WEST VIRGINIA

SECRETARY OF STATE

KEN HECHLER

ADMINISTRATIVE LAW DIVISION

Form #1

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JUN 29 4 01 PM '99

OFFICE OF THE SECRETARY OF STATE

NOTICE OF PUBLIC HEARING ON A PROPOSED RULE

AGENCY: **Environmental Quality Board** TITLE NUMBER: **46 CSR 1**

RULE TYPE: **Legislative**; CITE AUTHORITY **22B-3-4**

AMENDMENT TO AN EXISTING RULE: YES **X** NO _____

IF YES, SERIES NUMBER OF RULE BEING AMENDED: **1**

TITLE OF RULE BEING AMENDED:

Requirements Governing Water Quality Standards

IF NO, SERIES NUMBER OF NEW RULE BEING PROPOSED: _____

TITLE OF RULE BEING PROPOSED: _____

DATE OF PUBLIC HEARING: **July 29, 1999** TIME: **7:00 p.m.**

LOCATION OF PUBLIC HEARING: **1615 Washington Street, East**

Charleston, West Virginia 25311-2126

COMMENTS LIMITED TO: ORAL _____, WRITTEN _____, BOTH **X**

COMMENTS MAY ALSO BE MAILED TO THE FOLLOWING ADDRESS: **Environmental Quality Board**
1615 Washington St. East
Charleston, WV 25311

The Department requests that persons wishing to make comments at the hearing make an effort to submit written comments in order to facilitate the review of these comments.

The issues to be heard shall be limited to the proposed rule.

ATTACH A **BRIEF** SUMMARY OF YOUR PROPOSAL.

Anna Holstein

Authorized Signature

$14.00

Executive Office
10 McJunkin Road
Nitro, West Virginia 25143-2506
Telephone: 304-759-0515
Fax: 304-759-0526

West Virginia Bureau of Environment

Cecil H. Underwood
Governor

Michael P. Miano
Commissioner

June 28, 1999

Ms. Judy Cooper
Director, Administrative Law Division
Office of the Secretary of State
Capitol Complex
Charleston, West Virginia 25305

RE: 46CSR1 - "Requirements Governing Water Quality Standards"

Dear Ms. Cooper:

This is to advise that I am giving approval to file the above-referenced Legislative rule with your Office as "Notice of Public Hearing/Comment Period."

If you should have questions or require additional information, please contact Libby Chatfield, Environmental Quality Board, at 558-4002. Your cooperation in this regard is very much appreciated.

Sincerely yours,

Michael P. Miano
Commissioner

MPM:cc

Attachment

46 CSR 1
Requirements Governing Water Quality Standards
June 29, 1999

Summary of Proposed Changes

The changes proposed address the implementation of the antidegradation policy in section 4 of the rule. The rule will be amended to include two new appendices, F and F1 and additional language is proposed in several places in the text of the rule.

Appendix F includes specific guidance regarding how the provisions in the antidegradation policy, section 4, are to be implemented. This guidance includes determinations regarding identification of existing uses of the state's waters, and provisions addressing how those uses will be protected. Additionally, guidance is outlined regarding requirements in the antidegradation policy to carry out intergovernmental coordination (Appendix F1 includes a list of contact agencies) and to conduct socio-economic evaluations prior to making decisions to allow discharges which would degrade existing stream quality in high quality streams.

Other changes proposed in the text of the rule include clarification of the application of the 4 tiers of antidegradation protection as well as the addition of a definition for waters of special concern.

46 CSR 1
Requirements Governing Water Quality Standards
June 29, 1999

Statement of Circumstances Requiring Proposed Amendments

The Environmental Quality Board is required by the federal Clean Water Act to review the Water Quality Standards legislative rule, 46 CSR 1, Requirements Governing Water Quality Standards, every three years. Any changes proposed and adopted by the legislature are then reviewed by the US Environmental Protection Agency (EPA) for final approval. EPA conditionally approved the state's antidegradation policy in 1995, and recommended that the state develop such implementation policy within one year. Further, during the most recent triennial review of the standards reviewed by EPA, that agency provided notice that if West Virginia fails to promptly develop and adopt antidegradation implementation methods which adequately support its antidegradation policy, Region 3 will recommend that the Administrator of EPA exercise her discretionary authority under Section 303(c)(4)(B) of the Clean Water Act to identify implementation methods for West Virginia's antidegradation policy.

Appendices F and F1 comprise the Board's proposed antidegradation implementation procedures , which are intended to address EPA's conditional approval of the antidegradation policy.

APPENDIX B

FISCAL NOTE FOR PROPOSED RULES

Rule Title: **REQUIREMENTS GOVERNING WATER QUALITY STANDARDS**

Type of Rule: ___X___Legislative _____Interpretive _____Procedural

Agency **ENVIRONMENTAL QUALITY BOARD**

Address **1615 WASHINGTON STREET, EAST - ROOM 301**

CHARLESTON, WEST VIRGINIA 25311-2126

1. Effect of Proposed Rule

	ANNUAL		FISCAL YEAR		
	INCREASE	DECREASE	CURRENT	NEXT	THEREAFTER
ESTIMATED TOTAL COST	$	$	$	$	$
PERSONAL SERVICES					
CURRENT EXPENSE					
REPAIRS & ALTERNATIONS					
EQUIPMENT					
OTHER					

2. Explanation of above estimates:

N/A

3. Objectives of these rules: **TO CLARIFY IMPLEMENTATION OF THE ANTIDEGRADATION PROVISIONS IN THE RULE.**

Rule Title: **REQUIREMENTS GOVERNING WATER QUALITY STANDARDS**

4. Explanation of Overall Economic Impact of Proposed Rule.

A. Economic Impact on State Government.

NEW ANTIDEGRADATION PROVISIONS MAY REQUIRE ADDITIONAL TRAINING FOR STAFF OF AGENCIES IMPLEMENTING THE RULE. COST OF SUCH TRAINING IS UNKNOWN AT THIS TIME. ONLY MINOR IMPACT EXPECTED.

B. Economic Impact on Political Subdivisions; Specific Industries; Specific groups of Citizens.

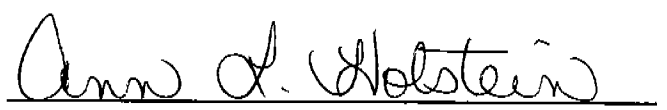
THE ANTIDEGRADATION IMPLEMENTATION PROCEDURES MAY RESULT IN ADDITIONAL REQUIREMENTS FOR THOSE APPLYING FOR OR RENEWING NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMITS IN THE STATE OF WEST VIRGINIA. THESE REQUIREMENTS MAY INCLUDE PROVIDING INFORMATION ABOUT THE EXISTENCE OF NON-DEGRADING OR LESS-DEGRADING ALTERNATIVES TO THE PROPOSED ACTIVITY AS WELL AS DOCUMENTATION OF THE SOCIAL AND ECONOMIC IMPORTANCE OF THE PROPOSED ACTIVITY. THE PROPOSED PROCEDURES WILL ALSO RESULT IN SOME CHANGES IN THE NPDES PERMIT REVIEW PROCESS EMPLOYED BY THE DIVISION OF ENVIRONMENTAL PROTECTION, WHICH MAY ULTIMATELY AFFECT THE REQUIREMENTS IN PERMITS ISSUED BY THAT AGENCY. ALL OF THESE CHANGES MAY RESULT IN INCREASED COSTS TO PERMIT APPLICANTS. CONVERSELY, THE TRADING PROVISIONS OUTLINED IN THE RULE MAY RESULT IN DECREASED COSTS TO PERMIT APPLICANTS. NONE OF THE FINANCIAL IMPACTS DESCRIBED ABOVE CAN BE ACCURATELY QUANTIFIED AT THIS TIME.

C. Economic Impact on Citizens/Public at Large.

NONE ANTICIPATED.

Date: **June 29, 1999**

Signature of Agency Head or Authorized Representative



TITLE 46
LEGISLATIVE RULES
ENVIRONMENTAL QUALITY BOARD
SERIES 1
REQUIREMENTS GOVERNING WATER QUALITY STANDARDS

§46-1-1. General.

1.1. Scope. -- These rules establish requirements governing the discharge or deposit of sewage, industrial wastes and other wastes into the waters of the State and establish water quality standards for the waters of the State standing or flowing over the surface of the State. It is declared to be the public policy of the State of West Virginia to maintain reasonable standards of purity and quality of the water of the State consistent with (1) public health and public enjoyment thereof; (2) the propagation and protection of animal, bird, fish, and other aquatic and plant life; and (3) the expansion of employment opportunities, maintenance and expansion of agriculture and the provision of a permanent foundation for healthy industrial development. (See W. Va. Code § 22-11-2.)

1.2. Authority. -- W. Va. Code §22B-3-4

1.3. Filing Date. --

1.4. Effective Date. --

§46-1-2. Definitions.

The following definitions in addition to those set forth in W. Va. Code §22-11-3, shall apply to these rules unless otherwise specified herein, or unless the context in which used clearly requires a different meaning:

2.1. "Board" is the Environmental Quality Board.

2.2. "Chief" is the Chief of the Office of Water Resources of the West Virginia Division of Environmental Protection.

2.3. "Conventional treatment" is the treatment of water as approved by the State Health Department to assure that the water is safe for human consumption.

2.4. "Cumulative" means a pollutant which increases in concentration in an organism by

successive additions at different times or in different ways (bio-accumulation).

2.5. "Designated uses" are those uses specified in water quality standards for each water body or segment whether or not they are being attained. (See section 6.2.)

2.6. "Dissolved metal" is operationally defined as that portion of metal which passes through a 0.45 micron filter

2.7. "Existing uses" are those uses actually attained in a water body on or after November 28, 1975, whether or not they are included in the water quality standards.

2.8. The "Federal Act" means the Clean Water Act (also known as the Federal Water Pollution Control Act) Public Law 92-500, as amended by Public Law 100-4, 33 U.S.C. 1251, et seq.

2.9. "High quality waters" (also known as "Tier 2 waters"): are those waters whose quality is equal to or better than the minimum levels necessary to achieve the national water quality goal uses.

2.10. "Intermittent streams" are streams which have no flow during sustained periods of no precipitation and which do not support aquatic life whose life history requires residence in flowing waters for a continuous period of at least six (6) months.

2.11. "Outstanding national resource waters" (also known as "Tier 3 waters") are those whose unique character, ecological or recreational value or pristine nature constitutes a valuable national or State resource.

2.12. "Natural" or "naturally occurring" values or "natural temperature" shall mean for all of the waters of the State:

2.12a. Those water quality values which exist unaffected by -- or unaffected as a consequence of -- any water use by any person; and

2.12b. Those water quality values which exist unaffected by the discharge, or direct or indirect deposit of, any solid, liquid or gaseous substance from any point source or non-point source.

2.13. "Non-point source" shall mean any source other than a point source from which pollutants may reach the waters of the State.

2.14. "Persistent" shall mean a pollutant and its transformation products which under natural conditions degrade slowly in an aquatic environment.

2.15. "Point source" shall mean any discernible, confined and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include agricultural stormwater discharges and return flows from irrigated agriculture.

2.16. "Representative important species of aquatic life" shall mean those species of aquatic life whose protection and propagation will assure the sustained presence of a balanced aquatic community. Such species are representative in the sense that maintenance of water quality criteria will assure both the natural completion of the species' life cycles and the overall protection and sustained propagation of the balanced aquatic community.

2.17. The "State Act" or "State Law" shall mean the West Virginia Water Pollution Control Act, W. Va. Code §22-11-1.

2.18. "Total recoverable" refers to the digestion procedure for certain heavy metals as referenced in 40 CFR 136, as amended June 15, 1990, Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act.

2.19. "Trout waters" are streams or stream segments which sustain year-round trout populations. Excluded are those streams or stream segments which receive annual stockings of trout but which do not support year-round trout populations.

2.20. "Waters of Special Concern" (also known as "Tier 2.5 waters") are those waters, which due to their location or other special designation, are assigned an antidegradation protection level above high quality waters. See section 4.1.c. for a list of Waters of Special Concern.

2.~~20~~ 21. "Water quality criteria" shall mean levels of parameters or stream conditions that are required to be maintained by these regulations. Criteria may be expressed as a constituent concentration, levels, or narrative statement, representing a quality of water that supports a designated use or uses.

2.~~21.~~ 22. "Water quality standards" means the combination of water uses to be protected and the water quality criteria to be maintained by these rules.

