.22(4)	<i>(Aquatic Life) Criteria Development:</i> In the proposed policy, changes were proposed to reference the use of current EPA procedures for whole effluent toxicity testing (WETT) in 40 CFR Part 136. During the review period, it was decided to amend and move these revisions to a new § 16.52 (relating to whole effluent toxicity testing (WETT)). (See Table 1 of Appendix A.)
16.23	<i>Sources of Information:</i> In the proposed policy, the Great Lakes Clearinghouse was proposed to be added as a data source to be used in the future for criteria development. Based on comments and suggestions received during the public comment period, additional modifications have been made to: (1) assure that any updates in the EPA Ambient Water Quality Criteria Development Documents are used in criteria development; and (2) clarify that the Aquatic Toxicity Information Retrieval Data Base (AQUIRE) and the Great Lakes Initiative (GLI) Clearinghouse are examples of aquatic life toxicity data available from the EPA computerized databases.
16.32	<i>Threshold level toxic effects:</i> In the proposed policy, the Department generally retained the procedures and criteria for human health Statewide. A few changes were proposed to incorporate the most recent scientific understanding on certain issues. Subsection (b) was proposed to be modified to add the use of bioaccumulation factors (BAF) in criteria development. Subsection (d) was also proposed to be updated to add the Great Lakes Clearinghouse.

<i>Section</i>	<i>Description of Changes</i>	<i>Section</i>	<i>Description of Changes</i>
	<p>As previously indicated, the Department has revised its proposal regarding human health criteria, and will now use an average fish consumption rate of 15 grams/day for the development of human health criteria for Great Lakes waters. To facilitate this change, language has been added to subsection (b) to create a special fish consumption rate of 15 grams/day for the Great Lakes system.</p> <p>During the public comment period, one commentator pointed out that the reference to a 70 year lifetime exposure is not appropriate for threshold human health criteria. The Department agrees with the comment, and has, therefore, deleted this phrase from subsection (b).</p>		<i>Great Lakes Specific Changes</i>
16.33	<p>Nonthreshold effects (cancer): The proposed policy included minor word changes to subsection (j), and added the use of BAFs in criteria development for carcinogens. The final language includes an updated reference to § 93.8a, which specifies the cancer risk level to be used for the development of carcinogen criteria, and language providing an exception, which is described in § 16.61.</p>	16.61	<p><i>Water Quality Criteria for the Great Lakes System:</i> Several comments were received on the language in this section proposed in December. Some have already been discussed in this description under the major changes and amendments summary.</p> <p>In their comments on subsection (a), the EPA indicated that the proposed paragraph did not include the methodology for deriving criteria for BAFs using 40 CFR Part 132, Appendix B, which apply to all pollutants in the Great Lakes system. In response to this comment, the originally proposed subsection (a) has been deleted. In its place, definitions of "BAF—Bioaccumulation factor," "BCC—bioaccumulative chemical of concern" and "Great Lakes System" have been substituted. These definitions are the same as those in Chapter 93 which were adopted by the EQB as final rulemaking on September 16, 1997.</p> <p>In commenting on proposed § 16.61(b)(1), the EPA emphasized that State procedures for developing aquatic life criteria must produce results that are equal to or more stringent than the GLI criteria developed under GLI methodologies. The criteria for several parameters (Arsenic (III), Chromium (III), Copper, Dieldrin, Mercury (II), Nickel and Parathion) were listed as not meeting this requirement. In response to this comment, the Commonwealth is adopting, with one exception, the GLI aquatic life criteria for Great Lakes waters in this Commonwealth. The GLI Chromium III criteria is not being adopted because Chromium III is controlled by regulating Chromium VI, which is 60 times more toxic than Chromium III.</p> <p>In commenting on proposed § 16.61(b)(2), the EPA stated that State procedures must produce criteria that are equal to or more stringent than the GLI criteria for all human health related parameters. In response to this comment, the Commonwealth is modifying its human health related criteria development methodology so that, for Great Lakes waters only, human health criteria will be based on the consumption of an average of 15 grams/day of fish flesh (as well as 2 liter/day of water.) Specific language providing for this site specific fish consumption rate has been added to § 16.61(b)(2).</p>
16.51	<p><i>Table:</i> In the proposed policy, the discussion preceding the table was amended to include reference to the new Great Lakes System section. During the public comment period, it was pointed out that the reference in the paragraph to Great Lakes waters was incomplete, because it did not include reference to the Genesee River Basin. Appropriate language to include the Genesee Basin has been added.</p>		
Appendix A Table 1	<p><i>Water Quality Criteria for Toxic Substances:</i> In the proposed policy, the table was proposed to be amended to add numeric criteria for Whole Effluent Toxicity Testing (WETT). Two commentators recommended that WETT criteria be included in narrative form in the section that describes WETT. According to the commentators, this would allow the Department to use chemical-specific criteria and effluent limitations in place of WETT limits where it believes that this will provide sufficient aquatic life protection.</p> <p>The Department agrees with the comments and has amended and moved the WETT criteria to a new § 16.52.</p>		
(New) 16.52	<p><i>Whole Effluent Toxicity Testing (WETT):</i> This is a new section which, as indicated in this description, replaces existing § 16.22 (4) (relating to criteria development). It indicates when the Department may require WETT and the basis for evaluating test results. This section also updates the references to the EPA and other test procedures and protocols.</p>		