2.~~22.~~ 23. "Wetlands" are those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas.

2.~~23.~~ 24. "Wet weather streams" are streams that flow only in direct response to precipitation or whose channels are at all times above the water table.

§46-1-3. Conditions Not Allowable In State Waters.

3.1. Certain characteristics of sewage, industrial wastes and other wastes cause pollution and are objectionable in all waters of the State. Therefore, the Environmental Quality Board does hereby proclaim that the following general conditions are not to be allowed in any of the waters of the State.

3.2. No sewage, industrial wastes or other wastes present in any of the waters of the State shall cause therein or materially contribute to any of the following conditions thereof:

3.2.a. Distinctly visible floating or settleable solids, suspended solids, scum, foam or oily slicks;

3.2.b. Deposits or sludge banks on the bottom;

3.2.c. Odors in the vicinity of the waters;

3.2.d. Taste or odor that would adversely affect the designated uses of the affected waters;

3.2.e. Materials in concentrations which are harmful, hazardous or toxic to man, animal or aquatic life;

3.2.f. Distinctly visible color;

3.2.g. Concentrations of bacteria which may impair or interfere with the designated uses of the affected waters;

3.2.h. Requiring an unreasonable degree of treatment for the production of potable water by modern water treatment processes as commonly employed; and

3.2.i. Any other condition, including radiological exposure, which adversely alters the integrity of the waters of the State including wetlands; no significant adverse impact to the chemical, physical, hydrologic, or biological components of aquatic ecosystems shall be allowed.

§46-1-4. Anti-Degradation Policy.

4.1. It is the policy of the State of West Virginia the waters of the state shall be maintained and protected as follows:

4.1.a. Tier 1 Protection. Existing water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected. Existing uses are those

uses actually attained in the water body on or after November 28, 1975, whether or not they are included as designated uses within these water quality standards.

4.1.b. The existing high quality waters of the State must be maintained at their existing high quality unless it is determined after satisfaction of the intergovernmental coordination of the State's continuing planning process and opportunity for public comment and hearing that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. If limited degradation is allowed, it shall not result in injury or interference with existing stream water uses or in violation of State or Federal water quality criteria that describe the base levels necessary to sustain the national water quality goal uses of protection and propagation of fish, shellfish and wildlife and recreating in and on the water.

In addition, the Board and the chief shall assure that all new and existing point sources shall achieve the highest established statutory and regulatory requirements applicable to them and shall assure the achievement of cost-effective and reasonable best management practices for non-point source control in accordance with the West Virginia Nonpoint Source Management Plan.

4.1.b.1. High quality waters are those waters meeting the definition at section 2.9 herein.

~~4.1.b.2. High quality waters include but are not limited to the following:~~

~~4.1.b.2.A. Streams designated by the West Virginia Legislature under the West Virginia Natural Stream Preservation Act, pursuant to W. Va. Code Section 22-13-5; and~~

~~4.1.b.2.B. Streams listed in West Virginia High Quality Streams, Fifth Edition, prepared by the Wildlife Resources Division, Department of Natural Resources (1986).~~

~~4.1.b.2.C. Streams or stream segments which receive annual stockings of trout but which do not support year-round trout populations.~~

4.1.b.2. All waters not designated as Waters of Special Concern (Tier 2.5) or Outstanding National Resource Waters (Tier 3) will be considered High Quality Waters unless it can be demonstrated that the water quality is not better than necessary to attain both fishable (Category B) and swimmable (Category C) uses. If either the fishable or swimmable use is attained, the water is a High Quality Water.

4.1.c. Tier 2.5 Protection. In waters which constitute a water of special concern no activities which result in the reduction of ambient water quality shall be allowed. Waters of

4.1.c.1. All Federally designated rivers under the "Wild and Scenic Rivers Act" Public Law 95-542 as amended, 16 U.S.C. 1271, et seq .

4.1.c.2. All naturally reproducing trout streams.

4.1.c.3. All streams and other bodies of water in State and National Forests and Recreation Areas.

4.1.c.4. National Rivers. "National Parks and Recreation Act of 1978." Public Law 95-625, as amended, 16 U.S.C.1, et seq.

4.1.d. Tier 3 Protection. In all cases, waters which constitute an outstanding national resource shall be maintained and protected and improved where necessary. Outstanding national resource waters include, but are not limited to, all streams and rivers within the boundaries of Wilderness Areas designated by The Wilderness Act (16 U.S.C. 1131 et seq.) within the State.

Additional waters may be nominated for inclusion in that category by any interested party or by the Board on its own initiative. To designate a nominated water as an outstanding national resource water, the Board shall follow the public notice and hearing provisions as provided in 46 C.S.R. 6 and Appendix F herein.

4.1.e. All applicable requirements of Section 316 (a) of the Federal Act shall apply to modifications of the temperature water quality criteria provided for in these rules.

4.1.f. Implementation guidance procedures for this antidegradation policy are outlined in Appendix F.

§46-1-5. Mixing Zones.

5.1. In the permit review and planning process or upon the request of a permit applicant or permittee, the chief may establish on a case-by-case basis an appropriate mixing zone.

5.2. The following guidelines and conditions are applicable to all mixing zones:

5.2.a. The chief will assign, on a case-by-case basis, definable geometric limits for mixing zones for a discharge or a pollutant or pollutants within a discharge. Applicable limits shall include, but may not be limited to, the linear distances from the point of discharge, surface area involvement, volume of receiving water, and shall take into account other nearby mixing zones. Mixing zones shall take into account the mixing conditions in the receiving stream (i.e: whether complete or incomplete mixing conditions exist). Mixing zones will not be allowed until applicable limits are assigned by the chief in accordance with this section.

allowed until applicable limits are assigned by the chief in accordance with this section.

5.2.b. Concentrations of pollutants which exceed the acute criteria for protection of aquatic life set forth in Appendix E shall not exist at any point within an assigned mixing zone or in the discharge itself unless a zone of initial dilution is assigned. A zone of initial dilution may be assigned on a case-by-case basis at the discretion of the chief. The zone of initial dilution is the area within the mixing zone where initial dilution of the effluent with the receiving water occurs, and where the concentration of the effluent will be its greatest in the water column. Where a zone of initial dilution is assigned by the Chief, the size of the zone shall be determined using one of the four alternatives outlined in Section 4.3.3 of EPAs Technical Support Document for Water Quality-based Toxics Control (EPA/505/2-90-001 PB91-127415, March 1991). Concentrations of pollutants shall not exceed the acute criteria at the edge of the assigned zone of initial dilution. Chronic criteria for the protection of aquatic life may be exceeded within the mixing zone but shall be met at the edge of the assigned mixing zone.

5.2.c. Concentrations of pollutants which exceed the criteria for the protection of human health set forth in Appendix E shall not be allowed at any point unless a mixing zone has been assigned by the Chief after consultation with the Commissioner of the West Virginia Bureau of Public Health. Human health criteria may be exceeded within an assigned mixing zone, but shall be met at the edge of the assigned mixing zone. Mixing zones for human health criteria shall be sized to prevent significant human health risks and shall be developed using reasonable assumptions about exposure pathways. In assessing the potential human health risks of establishing a mixing zone upstream from a drinking water intake, the Chief shall consider the cumulative effects of multiple discharges and mixing zones on the drinking water intake. No mixing zone for human health criteria shall be established on a stream which has a seven (7) day, ten (10) year return frequency of 5 cfs or less.

5.2.d. Mixing zones, including zones of initial dilution, shall not interfere with fish spawning or nursery areas or fish migration routes; shall not overlap public water supply intakes or bathing areas; cause lethality to or preclude the free passage of fish or other aquatic life; nor harm any threatened or endangered species, as listed in the Federal Endangered Species Act.

5.2.e. The mixing zone shall not exceed one-third (1/3) of the width of the receiving stream, and in no case shall the mixing zone exceed one-half (½) of the cross-sectional area of the receiving stream.

5.2.f. In lakes and other surface impoundments, the volume of a mixing zone shall not affect in excess of ten (10) percent of the volume of that portion of the receiving waters available for mixing.

5.2.g. A mixing zone shall be limited to an area or volume which will not adversely alter the existing or designated uses of the receiving water, nor be so large as to

adversely affect the integrity of the water body.

5.2.h. Mixing zones shall not:

5.2.h.1. Be used for, or considered as, a substitute for technology-based requirements of the Clean Water Act and other applicable State and Federal laws.

5.2.h.2. Extend downstream at any time a distance more than five times the width of the receiving watercourse at the point of discharge.

5.2.h.3. Cause or contribute to any of the conditions prohibited in Section 46-1-3.

5.2.h.4. Be granted where instream waste concentration of a discharge is greater than 80%.

5.2.h.5. Overlap one another.

5.2.h.6. Overlap any ½ mile zone described in section 7.2.a.2 herein.

5.2.i. In the case of thermal discharges, a successful demonstration conducted under Section 316(a) of the Clean Water Act shall constitute compliance with all provisions of this section.

5.2.j. The Chief may waive the requirements of subsections (e) and (h)(B) above if a discharger provides an acceptable demonstration of:

5.2.j.1. Information defining the actual boundaries of the mixing zone in question; and

5.2.j.2. Information and data proving no violation of subsection (d) and (g) above by the mixing zone in question.

5.2.k. Upon implementation of a mixing zone in a permit, the permittee shall provide documentation that demonstrates to the satisfaction of the Chief that the mixing zone is in compliance with the provisions outlined in subsections (b),(c),(e) and (h)(B).

5.2.l. In order to facilitate a determination or assessment of a mixing zone pursuant to this section, the chief may require a permit applicant or permittee to submit such information as deemed necessary.

§46-1-6. Water Use Categories.

6.1. These rules establish general Water Use Categories and Water Quality Standards for the waters of the State. Unless otherwise designated by these rules, at a minimum all waters of the State are designated for the Propagation and maintenance of Fish and Other Aquatic Life (Category B) and for Water Contact Recreation (Category C) consistent with Clean Water Act goals. Incidental utilization for whatever purpose may or may not constitute a justification for assignment of a water use category to a particular stream segment.

6.1.a. Waste assimilation and transport are not recognized as designated uses. The classification of the waters must take into consideration the use and value of water for public water supplies, protection and propagation of fish, shellfish and wildlife, recreation in and on the water, agricultural, industrial and other purposes including navigation.

Subcategories of a use may be adopted and appropriate criteria set to reflect varying needs of such subcategories of uses, for example to differentiate between trout water and other waters.

6.1.b. At a minimum, uses are deemed attainable if they can be achieved by the imposition of effluent limits required under Sections 301 (b) and 306 of the Federal Clean Water Act and use of cost-effective and reasonable best management practices for non-point source control. Seasonal uses may be adopted as an alternative to reclassifying a water body or segment thereof to uses requiring less stringent water quality criteria. If seasonal uses are adopted, water quality criteria will be adjusted to reflect the seasonal uses; however, such criteria shall not preclude the attainment and maintenance of a more protective use in another season. A designated use which is not an existing use may be removed, or subcategories of a use may be established if it can be demonstrated that attaining the designated use is not feasible because:

6.1.b.1. Application of effluent limitations for existing sources more stringent than those required pursuant to Section 301 (b) and Section 306 of the Federal Act in order to attain the existing designated use would result in substantial and widespread adverse economic and social impact; or

6.1.b.2. Naturally-occurring pollutant concentrations prevent the attainment of the use; or

6.1.b.3. Natural, ephemeral, intermittent or low flow conditions of water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges to enable uses to be met; or

6.1.b.4. Human-caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place; or

6.1.b.5. Dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original

condition or to operate such modification in a way that would result in the attainment of the use; or

6.1.b.6. Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses.

6.1.c. The State shall take into consideration the quality of downstream waters and shall assure that its water quality standards provide for the attainment of the water quality standards of downstream waters.

6.1.d. In establishing a less restrictive use or uses, or subcategory of use or uses, and the water quality criteria based upon such uses, the Board shall follow the requirements for revision of water quality standards as required by W. Va. Code §22B-3-4 and Section 303 of the Federal Act and the regulations thereunder. Any revision of water quality standards shall be made with the concurrence of EPA. The Board's administrative procedural regulations for applying for less restrictive uses or criteria shall be followed.