Section Description of Changes

In commenting on § 16.61(b)(1) and (2), the EPA stated that the GLI requires that where insufficient data are available to develop criteria for a toxic substance, a Tier II value must be developed. The EPA also indicated that the Commonwealth needs to have a procedure consistent with Appendix F, Procedure 5.C for developing data to calculate Tier II values if such data does not currently exist. In response to these comments, the Commonwealth has modified § 16.61(b)(1) to make it clearer that aquatic life criteria for Great Lakes waters will be developed in accordance with the methodologies contained in the GLI and that Tier II values will be developed in accordance with GLI specified methodologies when sufficient data is not available to develop a Tier I criteria, except when whole effluent toxicity testing (for non-BCCs) indicates that development of a Tier II value is not necessary to assure aquatic life protection.

The previously proposed table of "Great Lakes Human Health Criteria for BCCs" has been deleted and a new table of "Great Lakes Aquatic Life and Human Health Criteria" has been added. The new table contains all criteria developed to this time for the Great Lakes System. Additional criteria will be developed as needed following the methods in § 16.61(b). In addition, a new § 16.61(c) has been added to assure that guidances to implement the GLI will be as protective as the GLI.

During the comment period, the EPA requested assurances that the Department would follow implementation guidances that are "as protective as" the methods and procedures contained in the GLI. A new subsection (c) has been added to this section to provide this assurance.

Comment and Response Summary

The Department has prepared a Comment and Response document, which lists all of the comments and responses received on the proposed changes to Chapter 16 that was published on December 28, 1996. Copies are available from the Division of Water Quality Assessment and Standards at the telephone number and address listed in the "Contact Persons" section of this Preamble.

JAMES M. SEIF,
Secretary

(Editor's Note: The regulations of the Department, 25 Pa. Code Chapter 16, are amended by amending §§ 16.22, 16.23, 16.32, 16.33 and 16.51; and by adding 16.52 and 16.61 to read as set forth in Annex A, with ellipses referring to the existing text of the statement of policy.)

Fiscal Note: 7-506. No fiscal impact; (8) recommends adoption.

Annex A

TITLE 25. ENVIRONMENTAL PROTECTION

PART I. DEPARTMENT OF ENVIRONMENTAL PROTECTION

Subpart A. PRELIMINARY PROVISIONS

ARTICLE I. ADMINISTRATIVE PROVISIONS

CHAPTER 16. WATER QUALITY TOXICS MANAGEMENT STRATEGY—STATEMENT OF POLICY

GUIDELINES FOR DEVELOPMENT OF AQUATIC LIFE CRITERIA

§ 16.22. Criteria development.

The Department will establish criteria for toxic substances to provide for protection of aquatic life in accordance with the following guidelines:

(1) For those toxics for which the EPA has developed criteria in accordance with the National guidelines as set forth in "Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses" (1985), the Department will review and evaluate the criteria. If the Department determines that the criteria are adequate to protect indigenous aquatic communities in the State's waters, these criteria will serve as the basis for establishing effluent limitations. If the Department determines that the EPA National criteria are inappropriate (too lenient or too stringent) the Department will adjust these criteria in accordance with the National guidelines to reflect the levels required for protection of aquatic life in this Commonwealth's waters.

(2) For those toxics for which the EPA has not developed criteria due to an inadequate database to fit the National guidelines, the Department will develop aquatic life criteria using the best scientific information available.

(i) "Best scientific information available" is defined as consisting of all the following components:

(A) Bioassay tests conducted in accordance with standardized methods and procedures.

(B) Bioassay tests conducted with species representative of Commonwealth waters.

(C) Bioassay tests with minimum duration of 48 hours.

(ii) In-stream levels for aquatic life protection will be developed by averaging relevant toxicity data and multiplying by an appropriate application factor. Pollutant specific application factors will be employed if acute and chronic data are available to calculate such a factor. In the absence of the data, the general application factors specified in the NAS "Water Quality Criteria 1972" will be used—0.1 (max) and 0.05 (avg) for nonpersistent pollutants; and 0.05 (max) and 0.01 (avg) for persistent pollutants. A persistent pollutant is defined to be consistent with the previously cited reference as a substance having a half-life of greater than 4 days. Pollutants will be assumed to be persistent unless specific data are available which indicate otherwise.

(3) For those toxics for which there are insufficient data to fit the EPA National Guidelines or Departmental guidelines specified in paragraph (2), the Department will impose criteria to protect Statewide uses in § 93.4 (relating to Statewide water uses), monitor-only requirement-sor technology-based limits until sufficient data become available to develop in-stream criteria for aquatic life protection.

§ 16.23. Sources of information.

The Department will use the following sources of information in establishing criteria for aquatic life protection:

- (1) United States EPA 1986 Quality Criteria for Water (Goldbook).
- (2) United States EPA Quality Criteria for Water—1976 (Redbook).
- (3) Water Quality Criteria 1972 (Bluebook).
- (4) United States EPA Ambient Water Quality Criteria Development Documents and updates.
- (5) Aquatic life toxicity data available in the published scientific literature.
- (6) Aquatic life toxicity data available on EPA computerized databases (for example, AQUIRE, Great Lakes Initiative (GLI) Clearinghouse).

GUIDELINES FOR DEVELOPMENT OF HUMAN HEALTH-BASED CRITERIA

§ 16.32. Threshold level toxic effects.

(a) A threshold effect is defined as an adverse impact that occurs in the exposed individual only after a physiological reserve is depleted. For these effects there exists a dose below which no adverse response will occur. Threshold toxic effects include most systemic effects and developmental toxicity, including teratogenicity. Developmental toxicity includes all adverse effects in developing offspring resulting from prenatal exposure to a causative agent.

(b) Control of threshold toxics is based upon animal testing or epidemiological studies that report no- or low-observed adverse effect levels of the substance (NOAEL or LOAEL). In evaluating a particular toxic, toxicologists weigh the merits of all the tests, and choose, in their best professional judgment, the safe level. By applying standard margins of safety to the NOAEL, extrapolations from the laboratory animals to humans (factor of 10), for sensitive subpopulations (10), and from short-term to chronic studies (10) can be taken into account. An additional factor of 10 is used if only a LOAEL is available. Modifying factors (1–10), which account for deficiencies in the toxicity studies, are also considered in determining an acceptable exposure level. The current term for this acceptable level is reference dose (RfD); it was previously called the acceptable daily intake (ADI). The RfD is adjusted for protection of an average (70 Kg) person. It is then divided by expected exposure condition to result in an applicable criterion. Except as provided in § 16.61(b)(2) (relating to special provisions for the Great Lakes System), exposure conditions via water include 2 liters per day of drinking water and consumption of 6.5 grams of fish per day. Bioaccumulation of toxics in edible portions of fish is accounted for by use of bioaccumulation factors (BAF). BAF is the ratio in liters per kilogram of a substance's concentration in tissues of an aquatic organism to its concentration in

the ambient water, in situations where both the organism and its food are exposed and the ratio does not change substantially over time.