6.2. Category A -- Water Supply, Public. -- This category is used to describe waters which, after conventional treatment, are used for human consumption. This category includes streams on which the following are located:

6.2.a. All community domestic water supply systems;

6.2.b. All non-community domestic water supply systems, (i.e. hospitals, schools, etc.);

6.2.c. All private domestic water systems;

6.2.d. All other surface water intakes where the water is used for human consumption. (See Appendix B for partial listing of category A waters; see section 7.2.a.B. for additional requirements for category A waters.)

6.3. Category B -- Propagation and maintenance of fish and other aquatic life. -- This category includes:

6.3.a. Category B1 -- Warm water fishery streams. -- Streams or stream segments which contain populations composed of all warm water aquatic life.

6.3.b. Category B2 -- Trout Waters. -- As defined in Section 2.19 (See Appendix A for a representative list.)

6.3.c. Category B4 -- Wetlands. -- As defined in section 2.22; certain numeric

stream criteria may not be appropriate for application to wetlands (see Appendix E).

6.4. Category C -- Water contact recreation. -- This category includes swimming, fishing, water skiing and certain types of pleasure boating such as sailing in very small craft and outboard motor boats. See Appendix D for a representative list of category C waters.

6.5. Category D. -- Agriculture and wildlife uses.

6.5.a. Category D1 -- Irrigation. -- This category includes all stream segments used for irrigation.

6.5.b. Category D2 -- Livestock watering. -- This category includes all stream segments used for livestock watering.

6.5.c. Category D3 -- Wildlife. -- This category includes all stream segments and wetlands used by wildlife.

6.6. Category E -- Water supply industrial, water transport, cooling and power. -- This category includes cooling water, industrial water supply, power production, commercial and pleasure vessel activity, except those small craft included in Category C.

6.6.a. Category E1 -- Water Transport. -- This category includes all stream segments modified for water transport and having permanently maintained navigation aides.

6.6.b. Category E2 -- Cooling Water. -- This category includes all stream segments having one (1) or more users for industrial cooling.

6.6.c. Category E3 -- Power production. -- This category includes all stream segments extending from a point 500 feet upstream from the intake to a point one half (½) mile below the wastewater discharge point. (See Appendix C for representative list.)

6.6.d. Category E4 -- Industrial. -- This category is used to describe all stream segments with one (1) or more industrial users. It does not include water for cooling.

§46-1-7. West Virginia Waters.

7.1. Major River Basins and their Alphanumeric System. All streams and their tributaries in West Virginia shall be individually identified using an alphanumeric system as identified in the "Key to West Virginia Stream Systems and Major Tributaries" (1956) as published by the Conservation Commission of West Virginia and revised by the West Virginia Department of Natural Resources, Division of Wildlife (1985).

7.1.a. J - James River Basin. All tributaries to the West Virginia - Virginia State

line.

7.1.b. P - Potomac River Basin. All tributaries of the main stem of the Potomac River to the West Virginia - Maryland - Virginia State line to the confluence of the North Branch and the South Branch of the Potomac River and all tributaries arising in West Virginia excluding the major tributaries hereinafter designated:

7.1.b.1. S - Shenandoah River and all its tributaries arising in West Virginia to the West Virginia - Virginia State line.

7.1.b.2. PC - Cacapon River and all its tributaries.

7.1.b.3. PSB - South Branch and all its tributaries.

7.1.b.4. PNB - North Branch and all tributaries to the North Branch arising in West Virginia.

7.1.c. M - Monongahela River Basin. The Monongahela River Basin main stem and all its tributaries excluding the following major tributaries which are designated as follows:

7.1.c.1. MC - Cheat River and all its tributaries except those listed below:

7.1.c.1.A. MCB - Blackwater River and all its tributaries.

7.1.c.2. MW - West Fork River and all its tributaries.

7.1.c.3. MT - Tygart River and all its tributaries except those listed below:

7.1.c.3.A. MTB - Buckhannon River and all its tributaries.

7.1.c.3.B. MTM - Middle Fork River and all its tributaries.

7.1.c.4. MY - Youghigheny River and all its tributaries to the West Virginia - Maryland State line.

7.1.d. O Zone 1 - Ohio River - Main Stem. The main stem of the Ohio River from the Ohio - Pennsylvania - West Virginia State line to the Ohio - Kentucky - West Virginia State line.

7.1.e. O Zone 2 - Ohio River - Tributaries. All tributaries of the Ohio River excluding the following major tributaries:

7.1.e.1. LK - Little Kanawha River. The Little Kanawha River and all its tributaries excluding the following major tributary which is designated as follows:

7.1.e.1.A. LKH - Hughes River and all its tributaries.

7.1.e.2. K - Kanawha River Zone 1. The main stem of the Kanawha River from mile point 0, at its confluence with the Ohio River, to mile point 72 near Diamond, West Virginia.

7.1.e.3. K - Kanawha River Zone 2. The main stem of the Kanawha River from mile point 72 near Diamond, West Virginia and all its tributaries from mile point 0 to the headwaters excluding the following major tributaries which are designated as follows:

7.1.e.3.A. KP - Pocatalico River and all its tributaries.

7.1.e.3.B. KC - Coal River and all its tributaries.

7.1.e.3.C. KE - Elk River and all its tributaries.

7.1.e.3.D. KG - Gauley River. The Gauley River and all its tributaries excluding the following major tributaries which are designated as follows:

7.1.e.3.D.1. KG-19 - Meadow River and all its tributaries.

7.1.e.3.D.2. KG-34 - Cherry River and all its tributaries.

7.1.e.3.D.3. KGC - Cranberry River and all its tributaries.

7.1.e.3.D.4. KGW - Williams River and all its tributaries.

7.1.e.3.E. KN - New River. The New River from its confluence with the Gauley River to the Virginia - West Virginia State line and all tributaries excluding the following major tributaries which are designated as follows:

7.1.e.3.E.1. KNG - Greenbrier River and all its tributaries.

7.1.e.3.E.2. KNB - Bluestone River and all its tributaries.

7.1.e.3.E.3. KN-60 - East River and all its tributaries.

7.1.e.3.E.4. K(L)-81-(1) - Bluestone Lake.

7.1.e.4. OG - Guyandotte River. The Guyandotte River and all its

tributaries excluding the following major tributary which is designated as follows:

7.1.e.4.1. OGM - Mud River and all its tributaries.

7.1.e.5. BS - Big Sandy River. The Big Sandy River to the Kentucky - Virginia - West Virginia State lines and all its tributaries arising in West Virginia excluding the following major tributary which is designated as follows:

7.1.e.5.1 BST - Tug Fork and all its tributaries.

7.2. Applicability of Water Quality Standards. The following shall apply at all times unless a specific exception is granted in this section:

7.2.a. Water Use Categories as described in Section 6.

7.2.a.1. Based on meeting those Section 6 definitions, tributaries or stream segments may be classified for one or more Water Use Categories. When more than one use exists, they shall be protected by criteria for the use category requiring the most stringent protection.

7.2.a.2. Each segment extending upstream from the intake of a water supply public (Water Use Category A), for a distance of one half (½) mile or to the headwater, must be protected by prohibiting the discharge of any pollutants in excess of the concentrations designated for this Water Use Category in Section 8. In addition, within that one half (½) mile zone, the Chief may establish for any discharge, effluent limitations for the protection of human health that require additional removal of pollutants than would otherwise be provided by this rule. (If a watershed is not significantly larger than this zone above the intake, the water supply section may include the entire upstream watershed to its headwaters.) Until June 30, 2003, the one-half mile zone described in this section shall not apply to the Ohio River main channel (between Brown's Island and the left descending bank) between river mile points 61.0 and 63.5.

7.2.b. In the absence of any special application or contrary provision, water quality standards shall apply at all times when flows are equal to or greater than the minimum mean seven (7) consecutive day drought flow with a ten (10) year return frequency (7Q10). NOTE: With the exception of section 7.2.c.5 listed herein exceptions do not apply to trout waters nor the requirements of Section 3.

7.2.c. Exceptions: Numeric water quality standards shall not apply: (See section 7.2.d for site specific revisions)

7.2.c.1. When the flow is less than 7Q10;

7.2.c.2. In wet weather streams (or intermittent streams, when they are dry

or have no measurable flow): Provided, That the existing and designated uses of downstream waters are not adversely affected;

7.2.c.3. In any assigned zone of initial dilution of any mixing zone where a zone of initial dilution is required by section 5.2.b herein, or in any assigned mixing zone for human health criteria or aquatic life criteria for which a zone of initial dilution is not assigned; In zones of initial dilution and certain mixing zones: Provided, That all requirements described in §5 herein shall apply to all zones of initial dilution and all mixing zones;

7.2.c.4. Where lesser quality is due to natural conditions. In such cases the naturally occurring values shall be the applicable criteria. Provided, That the existing and designated uses of downstream waters are not adversely affected.

7.2.c.5. For the upper Blackwater River from the mouth of Yellow Creek to a point 5.1 miles upstream, when flow is less than 7Q10. naturally occurring values for Dissolved Oxygen as established by data collected by the dischargers within this reach and reviewed by the Board and Division of Environmental Protection shall be the applicable criteria.

7.2.d. Site-specific applicability of water use categories and water quality criteria - State-wide water quality standards shall apply except where site-specific numeric criteria, variances or use removals have been approved following application and hearing, as provided in 46 C.S.R. 6. (See §8.3 and §8.4) The following are approved site-specific criteria, variances and use removals:

7.2.d.1. James River - (Reserved)

7.2.d.2. Potomac River

7.2.d.2.1. Except that a site-specific numeric criterion for aluminum, not to exceed 500 ug/l, shall apply to the section of Opequon Creek from Turkey Run to the Potomac River.

7.2.d.3. Shenandoah River - (Reserved)

7.2.d.4. Cacapon River - (Reserved)

7.2.d.5. South Branch - (Reserved)

7.2.d.6. North Branch

7.2.d.6.1 Except that the Stony River downstream from the limit of the thermal mixing zone (as established by Board Order of 11/20/75) for the Mount Storm

Lake wastewater treatment facility to its confluence with the North Branch of the Potomac River is exempt from the 5°F above natural temperature rise; however, the maximum temperature outside the mixing zone shall not exceed 87°F at any time during the months of May through November and not exceed 73°F at any time during the months of December through April. This exception shall apply until the successful completion of a study conducted pursuant to section 316(a) of the Federal Clean Water Act or December 31, 1998, whichever comes first.

7.2.d.7. Monongahela River

7.2.d.7.1. Except that flow in the main stem of the Monongahela River, as regulated by the Tygart Reservoir, operated by the U. S. Army Corps of Engineers, is based on a minimum flow of 345 cfs at Lock and Dam No. 8, river mile point 90.8. This exception does not apply to tributaries of the Monongahela River.

7.2.d.8. Cheat River

7.2.d.8.1. Except that the following site-specific numeric criteria shall apply to the unnamed tributary of Daugherty Run approximately one mile upstream of Daughterty Run's confluence with the Cheat River: iron not to exceed 3.5 mg/l and selenium not to exceed 15.24 ug/l and the following site-specific numeric criteria shall apply to Fly Ash Run of Daugherty Run: aluminum: 888.5 ug/l and manganese: 5 mg/l.

7.2.d.9. Blackwater River - (Reserved)

7.2.d.10. West Fork River - (Reserved)

7.2.d.11. Tygart River - (Reserved)

7.2.d.12. Buckhannon River - (Reserved)

7.2.d.13. Middle Fork River - (Reserved)

7.2.d.14. Youghiogheny River

7.2.d.14.1 Water Use Categories A and E are excluded from the tributaries of the Youghiogheny River in West Virginia which flow into Maryland.

7.2.d.15. Ohio River Main Stem - (Reserved)

7.2.d.16. Ohio River Tributaries.

7.2.d.16.1. Except that site-specific numeric criteria shall apply to

the stretch of Conners Run (0-77-A), a tributary of Fish Creek, from its mouth to the discharge from Conner Run impoundment, which shall not have the Water Use Category A and may contain selenium not to exceed 62 ug/1; and iron not to exceed 3.5 mg/1 as a monthly average and 7 mg/1 as a daily maximum.