(c) The Department will establish criteria for threshold toxics in accordance with the following guidelines:

(1) If the EPA or other experts have developed criteria, the Department will evaluate and accept the criteria when it is determined that they are adequate to protect the designated water uses.

(2) If the EPA criteria have been evaluated, and have been determined to be inadequate to protect designated uses, or when no criteria have been developed, the Department will collect applicable risk assessment data and develop criteria following standard toxicological procedures.

(3) If no data are available to characterize the hazard of a chemical, no criterion will be developed. The more stringent of technology limits or a criterion to protect the next most sensitive use will be substituted. A threshold criterion will be developed at a future date if information becomes available.

(4) A taste and odor value may be used to establish a criterion when this value is more critical than the threshold criterion, or in the absence of sufficient toxicity data.

(d) The sources the Department uses to obtain relevant risk assessment values for protection for threshold level toxic effects to human health are as follows:

(1) Verified reference doses, listed in the EPA agency-wide supported data system known as IRIS (Integrated Risk Information System), provide the most current risk assessment values for more than 300 chemicals. These values are a primary source for criteria development.

(2) Finalized drinking water health values; that is, Maximum Contaminant Level Goals (MCLGs), are the result of peer-reviewed evaluations of the toxicity of chemicals and are good sources of risk data for ambient water criteria development.

(3) CWA 304(a) health criteria were set in 1980 by the EPA based upon the most current scientific data and are a good source of this information. The EPA updates and additions to the 1980 criteria and development documents and the Great Lakes Initiative Clearinghouse are also good current sources of data.

(4) Teratology data from a peer-reviewed source provide information on criteria for teratogens.

(5) Other sources of toxicity information, such as drinking water health advisories and ambient water quality advisories, are investigated and may be used to set criteria.

§ 16.33. Nonthreshold effects (cancer).

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(j) The Department uses a 1×10^{-6} cancer risk level as specified in § 93.8a(d). Attainment of this risk level is predicated on exposure that includes drinking 2 liters of water and ingesting 6.5 grams of fish per day over a 70-year lifetime, except as provided in § 16.61(b)(2) (relating to special provisions for the Great Lakes Systems). Bioaccumulation of carcinogenic toxics in edible portions of fish are accounted for by use of bioaccumulation factors (BAFS).

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WATER QUALITY CRITERIA FOR TOXIC SUBSTANCES

§ 16.51. Table.

Appendix A, Table 1 lists the human health and aquatic life criteria for toxic substances which the Department will use in development of effluent limits in NPDES Permits. The human health criteria are further defined as to the specific effect (that is, carcinogenicity, taste and odor, general health). For those aquatic life criteria which are hardness related and specified as a formula, such as several of the heavy metals, the Department will use the specific hardness of the receiving stream in calculating criteria on a case-by-case basis. The priority pollutant numbers (PP NO) used by EPA to identify priority pollutants are included in Table 1 for reference purposes. Some of these criteria may be superseded for Drainage Lists E and G (Delaware Estuary), W (Ohio River Basin), X (Lake Erie Basin) and Y (Genesee River Basin) under interstate and international compact agreements with the Delaware River Basin Commission, Ohio River Valley Sanitation Commission and International Joint Commission respectively. See Sections 93.9a—93.9z (relating to drainage lists) for specific parameters and criteria. The criteria in Table 1 are not applicable to the Great Lakes System. Water quality criteria for the Great Lakes System are contained in § 16.61. Criteria may be developed for the Great Lakes System for substances other than those listed in § 16.61 (relating to special provisions for the Great Lakes System) under the methodologies in § 16.61(b).

§ 16.52. Whole Effluent Toxicity Testing (WETT).

The Department may impose WETT requirements on wastewater discharges where it is determined that the testing is necessary to assure the protection of aquatic life. Where WETT is required, the Department will use the criteria of $0.3 TU_A$ (Toxic Units Acute) and $1 TU_C$ (Toxic Units Chronic) as a basis for evaluating test results. WETT shall be conducted in accordance with 40 CFR Part 136 (relating to the establishment of test procedures for the analysis of pollutants), Quality Assurance Quality Control (QA/QC) guidance issued by the Department, or other protocols approved by the Department.

GREAT LAKES SYSTEM

§ 16.61. Special provisions for the Great Lakes System.

(a) *Definitions.* The following words and terms, when used in this section, have the following meanings, unless the context clearly indicates otherwise:

BAF—Bioaccumulation Factor—The ratio in liters per kilogram of a substance's concentration in tissues of an aquatic organism to its concentration in the ambient water, when both the organism and its food are exposed and the ratio does not change substantially over time.

BCC—Bioaccumulative Chemical of Concern—A chemical that has the potential to cause adverse effects which,

upon entering the surface waters, by itself or its toxic transformation product, accumulates in aquatic organisms by a human health BAF greater than 1000, after considering metabolism and other physiochemical properties that might enhance or inhibit bioaccumulation, under the methodology in 40 CFR Part 132 Appendix B (relating to Great Lakes Water Quality Initiative). Current BCCs are listed in 40 CFR 132.6, Table 6 Subpart A (relating to pollutants of initial focus in the Great Lakes Water Quality Initiative).

Great Lakes System—The streams, rivers, lakes and other bodies of surface water within the drainage basin of the Great Lakes in this Commonwealth.

(b) *Water quality criteria for the Great Lakes System.*

(1) *Aquatic life criteria.* Aquatic life criteria for toxic substances in the Great Lakes System will be developed under the methodologies in § 16.22 (relating to criteria development) to the extent they are consistent with 40 CFR Part 132, Appendix A (relating to Great Lakes Water Quality Initiative methodologies for developments of aquatic life values). If there are insufficient data to develop aquatic life criteria for a toxic substance identified in a discharge into these waters, the Department will develop or require a discharger to develop, subject to Department approval, protective aquatic life values using the methodologies in 40 CFR Part 132, Appendix A and guidance issued by the Department. For non-BCCs, WETT may be used in lieu of Tier II values to determine aquatic toxicity.

(2) *Human health criteria.* Human health criteria for the Great Lakes System will be developed using the methods in §§ 16.32 and 16.33 (relating to threshold level toxic effects; and nonthreshold effects (cancer)), except that fish consumption is 15 grams per day. If there are insufficient data to develop human health threshold criteria for a toxic substance identified in a discharge into these waters, the Department will develop, or require the discharger to develop, subject to Department approval, protective human health values using the methodologies in 40 CFR Part 132, Appendix C, Part III, as it relates to Tier II values, and guidance issued by the Department.

(3) *BAFs.* Human health criteria for BCCs will be developed under the methodologies in 40 CFR Part 132, Appendix B relating to bioaccumulation factors, and will be listed by EPA in the GLI Clearinghouse. Because substances other than BCCs (Non-BCCs) bioaccumulate to a much lesser degree, BAFs for Non-BCCs are similar to bioconcentration factors (BCFs). Field measured BAFs, or BAFs equal to BCFs will be used for the development of non-BCC criteria in the Great Lakes.

(4) *Criteria for Great Lakes System.* Human health and aquatic life criteria for the Great Lakes System are contained in the following table. For any pollutant not listed in the table, criteria to protect existing and designated uses will be developed by the Department as needed in accordance with this section.