7.2.d.16.2. Except that a socio-economic variance shall apply to that segment of Harmon Creek (0-97) from its confluence with the Ohio River to a point 2.2 miles upstream, which shall not have water use Category A designation, and which shall have the following instream criteria: Free Cyanide ~~70~~ 6.9 ug/l, Daily Maximum; Lead 14 ug/l, Daily Maximum, Total Phenolic Materials 10 ug/l, Daily Maximum, Zinc ~~200~~ 181 ug/l, Daily Maximum, Temperature 100° F (monitored per Footnote 12 of the permit); Iron 4.0 mg/l, Monthly Average and 8.0 mg/l, Daily Maximum (monitored per Footnote 12 of the permit); Fluoride ~~2.0 mg/l, Monthly Average and 4.0~~ 3.1 mg/l, Daily Maximum (monitored per Footnote 12 of the permit). Provided, however, that the criteria for Free Cyanide, Lead, Total Phenolic Materials, Zinc, Temperature and Iron shall not apply, and instead the state-wide criteria for these parameters shall apply, unless: Weirton Steel Corporation (1) submits to the Office of Water Resources on or before ~~May 30, 1999~~ March 1, 2000 a report setting forth the water quality of the discharge from Outlet 004 for these parameters during the period from ~~June 1, 1998 to May 1, 1999~~ May 1, 1999 to February 1, 2000; (2) offers further proposals for any appropriate reductions in the above excepted levels; (3) provides ~~an~~ any appropriate additional engineering analysis of potential alternatives for reducing further the concentrations of said parameters in the discharge toward achieving statewide criteria; and (4) continues to submit~~s~~ to the Office of Water Resources on a semi-annual basis commencing on December 31, 199~~7~~9, summary reports on the water quality of the discharge from Outlet 004 and the efforts made by Weirton Steel Corporation during the prior six (6) months to improve the quality of said discharge. Additionally Weirton Steel must determine the water quality of Harmon Creek both immediately upstream of and below the discharge of outlet 004 at the Con Rail Bridge by sampling for Flow, pH, Free Cyanide, Total and Dissolved Lead, Total Phenolic Materials, Total and Dissolved Zinc, Iron, Fluoride, Temperature and Hardness on at least a monthly basis and submit the results to the Office of Water Resources with the semi-annual report commencing December 31, 1999. These exceptions shall be in effect until action by the Environmental Quality Board to revise such exceptions or until June 29, 2000 1, whichever comes first.

7.2.d.17. Little Kanawha River. - (Reserved)

7.2.d.18. Hughes River - (Reserved)

7.2.d.19. Kanawha River Zone 1 - Main Stem

7.2.d.19.1 For the Kanawha River main stem, Zone 1, Water Use Category A shall not apply; and

7.2.d.19.2. The minimum flow shall be 1,960 cfs at the Charleston

gauge.

7.2.d.20. Kanawha River Zone 2 and Tributaries.

7.2.d.20.1. For the main stem of the Kanawha River only, the minimum flow shall be 1,896 cfs at mile point 72.

7.2.d.20.2. Except the stretch between the mouth of Little Scary Creek (K-31) and the Little Scary impoundment shall not have Water Use Category A. The following site-specific numeric criterion shall apply to that section: selenium not to exceed 62 ug/l and copper not to exceed 105 ug/l as a daily maximum nor 49 ug/l as a 4-day average.

7.2.d.20.3. Except for Simmons Creek (K-54) from its mouth to a point 1200 feet upstream to which the following site-specific numeric criterion shall apply: a maximum daily temperature not to exceed 38°C (100°F) nor a monthly average temperature to exceed 34°C. This exception shall apply until the successful completion of a study conducted pursuant to section 316(a) of the Federal Clean Water Act or May 30, 1998, whichever comes first.

7.2.d.21. Pocatalico River - (Reserved)

7.2.d.22. Coal River - (Reserved)

7.2.d.23. Elk River - (Reserved)

7.2.d.24. Gauley River - (Reserved)

7.2.d.25. Meadow River - (Reserved)

7.2.d.26. Cherry River - (Reserved)

7.2.d.27. Cranberry River - (Reserved)

7.2.d.28. Williams River - (Reserved)

7.2.d.29. New River - (Reserved)

7.2.d.30. Greenbrier River - (Reserved)

7.2.d.31. Bluestone River - (Reserved)

7.2.d.32. Bluestone Lake

7.2.d.32.1. Category E Water Uses are deleted in Bluestone Lake and temperature rise shall be limited to no more than 3°F above natural not to exceed 81°F at any time during the months of May through November and not to exceed 73°F at any time during December through April.

7.2.d.33. East River - (Reserved)

7.2.d.34. Guyandotte River - (Reserved)

7.2.d.35. Mud River - (Reserved)

7.2.d.36. Big Sandy River - (Reserved)

7.2.d.37. Tug Fork River - (Reserved)

§46-1-8. Specific Water Quality Criteria.

8.1. Charts of specific water quality criteria are included in Appendix E.

8.1.a. Specific state (i.e. total, total recoverable, dissolved valence, etc.) of any parameter to be analyzed shall follow 40 CFR 136, Guidelines Establishing Test Procedures for Analysis of Pollutants Under the Clean Water Act, as amended, June 15, 1990. (See also Section 7.3 of 47 CSR 10 - National Pollutant Discharge Elimination System (NPDES) Program.)

8.1.b. Compliance with aquatic life water quality criteria expressed as dissolved metal shall be determined based on dissolved metals concentrations.

8.1.b.1. The aquatic life criteria for all metals listed in Appendix E, Table 2 shall be converted to a dissolved concentration by multiplying each numerical value or criterion equation from Appendix E by the appropriate conversion factor (CF) from Appendix E, Table 2.

8.1.b.2. Permit limits based on dissolved metal water quality criteria shall be prepared in accordance with the U.S. EPA document "The Metals Translator: Guidance For Calculating A Total Recoverable Permit limit From A Dissolved Criterion, June 1996: (translator document).

8.1.b.3. NPDES permit applications may petition the Office of Water Resources of the Division of Environmental Protection (OWR) to develop a site-specific translator consistent with the provisions in this section. The OWR may, on a case-by-case basis require an applicant applying for a translator to conduct appropriate sediment monitoring through SEM/AVS ratio, bioassay or other approved methods to evaluate effluent limits that prevent toxicity to aquatic life.

8.1.c. An "X" or numerical value in the use columns of Appendix E shall represent the applicable criteria.

8.1.d. Charts of water quality criteria in Appendix E shall be applied in accordance with major stream and use applications, Sections 6 and 7.

8.2. Criteria for Toxicants.

8.2.a. Toxicants which are carcinogenic have human health criteria (Water Use Categories A and C) based upon an estimated risk level of one additional cancer case per one million persons. (10^{-6}) and are indicated in Appendix E with an endnote (^{b}).

8.2.b. A final determination on the critical design flow for carcinogens is not made in this rule, in order to permit further review and study of that issue. Following the conclusion of such review and study, the Legislature may again take up the authorization of this rule for purposes of addressing the critical design flow for carcinogens: Provided, That until such time as the review and study of the issue is concluded or until such time as the Legislature may again take up the authorization of this rule, the regulatory requirements for determining effluent limits for carcinogens shall remain as they were on the date this rule was proposed.

8.3. Variances from Specific Water Quality Criteria. A variance from numeric criteria may be granted to a discharger if it can be demonstrated that the conditions outlined in subsections 6.1.b.A - F limit the attainment of one or more specific water quality criteria. Variances shall apply only to the discharger to whom they are granted and shall be reviewed by the Board at least every three years. In granting a variance, the requirements for revision of water quality standards in 46 CSR Series 6 shall be followed.

8.4. Site-specific numeric criteria. The Board may establish numeric criteria different from those set forth in Appendix E for a stream or stream segment upon a demonstration that existing numeric criteria are either over-protective or under-protective of the aquatic life residing in the stream or stream segment. A site-specific numeric criterion will be established only where the numeric criterion will be fully protective of the aquatic life and the existing and designated uses in the stream or stream segment. The site-specific numeric criterion may be established by conducting a Water Effect Ratio study pursuant to the procedures outlined in EPAs "Interim Guidance on the Determination and Use of Water-Effect Ratios for Metals" (February 1994); other methods may be used with prior approval by the Board. In adopting site-specific numeric criteria, the requirements for revision of water quality standards set forth in 46 CSR 6 shall be followed.

§46-1-9. Establishment Of Safe Concentration Values.

When a specific water quality standard has not been established by these rules and there

is a discharge or proposed discharge into waters of the State, the use of which has been designated a Category B1, B2, B3 or B4, such discharge may be regulated by the chief where necessary to protect State water through establishment of a safe concentration value as follows:

9.1. Establishment of a safe concentration value shall be based upon data obtained from relevant aquatic field studies, standard bioassay test data which exists in substantial available scientific literature, or data obtained from specific tests utilizing one (1) or more representative important species of aquatic life designated on a case-by-case basis by the chief and conducted in a water environment which is equal to or closely approximates that of the natural quality of the receiving waters.

9.2. In those cases where it has been determined that there is insufficient available data to establish a safe concentration value for a pollutant, the safe concentration value shall be determined by applying the appropriate application factor as set forth below to the 96-hour LC 50 value. Except where the chief determines, based upon substantial available scientific data that an alternate application factor exists for a pollutant, the following appropriate application factors shall be used in the determination of safe concentration values:

9.2.a. Concentrations of pollutants or combinations of pollutants that are not persistent and not cumulative shall not exceed 0.10 (1/10) of the 96-hour LC 50.

9.2.b. Concentrations of pollutants or combinations of pollutants that are persistent or cumulative shall not exceed 0.01 (1/100) of the 96-hour LC 50.

9.3. Persons seeking issuance of a permit pursuant to these rules authorizing the discharge of a pollutant for which a safe concentration value is to be established using special bioassay tests pursuant to subsection 9.1 of this section shall perform such testing as approved by the chief and shall submit all of the following in writing to the chief:

9.3.a. A plan proposing the bioassay testing to be performed.

9.3.b. Such periodic progress reports of the testing as may be required by the chief.

9.3.c. A report of the completed results of such testing including, but not limited to, all data obtained during the course of testing, and all calculations made in the recording, collection, interpretation and evaluation of such data.

9.4. Bioassay testing shall be conducted in accordance with methodologies outlined in the following documents: U.S. EPA Office of Research and Development Series Publication, Methods for Measuring the Acute Toxicity (EPA/600/4-90/027F, August 1993, 4th Edition) or Short Term Methods for Estimating Chronic Toxicity of Effluents and Receiving Waters to

Freshwater Organisms (EPA/600/4-89/001), March 1989; Standard Methods for the Examination of Water and Wastewater (18th Edition); or ASTM Practice E 729-88 for Conducting Acute Toxicity Tests with Fishes, Macroinvertebrates and Amphibians as published in Volume 11.04 of the 1988 Annual Book of ASTM Standards. Test waters shall be reconstituted according to recommendations and methodologies specified in the previously cited references or methodologies approved in writing by the chief.

APPENDIX A
CATEGORY B-2 - TROUT WATERS

This list contains known trout waters and is not intended to exclude any waters which meet the definition in Section 2.16.