GREAT LAKES AQUATIC LIFE AND HUMAN HEALTH CRITERIA

FISH AND AQUATIC LIFE CRITERIA

<i>PP NO</i>	<i>CHEMICAL NAME</i>	<i>CAS NUMBER</i>	<i>CRITERIA CONTINUOUS CONCENTRATION (ug/L)</i>	<i>CRITERIA MAXIMUM CONCENTRATION (ug/L)</i>	<i>HUMAN HEALTH CRITERIA (ug/L)</i>	
2M	ARSENIC	07440382	*148 (As3+)	*340 (As3+)	N/A	
4M	CADMIUM	07440439	*{1.101672-(1n[H]x0.041838)}x Exp(0.7852x1n[H]-2.715) (ex: @H=100, CCC=2.24)	*{1.136672-(1n{H}x0.041838)}x Exp(1.128x1n[H]-3.6867) (ex: @H=100, CMC=4.26)	N/A	
5M	CHROMIUM, VI	18540299	*10.56	*15.73	N/A	
6M	COPPER	07440508	*0.960xExp(0.8545x1n[H]-1.702) (ex: @H=100, CCC=8.96)	*0.960xExp(0.9422x1n[H]-1.7) (ex: @H=100, CMC=13.44)	N/A	
8M	MERCURY	07439976	*0.77	*1.44	0.004	H
9M	NICKEL	07440020	*0.997xExp(0.846x1n[H]+0.0584) (ex: @H=100, CCC=52.01)	*0.998xExp(0.846x1n[H]+2.255) (ex: @H=100, CMC=468.24)	N/A	
10M	SELENIUM	07782492	*4.61	*18	N/A	
13M	ZINC	07440666	*0.986xExp(0.8473x1n[H]+0.884) (ex: @H=100, CCC=118.14)	*0.978xExp(0.8473x1n[H]+0.884) (ex: @H=100, CMC=117.18)	N/A	
14M	CYANIDE, FREE	00057125	5.2	22	700	H
3A	2,4-DIMETHYLPHENOL	00105679	N/A	N/A	400	T&O
5A	2,4-DINITROPHENOL	00051285	N/A	N/A	70	H
9A	PENTACHLOROPHENOL	00087865	Exp(1.005[pH]-5.134) @pH= 6.5 7.8 9.0 Crit = 4.05 14.95 49.95	Exp(1.005[pH]-4.869) @pH= 6.5 7.8 9.0 Crit = 5.28 19.49 65.10	N/A	
3V	BENZENE	00071432	N/A	N/A	1	CRL
7V	CHLOROBENZENE	00108907	N/A	N/A	20	T&O
22V	METHYLENE CHLORIDE	00075092	N/A	N/A	5	CRL
25V	TOLUENE	00108883	N/A	N/A	6000	H
29V	TRICHLOROETHYLENE	00079016	N/A	N/A	3	CRL
33B	HEXACHLOROBENZENE	00118741	N/A	N/A	0.00005	CRL
36B	HEXACHLOROETHANE	00067721	N/A	N/A	0.5	CRL
4P	gamma-BHC (LINDANE)	00058899	N/A	0.95	0.5	H
6P	CHLORDANE	00057749	N/A	N/A	0.00002	CRL
7P	4,4'-DDT	00050293	N/A	N/A	0.00001	CRL
10P	DIELDRIN	00060571	0.056	0.24	0.000006	CRL
14P	ENDRIN	00072208	0.036	0.086	N/A	
18P	PCBs	53469219	N/A	N/A	0.000003	CRL
25P	TOXAPHENE	08001352	N/A	N/A	0.000007	CRL
PP	2,3,7,8-TCDD	01746016	N/A	N/A	9E-10	CRL
—	PARATHION	00056382	0.013	0.065	N/A	

Acronyms and Footnotes to Table

*Indicates dissolved metal criterion; others are total recoverable metals. Each listed dissolved criterion in the Table is equal to the corresponding total recoverable criterion before rounding (from the EPA National Ambient Water Quality Criteria Documents) multiplied by the conversion factor (from the Conversions Factors Table); a criterion that is expressed as a hardness (H)-based equation is shown in the Table as the conversion factor (listed) multiplied by the hardness criterion equation; an example criterion at hardness=100 mg/L is included.

H—Threshold effect human health criterion; incorporates additional uncertainty factor for some Group C carcinogens.

CRL—Cancer risk level at 1 x 10⁻⁶

T&O—Taste and odor criterion.

N/A—Insufficient data to develop criterion.

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STATEMENTS OF POLICY

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(5) *Wildlife criteria.* Wildlife criteria will be developed for the BCCs in the Great Lakes System using methodologies contained in the Great Lakes guidance in 40 CFR Part 132, Appendix D (relating to Great Lakes Water Quality Initiative methodology for the development of wildlife criteria). The wildlife criteria are contained in the following table:

GREAT LAKES WILDLIFE CRITERIA TABLE

PP NO.	CHEMICAL NAME	CRITERION (ug/L)
7-9P	DDT & METABOLITES	0.000011
8M	MERCURY	0.0013
18-24P	PCBS (TOTAL)	0.00012
PP	2,3,7,8-TCDD	3.1 E-9

(6) *Additional requirements.* Additivity of toxic effects for chlorinated dibenzo-p-dioxins and chlorinated dibenzofurans will be accounted for under 40 CFR Part 132, Appendix F, Procedure 4 (relating to Great Lakes Water Quality Initiative implementation procedures).