River Basin	County	Stream
James River		
J	Monroe	South Fork Potts Creek
Potomac River		
P	Jefferson	Town Run
P	"	Rocky Marsh Run
P	Berkeley	Opequon Creek
P	"	Tuscarora Creek (Above Martinsburg)
P	"	Middle Creek (Above Route 30 Bridge)
P	"	Mill Creek
P	"	Hartland Run
P	"	Mill Run
P	"	Tillance Creek
P	Morgan	Meadow Branch
PS	Jefferson	Flowing Springs Run (Above Halltown)
PS	"	Cattail Run
PS	"	Evitt's Run
PS	"	Big Bullskin Run
PS	"	Long Marsh Run
PC	Hampshire	Cold Stream
PC	"	Edwards Run and Impoundment
PC	"	Dillons Run
PC	Hardy	Lost River
PC	"	Camp Branch
PC	"	Lower Cove Run
PC	"	Moores Run
PC	"	North River (Above Rio)
PC	"	Waites Run
PC	"	Trout Run
PC	"	Trout Pond (Impoundment)
PC	"	Warden Lake (Impoundment)
PC	"	Rock Cliff Lake (Impoundment)
PSB	Hampshire	Mill Creek
PSB	"	Mill Run
PSB	Hardy	Dumpling Creek
PSB	Grant-Pendleton	North Fork South Branch
PSB	Grant	North Fork Lunice Creek
PSB	"	South Fork Lunice Creek
PSB	"	South Mill Creek (Above Hiser)
PSB	"	Spring Run

PSB	Pendleton	Hawes Run (Impoundment)
PSB	"	Little Fork
PSB	"	South Branch (Above North Fork)
PSB	"	Senena Creek
PSB	"	Laurel Fork
PSB	"	Big Run
PNB	Mineral	North Fork Patterson Creek
PNB	"	Fort Ashby (Impoundment)
PNB	"	New Creek
PNB	"	New Creek Dam 14 (Impoundment)
PNB	"	Mill Creek (Above Markwood)

Monongahela River

M	Monongalia-Marion	Whiteday Creek (Above Smithtown)
MC	Monongalia	Morgan Run
MC	"	Coopers Rock (Impoundment)
MC	"	Blaney Hollow
MC	Preston	Laurel Run
MC	"	Elsey Run
MC	"	Saltlick Creek
MC	"	Buffalo Creek
MC	"	Wolf Creek
MC	Tucker	Clover Run
MC	"	Elklick Run
MC	"	Horseshoe Run
MC	"	Maxwell Run
MC	"	Red Creek
MC	"	Slip Hill Mill Branch
MC	"	Thomas Park (Impoundment)
MC	"	Blackwater River (Above Davis)
MC	Randolph	Camp Five Run
MC	"	Dry Fork (Above Otter Creek)
MC	"	Glady Fork
MC	"	Laurel Fork
MC	"	Gandy Creek (Above Whitmer)
MC	"	East Fork Glady Fork (Above C & P Compressor Station)
MC	Randolph	Shavers Fork (Above Little Black Fork)
MC	"	Three Spring Run
MC	"	Spruce Knob Lake (Impoundment)
MW	Harrison	Dog Run (Pond)
MW	Lewis	Stonecoal
MT	Barbour	Brushy Fork (Above Valley Furnace)
MT	"	Teter Creek Lake (Impoundment)
MT	"	Mill Run
MT	Taylor-Barbour	Tygart Lake Tailwaters (Above Route

		119 Bridge)
MT	Preston	Roaring Creek (Above Little Lick Branch)
MT	Randolph	Tygart River (Above Huttonsville)
MT	"	Elkwater Fork
MT	"	Big Run
MTB	Upshur-Randolph-Lewis	Right Fork Buckhannon River
MTB	Upshur	Buckhannon River (Above Beans Mill)
MTB	Upshur	French Creek
MTB	Upshur-Randolph	Left Fork Right Fork
MTN	Upshur	Right Fork Middle Fork River
MTM	Randolph	Middle Fork River (Above Cassity)
MY	Preston	Rhine Creek

Little Kanawha River

LK	Upshur	Left Fork-Right Fork Little Kanawha River)
LK	Upshur-Lewis	Little Kanawha River (Above Wildcat)

Kanawha river

KE	Braxton	Sutton Reservoir
KE	"	Sutton Lake Tailwaters (Above Route 38/5 Bridge)
KE	Webster	Back Fork
KE	"	Desert Fork
KE	"	Fall Run
KE	"	Laurel Fork
KE	"	Left Fork Holly River
KE	"	Sugar Creek
KE	"	Elk River (Above Webster Springs)
KC	Raleigh	Stephens Lake (Impoundment)
KC	"	Marsh Fork (Above Sundial)
KG	Nicholas	Summersville Reservoir (Impoundment)
KG	"	Summersville Tailwaters (Above Collison Creek)
KG	Nicholas	Deer Creek
KG	Randolph-Webster	Gauley River (Above Moust Coal Tipple)
KG	Fayette	Glade Creek
KG	Nicholas	Hominy Creek
KG	"	Anglins Creek
KG	Greenbrier	Big Clear Creek
KG	"	Little Clear Creek and Laurel Run
KG	"	Meadow Creek
KG	Fayette	Wolf Creek
KG	Nicholas	Cherry River
KG	Greenbrier-Nicholas	Laurel Creek
KG	" "	North Fork Cherry River

KG	Greenbrier	Summit Lake (Impoundment)
KG	Greenbrier-Nicholas	South Fork Cherry River
KGC	Pocahontas-Webster-Nicholas	Cranberry River
KGC	Pocahontas	South Fork Cranberry River
KGW	Pocahontas	Tea Creek
KGW	Pocahontas-Webster	Williams River (Above Dyer)
KN	Raleigh	Glade Creek
KN	Summers	Meadow Creek
KN	Fayette	Mill Creek
KN	"	Laurel Creek (Above Cotton Hill)
KN	Raleigh	Pinch Creek
KN	Monroe	Rich Creek
KN	"	Turkey Creek
KN	Fayette	Dunloup Creek (Downstream from Harvey Sewage Treatment Plant)
KN	Mercer	East River (Above Kelleysville)
KN	"	Pigeon Creek
KN	Monroe	Laurel Creek
KNG	Monroe	Kitchen Creek (Above Gap Mills)
KNG	Greenbrier	Culverson Creek
KNG	"	Milligan Creek
KNG	Greenbrier-Monroe	Second Creek (Rt. 219 Bridge to Nickell's Mill)
KNG	Greenbrier	North Fork Anthony Creek
KNG	"	Spring Creek
KNG	"	Anthony Creek (Above Big Draft)
KNG	Pocahontas	Watoga Lake
KNG	"	Beaver Creek
KNG	"	Knapp's Creek
KNG	"	Hills Creek
KNG	"	North Fork Deer Creek (Above Route 28/5)
KNG	"	Deer Creek
KNG	"	Sitlington Creek
KNG	"	Stoney Creek
KNG	"	Swago Creek
KNG	"	Buffalo Fork (Impoundment)
KNG	"	Seneca (Impoundment)
KNG	"	Greenbrier River (Above Hosterman)
KNG	"	West Fork-Greenbrier River (Above the impoundment at the tannery)
KNG	"	Little River-East Fork
KNG	"	Little River-West Fork
KNG	"	Five Mile Run
KNG	"	Mullenax Run
KNG	"	Abes Run
KNB	Mercer	Marsh Fork

KNB	"	Camp Creek
OG	Wyoming	Pinnacle creek
BST	McDowell	Dry Fork (Above Canebrake)

APPENDIX B

This list contains known waters used as public water supplies and is not intended to exclude any waters as described in Section 6.2.

River Basin	County	Operating Company	Source
Shenandoah River			
S	Jefferson	Charlestown Water	Shenandoah River
Potomac River			
P	Jefferson	3-M Company	Turkey Run
P	"	Shepherdstown Water	Potomac River
P	"	Harpers Ferry Water	Elk Run
P	Berkeley	DuPont Potomac River Works	Potomac River
P	"	Berkeley County PSD	Le Feure Spring
P	"	Opequon PSD	Quarry Spring
P	"	Hedgesville PSD	Speck Spring
P	Morgan	Paw Paw Water	Potomac River
PSB	Hampshire	Romney Water	South Branch Potomac River
PSB	"	Peterkin Conference Center	Mill Run
PSB	Hardy	Moorefield Municipal Water	South Fork River
PSB	Pendleton	U.S. Naval Radio Sta.	South Fork River
PSB	"	Circleville Water Inc.	North Fork of South Branch, Potomac River
PSB	Grant	Mountain Top PSD	Mill Creek, Impoundment
PSB	"	Petersburg Municipal Water	South Branch, Potomac River
PNB	Grant	Island Creek Coal	Impoundment
PNB	Mineral	Piedmont Municipal Water	Savage River, Maryland
PNB	"	Keyser Water	New Creek
PNB	"	Fort Ashby PSD	Lake
Monongahela River			
M	Monongalia River	Morgantown Water Comm.	Colburn Creek & Monongahela
M	"	Morgantown Ordinance Works	Monongahela River
M	Preston	Preston County PSD	Deckers Creek
M	Monongalia	Blacksville # 1 Mine	Impoundment
M	"	Loveridge Mine	Impoundment
M	"	Consolidation Coal Co.	Impoundment
M	Preston	Mason Town Water	Block Run

MC	Preston	Fibair Inc.	Impoundment
MC	Monongalia	Cheat Neck PSD	Cheat Lake
MC	"	Lakeview County Club	Cheat Lake-Lake Lynn
MC	"	Union Districk PSD	Cheat Lake-Lake Lynn
MC	"	Cooper's Rock State Park	Impoundment
MC	Preston	Kingwood Water	Cheat River
MC	"	Hopemount State Hosp.	Snowy Creek
MC	"	Rowlesburg Water	Keyser Run & Cheat River
MC	"	Albright	Cheat River
MC	Tucker	Parsons Water	Shavers & Elk Lick Fork
MC	"	Thomas Municipal	Thomas Reservoir
MC	"	Hamrick PSD	Dry Fork
MC	"	Douglas Water System	Long Run
MC	"	Davis Water	Blackwater River
MC	"	Hambleton Water System	Roaring Creek
MC	"	Canaan Valley State Park	Blackwater River
MC	Pocahontas	Cheat Mt. Sewer	Shavers Lake
MC	"	Snowshoe Co. Water	Shavers Fork
MC	Randolph	Womelsdorf Water	Yokum Run
MW	Harrison	Lumberport Water	Jones Run
MW	"	Clarksburg Water Bd.	West Fork River
MW	"	Bridgeport Mun. Water	Deecons & Hinkle Creek
MW	"	Salem Water Board	Dog Run
MW	"	West Milford Water	West Fork Ricer
MW	Lewis	W.V. Water-Weston District	West Fork River
MW	"	Jackson's Mill Camp	Impoundment
MW	"	West Fork River PSD	West Fork River
MW	"	Kennedy Compresssor Station	West Fork River
MW	"	Jane Lew Water Comm.	Hackers Creek
MW	Harrison	Bel-Meadow Country Club	Lake
MW	"	Harrison Power Station	West Fork River
MW	"	Oakdale Portal	Impoundment
MW	"	Robinson Port	Impoundment
MT	Marion	Fairmont Water Comm.	Tygart River
MT	"	Mannington Water	Impoundment
MT	"	Monongah Water Works	Tygart River
MT	"	Eastern Assoc. Coal Corp.	Impoundment
MT	"	Four States Water	Impoundment
MT	Harrison	Shinnston Water Dept.	Tygart River
MT	Taylor	Grafton Water	Tygart River-Lake
MT	Barbour	Phillippi Water	Tygart River
MT	"	Bethlehem Mines Corp.	Impoundment
MT	"	Belington Water Works	Tygart River & Mill Run Lake

	MT	Randolph	Elkins Municipal Water	Tygart River
	MT	"	Beverly Water	Tygart river
	MT	"	Valley Water	Tygart River
	MT	"	Huttonsville Medium Security Prison	Tygart River
	MT	"	Mill Creek Water	Mill Creek
	MTB	Upshur	Buckhannon Water Board	Buckhannon River
Ohio River				
O	Zone 1	Hancock	Chester Water & Sewer	Ohio River
O	"	Brooke	City of Weirton	Ohio River
O	"	"	Weirton Steel Division	Ohio River
O	"	Ohio	Wheeling Water	Ohio River
O	"	Tyler	Sistersville Mun. Water	Ohio River
O	"	Pleasants	Pleasants Power Station	Ohio River
O	"	Cabel	Huntington Water Corp.	Ohio River
O	"	Marshall	Mobay Chemical Co.	Ohio River
O	"	Wood	E. I. DuPont	Ohio River
O	Zone 2	Marshall	Cameron Water	Glass House Hollow
O	"	"	New Urindahana Water System	Wheeling Creek
O	"	Wetzel	Pine Grove Water	North Fork, Fishing Creek
O	"	Marshall	Consolidated Coal Co.	Impoundment
O	"	Tyler	Middlebourne Water	Middle Island Creek
O	"	Doddridge	West Union Mun. Water	Middle Island Creek
O	"	Mason	Hidden Valley Country	Lake/Impoundment
O	"	Jackson	Ripley Water	Mill Creek
IO	"	Wayne	Wayne Municipal Water	Twelve Pole Creek
O	"	"	East Lynn Lake	East Lynn Lake
O	Zone 2	Wayne	Monterey Coal Co.	Impoundment
Little Kanawha				
	LK	Wood	Claywood Park PSD	Little Kanawha River
	LK	Calhoun	Grantsville Mun. Water	Little Kanawha River
	LK	Gilmer	Glenville Utility	Little Kanawha River
	LK	"	Consolidated Gas Compressor	Steer Creek
	LK	Braxton	Burnsville Water Works	Little Kanawha river
	LK	Roane	Spencer Water	Spring Creek & Mile Tree Reservoir
	LK	Wirt	Elizabeth Water	Little Kanawha River
	LKH	Ritchie	Cairo Water	North Fork Hughes River
	LKH	"	Harrisville Water	North Fork Hughes River
	LKH	"	Pennsboro Water	North Fork Hughes River
Kanawha River				