(c) The Department will follow guidance that is as protective as the final water quality guidance for the Great Lakes System in 40 FR 15366 (March 23, 1995), as updated and amended.

[Pa.B. Doc. No. 97-2082. Filed for public inspection December 26, 1997, 9:00 a.m.]

Title 61—REVENUE

DEPARTMENT OF REVENUE

[61 PA. CODE CH 60]

Commercial Motion Pictures

The Department of Revenue (Department) has adopted a statement of policy under the authority contained in § 3.2 (relating to statements of policy) regarding commercial motion pictures to read as set forth in Annex A.

This statement of policy adds § 60.22 (relating to commercial motion pictures) and will take effect upon publication in the *Pennsylvania Bulletin*.

The Department is setting forth its interpretation of section 204(54) of the Tax Reform Code (72 P. S. § 7204(54)) as amended by the act of May 7, 1997 (P.L. _____, No. 7) regarding the sales and use tax exclusion for the sale at retail to or use by a producer of commercial motion pictures of any tangible personal property directly used in the production of a feature-length commercial motion picture distributed to a National audience.

Subsection (a) sets forth the definition of various terms for use in § 60.22. Subsection (b) details the scope of the exclusions for commercial motion pictures. To effect Legislative intent, the Department has added language in § 60.22(b)(2)(ii). If this subparagraph were not added, the purchase of the tangible personal property would be exempt but the repair or alteration would be subject to tax. For example, the purchase of film would be exempt but the development charges would be subject to tax which clearly is not the Legislative intent. Subsection (c) describes the treatment of property and services purchased for resale. Subsection (d) provides that charges to install, repair, maintain or service equipment, parts, tools and supplies directly used in the production of a commercial motion picture are exempt from tax. Subsection (e)

explains that utilities used directly and exclusively in the production of a commercial motion picture are exempt from tax. Examples of taxable and exempt electricity usage are provided. An explanation regarding the use of exemption certificates is set forth in subsection (f).

Specific questions relating to information provided in this statement of policy may be directed to the Department of Revenue, Office of Chief Counsel, Dept. 281061, Harrisburg, PA 17128-1061.

ROBERT A. JUDGE, Sr.,
Secretary

Fiscal Note: 15-401. No fiscal impact; (8) recommends adoption.

Annex A

TITLE 61. REVENUE

PART I. DEPARTMENT OF REVENUE

Subpart B. GENERAL FUND REVENUES

ARTICLE II. SALES AND USE TAX

CHAPTER 60. SALES AND USE TAX

PRONOUNCEMENTS—STATEMENTS OF POLICY

§ 60.22. Commercial motion pictures.

(a) *Definitions.* The following words and terms, when used in this section, have the following meanings, unless the context clearly indicates otherwise:

Commercial motion picture—A series of related images at least 40 minutes in length either on film, tape or other similar medium, where the images shown in succession impart an impression of motion together with accompanying sound, if any, which is produced for distribution to a National audience. The term does not include motion pictures produced for private noncommercial use, including motion pictures of weddings or graduations to be used as family mementos, accident reconstruction videotapes to be used for legal analysis or student films to be used for class projects.

Distribution to a National audience—Distribution by means of theatrical release or for exhibition on National television by a television network or through syndication.

Producer—A purchaser who is responsible for the production of a commercial motion picture.

(b) *Scope.*

(1) The sale at retail to or use by a producer of tangible personal property directly used in the production of a commercial motion picture distributed to a National audience is exempt from sales and use tax.

(2) The production of a commercial motion picture involves the process of recording the actions taken place within the motion picture and includes the actual shooting of the picture, either on location or at a motion picture studio, as well as the editing, dubbing and mixing of the motion picture.

(i) Examples of tangible personal property that may be directly used in the production of a commercial motion picture include film and tape products; set construction equipment and supplies; props, including livestock, motor vehicles, books, paintings and other tangible personal property when photographed as part of a scene; wardrobe; grip and lighting equipment; cameras; camera mounts including tripods; jib arms; steadicams; cranes; dollies; generators; walkie talkies; boats, trains, helicopters, airplanes, vans, trucks or other motor vehicles specifically equipped for motion picture production or used solely for production activities, wardrobe and makeup trailers, special effects and stunt equipment, video assists, videotape

recorders, cables and connectors, sound recording equipment, and editing, dubbing and mixing equipment.

(ii) Examples of services performed upon tangible personal property that may be directly used in the production of a commercial motion picture include sound or music recording; creation of special effects or animation on film, tape or other audiovisual medium, including animation drawings, inkings, paintings, tracing and celluloid "cels"; preparation of storyboards for either animation or live photography; technological modification, including colorizing; computer graphics, including transfers of computer graphics on computer-generated media; sound dubbing or sound mixing; sound or music or effect transferring; film or tape editing or cutting; developing or processing of negative or positive prints; timing; coding or encoding; creation of opticals, titles, main or end credits; captioning; and medium transfers (for example, film to tape, tape to tape).

(3) The exclusion from sales and use tax provided for property and services directly used in production does not apply to either of the following:

(i) The purchase of property used for administrative purposes. Administrative purposes include such activities as sales promotions, general office work, ordering and receiving materials, making travel arrangements, the preparation of shooting schedules and the preparation of work and payroll records.

(ii) The purchase of catering services, as well as secretarial services, disinfecting or pest control services, building maintenance or cleaning services, help supply services, lawn care services, self-storage services and employment agency services, as such terms are defined under section 201 of the TRC (72 P. S. § 7201). Charges for employment agency services provided by theatrical employment agencies and motion picture casting bureaus are not subject to sales or use tax.

(4) When a single unit of tangible personal property is used in two different activities, one of which is a direct use and the other of which is not, the property is not excluded from tax unless the producer makes use of the property more than 50% of the time directly in the production phase of a commercial motion picture.

(c) *Property and services purchased for resale.*

(1) A producer may make certain purchases for resale. Materials and services on these materials that will become a component of the product sold may be purchased exempt from tax, if a properly completed exemption certificate, Form PA-1220, is issued to the supplier.

(2) For example, the original negative is the medium (film, tape, and the like) first used in the camera when photographing live action, special effects, animation, com-

puter generated images, and the like. The developing of the film is a service that is purchased for resale because the producer is selling the film on which the service is being performed.

(d) *Installation, repair, maintenance and service of tangible personal property.* Charges to install, repair, maintain or service equipment, parts, tools and supplies directly used in the production of a commercial motion picture are exempt from sales and use taxes. Examples of these services include:

(1) Installing illumination lighting and sound equipment.

(2) Installing special effects riggings.

(3) Connecting wiring from electrical sources to production equipment.

(e) *Utilities used in production.* Utilities used directly and exclusively in the production of a commercial motion picture are exempt from tax. The following are examples of taxable and exempt electricity usage:

(1) Electricity used for set lighting is exempt.

(2) Electricity used in a mobile trailer maintained for actors is taxable.

(3) Electricity used to light and heat a temporary or permanent office is taxable.

(f) *Exemption certificates.*

(1) A producer shall furnish a properly completed Pennsylvania exemption certificate, Form PA-1220, to its vendors to:

(i) Exclude purchases of tangible personal property that becomes a physical component part of the commercial motion picture and is actually transferred to the customer (for example, resale).

(ii) Exclude purchases of qualifying production machinery, equipment, parts, tools or supplies for use directly in the production of a motion picture. This certificate shall also be furnished to those who install, repair, maintain or service the exempt machinery, equipment, parts, tools or supplies. To claim this exclusion, the producer shall state on the certificate in the space marked "Other" the following: "Property or services shall be directly used in the production of a commercial motion picture under section 204(54) of the TRC (72 P. S. § 7204(54))."

(2) A properly completed exemption certificate shall be furnished and accepted in good faith no later than 60 days after delivery of the property or service or the sale will be considered a taxable sale.

[Pa.B. Doc. No. 97-2083. Filed for public inspection December 26, 1997, 9:00 a.m.]