K	Putnam	Buffalo Water	Cross Creek
K	"	Winfield Water	Poplar Fork & Crooked Creek
K	"	South Putnam PSD	Poplar Fork & Crooked Creek
K	Kanawha	Cedar Grove Water	Kanawha River
K	"	Pratt Water	Kanawha River
K	Fayette	Armstrong PSD PO-K1-CO-EL	Kanawha River & Gum Hollow
K	"	Kanawha Water Co.- Beards Fork	Unnamed Tributary Kanawha River
K	Kanawha	Midland Trail School	Impoundment
k	"	Cedar Coal Co.	Impoundment
K	Fayette	Elkem Metals Co.	Kanawha River
K	"	Deepwater PSD	Kanawha River
K	"	Kanawha Falls PSD	Kanawha River
K	"	W.V. Water-Montgomery	Kanawha River

Pocatalico river

KP	Kanawha	Sissonville PSD	Pocatalico River
KP	Roane	Walton PSD	Silcott Fork Dam

Coal River

KC	Kanawha	St. Albans Water	Coal River
KC	"	Washington PSD	Coal River
KC	Lincoln	Lincoln PSD	Coal River
KC	Boone	Coal River PSD	Coal River
KC	"	Whitesville PSD	Coal River
KC	Raleigh	Armco Mine 10	Marsh Fork
KC	"	Armco Steel-Montc. Stickney	Coal River
KC	Raleigh	Peabody Coal	Coal River
KC	"	Stephens Lake Park	Lake Stephens
KC	Boone	W.V. Water-Madison Dist.	Little Coal River
KC	"	Van PSD	Pond Fork
KC	Raleigh	Consol. Coal Co.	Workmans Creek
KC	Boone	Water Ways Park	Coal River

Elk River

KE	Kanawha	Clendenin Water	Elk River
KE	"	W.V. Water-Kanawha Valley District	Elk River
KE	Kanawha	Pinch PSD	Elk River
KE	Clay	Clay Waterworks	Elk River
KE	"	Procious PSD	Elk River
KE	Braxton	Flatwoods-Canoe Run PSD	Elk River
KE	"	Sugar Creek PSD	Elk River
KE	"	W.V. Water-Gassaway Dist.	Elk River
KE	"	W.V. Water-Sutton Dist.	Elk River
KE	Webster	W.V. Water-Webster Springs	Elk River
KE		Holly River State Park	Holly River

Gauley River

KG	Nicholas	Craigsville PSD	Gauley River
KG	"	Summersville Water	Impoundment/Muddlety Creek
KG	"	Nettie-Leivasy PSD	Jim Branch
KG	Webster	Cowen PSD	Gauley River
KG	Nicholas	Wilderness PSD	Anglins Creek & Meadow River
KG	"	Richwood Water	North Fork Cherry River

New river

KN	Fayette	Ames Heights Water	Mill Creek
KN	"	Mt. Hope Water	Impounded Mine (Surface)
KN	"	Ansted Municipal Water	Mill Creek
KN	"	Fayette Co. Park	Impoundment
KN	"	New River Gorge Campground	Impoundment
KN	"	Fayetteville Water	Wolfe Creek
KN	Raleigh	Beckley Water	Glade Creek
KN	"	Westmoreland Coal Co.	Farley Branch

Bluestone River

KNB	Summers	Jumping Branch-Nimitz	Mt. Valley Lake
KNB	"	Bluestone Conf. Center	Bluestone Lake
KNB	"	Pipestem State Park	Impoundment
KNB	Mercer	Town of Athens	Impoundment
KNB	"	Bluewell PSD	Impoundment
KNB	"	Bramwell Water	Impoundment
KNB	"	Green Valley-Glenwood PSD	Bailey Reservoir
KNB	"	Kelly's Tank	Spring
KNB	"	W.V. Water Princeton	Impoundment/Brusch Creek
KNB	"	Lashmeet PSD	Impoundment
KNB	"	Pinnacle Water Assoc.	Mine
KNB	"	W.V. Water Bluefield	Impoundment

Greenbrier River

KNG	Summers	W.V. Water Hinton	Greenbrier River & New River
KNG	"	Big Bend PSD	Greenbrier River
KNG	Greenbrier	Alderson Water Dept.	Greenbrier River
KNG	"	Ronceverte Water	Greenbrier River
KNG	"	Lewisburg Water	Greenbrier river
KNG	Pocahontas	Denmar State Hospital Water	Greenbrier River
KNG	"	City of Marlinton Water	Knapp Creek
KNG	"	Cass Scenic Railroad	Leatherbark Creek

KNG	"	Upper Greenbrier PSD	Greenbrier River
KNG	"	The Hermitage	Greenbrier
Guyandotte River			
OG	Cabell	Salt Rock PSD	Guyandotte River
OG	Lincoln	West Hamlin Water	Guyandotte Rriver
OG	Logan	Logan Water Board	Guyandotte River
OG	"	Man Water Works	Guyandotte River
OG	"	Buffalo Creek PSD	Buffalo Creek/ Mine/Wells
OG	Logan	Chapmanville	Guyandotte River
OG	"	Logan PSD	Whitman Creek/ Guyandotte River
OG	Mingo	Gilbert Water	Guyandotte River
OG	Wyoming	Oceana Water	Laurel Fork
OG	"	Glen Rogers PSD	Impoundment
OG	"	Pineville Water	Pinnacle Creek/ Guyandotte River
OG	Raleigh	Raleigh Co. PSD-Amigo	Tommy Creek
OMG	Cabell	Milton Water Works	Guyandotte River
OMG	"	Culloden PSD	Indian Fork Creek
OMG	Putnam	Hurricane Municipal Water	Impoundment
OMG	"	Lake Washington PSD	Lake Washington
Big Sandy River			
BS	Wayne	Kenova Municipal Water	Big Sandy River
BS	"	Fort Gay Water	Tug Fork
BST	Mingo	Kermit Water	Tug Fork
BST	"	Matewan Water	Tug Fork
BST	"	A & H Coal Co., Inc.	Impoundment
BST	"	Williamson Water	Impoundment
BST	McDowell	City of Welch	Impoundment/Wells
BST	"	City of Gary	Impoundment/Mine

APPENDIX C
CATEGORY E-3 - POWER PRODUCTION

This list contains known power production facilities and is not intended to exclude any waters as described in Section 6.6.c.

River Basin	County	Station Name	Operating Company
Monongahela River			
M	Monongalia	Fort Martin Power Station	Monongahela Power
M	Marion	Rivesville Station	Monongahela Power
MC	Preston	Albright Station	Monongahela Power
Potomac	Grant	Mt. Storm Power Station	Virginia Electric & Power Company
Ohio River			
O - Zone 1	Wetzel	Hannibal (Hydro)	Ohio Power
O " "	Marshall	Kamer	Ohio Power
O " "	"	Mitchell	Ohio Power
O " "	Pleasants	Pleasants Station	Monongahela Power
O " "	"	Willow Island Station	Monongahela Power
O " "	Mason	Phillip Sporn Plant	Central Operating (AEP)
O " "	"	Racine (Hydro)	Ohio Power
O " "	"	Mountaineer	Appalachian Power Co.
K	Putnam	Winfield (Hydro)	Appalachian Power Co.
K	Kanawha	Marmet (Hydro)	Appalachian Power Co.
K	"	London (Hydro)	Appalachian Power Co.
K	"	Kanawha River	Appalachian Power Co.
K	"	John E. Amos	Appalachian Power Co.

APPENDIX D
CATEGORY C - WATER CONTACT RECREATION

This list contains waters known to be used for water contact recreation and is not intended to exclude any waters as described in Section 6.4.

River Basin	Stream Code	Stream	County
Shenandoah	S	Shenandoah River	Jefferson
Potomac	P	Potomac River	Jefferson
	P	" "	Hampshire
	P	" "	Berkeley
	P	" "	Morgan
	P-9	Sleepy Creek & Meadow Branch	Berkeley
	P-9-G-1	North Fork of Indian Run	Morgan
South Branch	PSB	South Branch of Potomac River	Hampshire
	PSB	" "	Hardy
	PSB	" "	Grant
	PSB-21-X	Hawes Run	Pendleton
	PSB-25-C-2	Spring Run	Grant
	PSB-28	North Fork South Branch Potomac River	Grant
North Branch	PNB	North Branch of Potomac River	Mineral
	PNB-4-EE	North Fork Patterson Creek	Grant
	PNB-7-H	Linton Creek	Grant
	PNB-17	Stoney River-Mt. Storm Lake	Grant
	PC	Cacapon River	Hampshire
Monongalia			
Cheat	MC	Cheat Lake/Cheat river	Monongalia/Preston
	MC	Alpine Lake	Preston
	MC-6	Coopers Rock Lake/ Quarry Run	Monongalia
	MC-12	Big Sandy Creek	Preston
	MSC	Shavers Fork	Randolph
	MTN	Middle Fork River	Barbour/Randolph/ Upshur
	MW	West Fork River	Harrison

	MW-18	Stonecoal Creek/ Stonecoal Lake	Lewis
Ohio	O	Ohio River	Brooke/Cabell/ Hancock/Jackson/ Marshall/Mason/ Ohio/Pleasants/ Tyler/Wayne/Wood/ Wetzel
	O-2-H	Beech Fork of Twelvepole Creek/Beech Fork Lake	Wayne
	O-2-Q	East Fork of Twelvepole Creek/East Lynn Lake	Wayne
	O-3	Fourpole Creek	Cabell
	O-21	Old Town Creek/ McClintic Ponds	Mason
	Omi	Middle Island Creek/ Crystal Lake	Doddridge
	OG	Guyandotte River	Cabell
	OG	Guyandotte River/ R. D. Bailey Lake	Wyoming
	OGM	Mud River	Cabell
Little Kanawha	LK	Little Kanawha River/ Burnsville Lake	Braxton
Kanawha	K	Kanawha River	Fayette/Kanawha/ Mason/Putnam
	K-1	Unnamed Tributary Krodel Lake	Mason
	KC	Coal River	Kanawha
	KC-45-Q	Stephens Branch/ Lake Stephens	Raleigh
	KE	Elk River	Kanawha/Clay/ Braxton/Webster/ Randolph
	KE	Sutton lake	Braxton
	KN	New River	Fayette/Raleigh/ Summers
	KN-26-F	Little Beaver Creek	Raleigh
	KNG	Greenbrier River	Greenbrier/Pocahontas/ Summers

KNG-23-E-1	Little Devil Creek/ Moncove Lake	Monroe
KNG-28	Anthony Creek	Greenbrier
KNG-28-P	Meadow Creek/ Lake Sherwood	Greenbrier
KNB	Bluestone River/ Bluestone Lake	Summers
KG	Gauley River	Webster
KG	Gauley River/ Summersville Lake	Nicholas
KGW	Williams River	Webster

APPENDIX E

PARAMETER	USE DESIGNATION						
	AQUATIC LIFE				HUMAN HEALTH		ALL OTHER USES
	B1, B4		B2		C[3]	A[4]	
	ACUTE[1]	CHRON[2]	ACUTE[1]	CHRON[2]			
8.1 Aluminum (ug/l) Not to exceed:(See 7.2.d.B(b))	750		750				
8.2 Ammonia (ug/l): Un-ionized ammonia (UA) shall be determined from values of total ammonia-N, pH and temperature according to the following equation: $UA = \frac{1.2(\text{total ammonia-N})}{1+10^{(pka-pH)}}$ where pka = 0.0902 + 2730/(273.2 + T and T = temperature (°C) The concentration of un-ionized ammonia (NH3) shall not exceed 50 ug/l.						50	

APPENDIX E

PARAMETER	USE DESIGNATION						
	AQUATIC LIFE				HUMAN HEALTH		ALL OTHER USES
	B1, B4		B2		C[3]	A[4]	
	ACUTE[1]	CHRON[2]	ACUTE[1]	CHRON[2]			
8.2.1 Acute and chronic aquatic life criteria for ammonia shall be determined using the tables and formulae in the National Criteria section of USEPAs Ambient Water Quality Criteria for Ammonia - 1984 (EPA 440/5-85-001, January 1985)	X	X	X	X			
8.3 Antimony (ug/l) Not to exceed:					4300	14	
8.4 Arsenic[b] (ug/l) Not to exceed:					50	50	100
8.4.1 Dissolved Trivalent Arsenic Not to exceed:	360 x CF[5]	190 x CF[5]	360 x CF[5]	190 x CF[5]			
8.5 Barium (mg/l) Not to exceed:						1.0	
8.6 Beryllium (ug/l)	130		130			.0077	

APPENDIX E

PARAMETER	USE DESIGNATION						
	AQUATIC LIFE				HUMAN HEALTH		ALL OTHER USES
	B1, B4		B2		C[3]	A[4]	
	ACUTE[1]	CHRON[2]	ACUTE[1]	CHRON[2]			
8.7 Cadmium (ug/l) Hardness Soluble Cd (mg/l $CaCO_3$) 0 - 35 1.0 36 - 75 2.0 76 - 150 5.0 > 150 10.0						X	
8.7.1 Not to exceed 10 ug/l in the Ohio River (O Zone 1) main stem (see section 7.1.d)						X	
8.7.3 The four-day average concentration of dissolved cadmium shall not exceed the value determined by the following equation: $Cd = e^{(0.7852[\ln(\text{hardness})]-3.490)} \times CF$[5]		X		X			
8.7.4 The one-hour average concentration of dissolved cadmium shall not exceed the value determined by the following equation: $Cd = e^{(1.128[\ln(\text{hardness})]-3.828)} \times CF$[5]	X		X				
8.8 Chloride (mg/l) Not to exceed:	860	230	860	230	250	250	

APPENDIX E

PARAMETER	USE DESIGNATION						
	AQUATIC LIFE				HUMAN HEALTH		ALL OTHER USES
	B1, B4		B2		C[3]	A[4]	
	ACUTE[1]	CHRON[2]	ACUTE[1]	CHRON[2]			
8.9 Copper (ug/l) Not to exceed:						1000	
8.9.1 The four-day average concentration of dissolved copper shall not exceed the value determined by the following equation[a]: $Cu = e^{(0.8545[\ln(\text{hardness})]-1.465)} \times CF^{5}$		X		X			
8.9.2 The one-hour average concentration of dissolved copper shall not exceed the value determined by the following equation[a]: $Cu = e^{(0.9422[\ln(\text{hardness})]-1.464)} \times CF^{5}$	X		X				
8.10 Cyanide (ug/l) (As free cyanide $HCN+CN^{-}$) Not to exceed:	22	5.0	22	5.0	5.0	5.0	
8.11 Dissolved Oxygen[c]: not less than 5 mg/l at any time.	X				X	X	X
8.11.1 Kanawha River main stem, Zone 1 - Not less than 4.0 mg/l at any time.	X						

PARAMETER	USE DESIGNATION						
	AQUATIC LIFE				HUMAN HEALTH		ALL OTHER USES
	B1, B4		B2		C[3]	A[4]	
	ACUTE[1]	CHRON[2]	ACUTE[1]	CHRON[2]			
8.11.2 Ohio River main stem - the average concentration shall not be less than 5.0 mg/l per calendar day and shall not be less than 4.0 mg/l at any time or place outside any established mixing zone - provided that a minimum of 5.0 mg/l at any time is maintained during the April 15-June 15 spawning season.	X						
8.11.3. Not less than 7.0 mg/l in spawning areas and in no case less than 6.0 mg/l at any time.			X				
8.12 Fecal Coliform: Maximum allowable level of fecal coliform content for Primary Contact Recreation (either MPN or MF) shall not exceed 200/100 ml as a monthly geometric mean based on not less than 5 samples per month; nor to exceed 400/100 ml in more than ten percent of all samples taken during the month.					X	X	

APPENDIX E

PARAMETER	USE DESIGNATION						
	AQUATIC LIFE				HUMAN HEALTH		ALL OTHER USES
	B1, B4		B2		C[3]	A[4]	
	ACUTE[1]	CHRON[2]	ACUTE[1]	CHRON[2]			
8.12.1 Ohio River main stem (zone 1) - During the non-recreational season (November through April only) the maximum allowable level of fecal coliform for the Ohio River (either MPN or MF) shall not exceed 2000/100 ml as a monthly geometric mean based on not less than 5 samples per month.					X		
8.13 Fluoride (mg/l) Not to exceed:						1.4	
8.13.1 Not to exceed 2.0 for category D uses							X
8.14. Dissolved Hexavalent chromium (ug/l) Not to exceed:	16 x CF[5]	11 x CF[5]	16 x CF[5]	7.2 x CF[5]		50	
8.15 Iron[c] (mg/l) Not to exceed:		1.5		0.5		1.5	
8.16 Lead (ug/l) Not to exceed:						50	

PARAMETER	USE DESIGNATION						
	AQUATIC LIFE				HUMAN HEALTH		ALL OTHER USES
	B1, B4		B2		C[3]	A[4]	
	ACUTE[1]	CHRON[2]	ACUTE[1]	CHRON[2]			
8.16.1 The four-day average concentration of dissolved lead shall not exceed the value determined by the following equation[a]: $Pb = e^{(1.273[\ln(\text{hardness})]-4.705)} \times CF^5$		X		X			
8.16.2 The one-hour average concentration of dissolved lead shall not exceed the value determined by the following equation[a]: $Pb = e^{(1.273[\ln(\text{hardness})]-1.46)} \times CF^5$	X		X				
8.17 Manganese (mg/l) Not to exceed:						1.0	
8.17.1 Effluent limitations regarding Mn shall not apply where the applicant certifies the stream or stream segment is not category A water.							
8.18 Mercury The total organism body burden of any aquatic species shall not exceed 0.5 ug/g as methylmercury.					0.5	0.5	
8.18.1 Total mercury in any unfiltered water sample shall not exceed (ug/l):	2.4		2.4		0.15	0.14	

APPENDIX E

PARAMETER	USE DESIGNATION						
	AQUATIC LIFE				HUMAN HEALTH		ALL OTHER USES
	B1, B4		B2		C[3]	A[4]	
	ACUTE[1]	CHRON[2]	ACUTE[1]	CHRON[2]			
8.18.2 Methylmercury (water column) Not to exceed (ug/l):		.012		.012			
8.19 Nickel (ug/l) Not to exceed:					4600	510	
8.19.1 The four-day average concentration of dissolved nickel shall not exceed the value determined by the following equation[a]: $Ni = e^{(0.846[ln(hardness)]+1.1645)} \times CF$[5]		X		X			
8.19.2 The one-hour average concentration of dissolved nickel shall not exceed the value determined by the following equation[a]: $Ni = e^{(0.846[ln(hardness)]+3.361)} \times CF$[5]	X		X				
8.20 Nitrate (as Nitrate-N) (mg/l)						10	
8.21 Nitrite (as Nitrite-N) (mg/l) Not to exceed:	1.0		.060				
8.22 Organics							
Chlordane[b] (ng/l)	2400	4.3	2400	4.3	0.46	0.46	0.46

APPENDIX E

PARAMETER	USE DESIGNATION						
	AQUATIC LIFE				HUMAN HEALTH		ALL OTHER USES
	B1, B4		B2		C[3]	A[4]	
	ACUTE[1]	CHRON[2]	ACUTE[1]	CHRON[2]			
DDT[b] (ng/l)	1100	1.0	1100	1.0	0.024	0.024	0.024
Aldrin[b] (ng/l)	3.0		3.0		0.071	0.071	0.071
Dieldrin[b] (ng/l)	2500	1.9	2500	1.9	0.071	0.071	0.071
Endrin (ng/l)	180	2.3	180	2.3	2.3	2.3	2.3
Toxaphene[b] (ng/l)	730	0.2	730	0.2	0.73	0.73	0.73
PCB[b] (ng/l)		14.0		14.0	0.045	0.044	0.045
Methoxychlor (ug/l)		0.03		0.03	0.03	0.03	0.03
Dioxin (2,3,7,8- TCDD)[b] (pg/l)					0.014	0.013	0.014
Acrylonitrile[b] (ug/l)					0.66	0.059	
Benzene[b] (ug/l)					71	0.66	
1,2-dichlorobenzene (mg/l)					17	2.7	
1,3-dichlorobenzene (mg/l)					2.6	0.4	
1,4-dichlorobenzene (mg/l)					2.6	0.4	
2,4-dinitrotoluene[b] (ug/l)					9.1	0.11	
Hexachlorobenzene[b] (ng/l)					0.77	0.72	

APPENDIX E

PARAMETER	USE DESIGNATION						
	AQUATIC LIFE				HUMAN HEALTH		ALL OTHER USES
	B1, B4		B2		C[3]	A[4]	
	ACUTE[1]	CHRON[2]	ACUTE[1]	CHRON[2]			
Carbon tetrachloride[b] (ug/l)					4.4	0.25	
Chloroform[b] (ug/l)	28,900	1,240	28,900	1,240	470	0.19	
Halomethanes (ug/l)					15.7	0.19	
1,2-dichloroethane[b] (ug/l)					99	0.035	
1,1,1- trichloroethane[b] (mg/l)						12	
1,1,2,2-tetrachloroethane (ug/l)		2400		2400	11	0.17	
1,1-dichloroethylene[b] (ug/l)					3.2	0.03	
Trichloroethylene[b] (ug/l)					81	2.7	
Tetrachloroethylene[b] (ug/l)					8.85	0.8	
Toluene[b] (mg/l)					200	6.8	
Polynuclear Aromatic Hydrocarbons (PAH)[b] (ug/l)					0.031	.0028	
Phthalate esters (ug/l)		3.0		3.0			
Vinyl chloride[b] (chloroethene)(ug/l)					525	2.0	
alpa-BHC (alpha- Hexachloro-cyclohexane)[b] (ug/l)					0.013	.0039	

APPENDIX E

PARAMETER	USE DESIGNATION						
	AQUATIC LIFE				HUMAN HEALTH		ALL OTHER USES
	B1, B4		B2		C[3]	A[4]	
	ACUTE[1]	CHRON[2]	ACUTE[1]	CHRON[2]			
beta-BHC(beta- Hexachloro-cyclohexane)[b] (ug/l)					0.046	0.014	
gamma-BHC (gamma- Hexachloro-cyclohexane)[b] (ug/l)	2.0	0.08	2.0	0.08	0.063	0.019	
Chlorobenzene (mg/l)					21	0.68	
Ethylbenzene (mg/l)					29	3.1	
Heptachlor[b] (ng/l)	520	3.8	520	3.8	0.21	0.21	
2-methyl-4,6- Dinitrophenol (ug/l)					765	13.4	
Fluoranthene (ug/l)					370	300	
8.22.1 The organic chemicals listed in §8.22 shall not exceed the specified water quality criteria. When the specified criteria are less than the practical laboratory quantification level, instream values will be calculated from discharge concentrations and flow rates and from fish body burden, where applicable.							

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PARAMETER	USE DESIGNATION						
	AQUATIC LIFE				HUMAN HEALTH		ALL OTHER USES
	B1, B4		B2		C[3]	A[4]	
	ACUTE[1]	CHRON[2]	ACUTE[1]	CHRON[2]			
8.22.2 The following body burden criteria shall not be exceeded in edible tissues of fish: Parameter Body Burden Chlordane 1.0 (ug/g) DDT 0.1 (ug/g) Aldrin - Dieldrin 0.3 (ug/g) Endrin 0.3 (ug/g) Toxaphene 1.0 (ug/g) PCB 2.0 (ug/g) Dioxin 6.4 (pg/g)							
8.23 pH[c] No values below 6.0 nor above 9.0. Higher values due to photosynthetic activity may be tolerated.	X	X	X	X	X	X	X
8.24 Phenol (ug/l) (except Category A) Not to exceed:	10,200	2,560	10,200	2,560		3.5 mg/l	

APPENDIX E

PARAMETER	USE DESIGNATION						
	AQUATIC LIFE				HUMAN HEALTH		ALL OTHER USES
	B1, B4		B2		C[3]	A[4]	
	ACUTE[1]	CHRON[2]	ACUTE[1]	CHRON[2]			
8.25 Radioactivity: Gross Beta activity not to exceed 1000 picocuries per liter (pCi/l), nor shall activity from dissolved strontium-90 exceed 10 pCi/l, nor shall activity from dissolved alpha emitters exceed 3 pCi/l.	X		X		X	X	X
8.25.1 Gross total alpha particle activity (including radium-226 but excluding radon and uranium shall not exceed 15 pCi/l and combined radium-226 and radium-228 shall not exceed 5pCi/l; provided that the specific determination of radium-226 and radium-228 are not required if dissolved particle activity does not exceed 5pCi/l; the concentration of tritium shall not exceed 20,000 pCi/l; the concentration of total strontium-90 shall not exceed 8 pCi/l in the Ohio River main stem.	X		X		X	X	X
8.26 Selenium (ug/l) Not to exceed:	20	5	20	5		10	

APPENDIX E

PARAMETER	USE DESIGNATION						
	AQUATIC LIFE				HUMAN HEALTH		ALL OTHER USES
	B1, B4		B2		C[3]	A[4]	
	ACUTE[1]	CHRON[2]	ACUTE[1]	CHRON[2]			
8.27 Silver Hardness Silver (ug/l) 0-50 1 51-100 4 101-200 12 >201 24				X		X	
8.27.1 0-50 1 51-100 4 101-200 12 201-400 24 401-500 30 501-600 43		X					
8.27.2 The one-hour average concentration of dissolved silver shall not exceed the value determined by the following equation: $Ag=e^{(1.72[\ln(\text{hardness})]-6.52)} \times CF$[5]	X		X				
8.28 Temperature Temperature rise shall be							

PARAMETER	USE DESIGNATION						
	AQUATIC LIFE				HUMAN HEALTH		ALL OTHER USES
	B1, B4		B2		C[3]	A[4]	
	ACUTE[1]	CHRON[2]	ACUTE[1]	CHRON[2]			
limited to no more than 5°F above natural temperature, not to exceed 87°F at any time during months of May through November and not to exceed 73°F at any time during the months of December through April. During any month of the year, heat should not be added to a stream in excess of the amount that will raise the temperature of the water more than 5°F above natural temperature. In lakes and reservoirs, the temperature of the epilimnion should not be raised more than 3°F by the addition of heat of artificial origin. The normal daily and seasonable temperature fluctuations that existed before the addition of heat due to other natural causes should be maintained.							

APPENDIX E

PARAMETER	USE DESIGNATION						
	AQUATIC LIFE				HUMAN HEALTH		ALL OTHER USES
	B1, B4		B2		C[3]	A[4]	
	ACUTE[1]	CHRON[2]	ACUTE[1]	CHRON[2]			
8.28.1 For the Kanawha River Main Stem (K-1): Temperature rise shall be limited to no more than 5°F above natural temperature, not to exceed 90°F in any case.	X						
8.28.2 For the Bluestone R (KNB), Bluestone Lake (KN-60) East River (KNE), New River (KN), Gauley R. (KG) and Greenbrier River (KNG): Temperature rise shall be limited to no more than 5°F above natural temperature, not to exceed 81°F at any time during the months of May through November and not to exceed 73°F at any time during December through April.			X				
8.28.3 No heated effluents will be discharged in the vicinity of spawning areas. The maximum temperatures for cold waters are expressed in the following table: Daily Mean °F / Hourly Max °F Oct-Apr 50 55 Sep-May 58 62 Jun-Aug 66 70			X				

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PARAMETER	USE DESIGNATION						
	AQUATIC LIFE				HUMAN HEALTH		ALL OTHER USES
	B1, B4		B2		C[3]	A[4]	
	ACUTE[1]	CHRON[2]	ACUTE[1]	CHRON[2]			
8.28.4 For Ohio River Main Stem (01)(Section 7.1.d): Period Inst. Dates Ave. Max. Jan 1-31 45°F 50°F February 45 50 March 1-15 51 56 March 16-31 54 59 April 1-15 58 64 April 16-30 64 69 May 1-15 68 73 May 16-31 75 80 June 1-15 80 85 June 16-30 83 87 July 1-31 84 89 August 1-31 84 89 Sept 1-15 84 87 Sept 16-30 82 86 Oct 1-15 77 82 Oct 16-31 72 77 Nov 1-30 67 72 Dec 1-31 52 57	X						
8.29 Thallium (ug/l)					6.3	1.7	

APPENDIX E

PARAMETER	USE DESIGNATION						
	AQUATIC LIFE				HUMAN HEALTH		ALL OTHER USES
	B1, B4		B2		C[3]	A[4]	
	ACUTE[1]	CHRON[2]	ACUTE[1]	CHRON[2]			
8.30 Threshold odor[c] Not to exceed a threshold odor number of 8 at 104°F as a daily average.		X		X	X	X	
8.31 Total Residual Chlorine (ug/l - measured by amperometric or equivalent method) Not to exceed:	19	11					
8.31.1 No chlorinated discharge allowed			X				
8.32 Turbidity No point or non-point source to West Virginia's waters shall contribute a net load of suspended matter such that the turbidity exceeds 10 NTU's over background turbidity when the background is 50 NTU or less, or have more than a 10% increase in turbidity (plus 10 NTU minimum) when the background turbidity is more than 50 NTUs.							

APPENDIX E

PARAMETER	USE DESIGNATION						
	AQUATIC LIFE				HUMAN HEALTH		ALL OTHER USES
	B1, B4		B2		C[3]	A[4]	
	ACUTE[1]	CHRON[2]	ACUTE[1]	CHRON[2]			
This limitation shall apply to all earth disturbance activities and shall be determined by measuring stream quality directly above and below the area where drainage from such activity enters the affected stream. Any earth disturbing activity continuously or intermittently carried on by the same or associated persons on the same stream or tributary segment shall be allowed a single net loading increase.		X		X	X	X	
8.32.1 This rule shall not apply to those activities at which Best Management Practices in accordance with the State's adopted 208 Water Quality Management Plan are being utilized, maintained and completed on a site specific basis as determined by the appropriate 208 cooperative or an approved Federal or State Surface Mining Permit is in effect. This exemption shall not apply to Trout Waters.		X			X	X	

PARAMETER	USE DESIGNATION						
	AQUATIC LIFE				HUMAN HEALTH		ALL OTHER USES
	B1, B4		B2		C[3]	A[4]	
	ACUTE[1]	CHRON[2]	ACUTE[1]	CHRON[2]			
8.33 The four-day average concentration of dissolved zinc shall not exceed the value determined by the following equation[a]: $Zn = e^{(0.8473[\ln(hardness)]+0.7614)} \times CF^5$		X		X			
8.33.1 The one-hour average concentration of dissolved zinc shall not exceed the value determined by the following equation[a]: $Zn = e^{(0.8473[\ln(hardness)]+0.8604)} \times CF^5$	X		X				

1 One hour average concentration not to be exceeded more than once every three years on the average, unless otherwise noted.

2 Four-day average concentration not to be exceeded more than once every three years on the average, unless otherwise noted.

3 These criteria have been calculated to protect human health from toxic effects through fish consumption, unless otherwise noted.

4 These criteria have been calculated to protect human health from toxic effects through drinking water and fish consumption, unless otherwise noted.

5 The appropriate Conversion Factor (CF) is a value used as a multiplier to derive the dissolved aquatic life criterion is found in Appendix E, Table 2.

a Hardness as calcium carbonate (mg/l). The minimum hardness allowed for use is this equation shall not be less than 25 mg/l, even if the actual ambient hardness is less than 25 mg/l The maximum hardness value for use in this equation shall not exceed 400 mg.l even if the actual hardness is greater than 400 mg/l.

b Known or suspected carcinogen. Human health standards are for a risk level of 10^{-6}

c May not be applicable to wetlands (B4) - site-specific criteria are desirable.

APPENDIX E
TABLE 2

Conversion Factors

Metal	Acute	Chronic
Arsenic (III)	1.000	1.000
Cadmium	1.136672-[(ln hardness)(0.041838)]	1.101672-[(ln hardness)(0.041838)]
Chromium(VI)	0.982	0.962
Copper	0.960	0.960
Lead	1.46203-[(ln hardness)(0.145712)]	1.46203-[(ln hardness)(0.145712)]
Nickel	0.998	0.997
Silver	0.85	N/A
Zinc	0.978	0.986

APPENDIX F

ANTIDEGRADATION IMPLEMENTATION PROCEDURES

46-1-4A. Applicability

4A.1. The procedures herein are intended to apply to all activities that require a permit or a water quality certification pursuant to state or federal law, including Clean Water Act §402 NPDES permits, CWA §404 dredge and fill permits, any activities requiring a CWA §401 certification.

4A.2. Nonpoint source activities will be deemed to be in compliance with antidegradation requirements with the achievement of cost effective and reasonable best management practices in accordance with the West Virginia Nonpoint Source Management Plan

4A3. Application to Brownfields sites, Voluntary Remediation Clean-up sites and Groundwater variance sites.

4A.3.a. Where remediation efforts are being proposed for existing contaminated sites which do not constitute a new point source and where there is a potential for increased surface water impacts from contaminated groundwater not associated with direct point sources an antidegradation review will not be required.

4A.3.b. Where remediation efforts are being proposed for existing contaminated sites and where there is a potential for surface water impacts from activities resulting in new or increased discharges from the treatment of contaminated groundwater, an antidegradation review will be required.

4A.3.c. Where there is a request for a variance from groundwater standards pursuant to Title 47, Series 57 for existing sites where activities on those sites have the potential to impact surface water from contaminated groundwater, the socio-economic justification process required under §47-57.6.2.i will satisfy the requirements of sections 4C.6.a-c, herein.

46-1-4B. Tier 1 Protection Review Procedures. Tier 1 protection requires that existing uses and the level of water quality to protect those uses be maintained and protected. Tier 1 protection applies to all waters of the state.

4B.1. Determine the existing uses of the water.

4B.1.a. Identify the designated uses in §6.2-6.6 herein which apply to the water in question.

4B.1.b. Determine whether the water currently supports, or has supported since November 28, 1975, an existing use other than the designated uses in section §6.2.-6.6

4B.1.c. Before any final action is taken, public notice will be provided by publication as a Class I legal advertisement in a qualified newspaper with the largest circulation for the county where the activity will occur. The notice will identify the action being considered, list all existing uses identified of the water, and call for comments from the public regarding other known existing uses. The cost of such publication will be borne by the applicant.

4B.2. Ensure maintenance and protection of water quality necessary to protect existing uses.

4B.2.a. Where a determination is made that the designated uses appropriately reflect the existing uses of the water, controls shall be applied as necessary to ensure that the appropriate numeric and narrative criteria established in this rule will be met.

4B.2.b. Where a determination is made that the designated uses do not appropriately reflect the existing uses of the water a determination as to whether numeric criteria for a related designated use would maintain water quality sufficient to protect the existing use shall be made.

4B.2.b.1. Where it is necessary to establish new criteria to protect an existing use, a proposal that appropriate revisions to the designated uses be adopted into the water quality standards shall be made to the Board at the earliest opportunity. However, no delay in Tier 1 water protection shall occur pending the reclassification action.

4B.3. All antidegradation review findings regarding uses of waters and protection of those uses shall be documented.

4B.4. Trading. A proposed activity that will result in a new or expanded source may be allowed where the applicant agrees to implement or finance upstream controls of point or nonpoint sources sufficient to offset the water quality effects of the proposed activity. Where such trading occurs, Tier 1 requirements will be considered satisfied where the applicant can show that the level of water quality necessary to protect existing uses fully will be achieved. The basis of the trade will be documented through a total maximum daily load (TMDL) pursuant to CWA section 303(d) requirements, or through other appropriate measures.

46-1-4C. Tier 2 Protection Review Procedures (High Quality Waters) See section 46-1-4.1.b for a description of high quality waters.

4C.1. Determine whether a water is a Tier 2, high quality water.

4C.1.a. All waters not included in Tiers 2.5 and 3 will be considered high quality waters unless it can be demonstrated that the water quality is not better than necessary to attain both fishable (Category B) and swimmable (Category C) uses. If either the fishable or swimmable use is attained, the water is a high quality water.

4C.2. Determine whether the proposed activity will result in significant degradation of water quality.

4C.2.a. Significant degradation will be determined for any water quality parameter to be affected by the proposed activity on a parameter by parameter basis . The proposed activities will be considered to result in significant degradation and be subject to further Tier 2 requirements where significant degradation is projected for one or more parameters.

4C.2.a.1. For chemical condition evaluations:

4C.2.a.1.A. Any proposed activity that would increase the ambient concentration of any parameter more than 5% at critical flow conditions shall be considered significant degradation. Critical flow conditions are further defined as follows:

4C.2.a.1.A.1. For non-precipitation induced discharges the maximum permitted flow or maximum flow specified in the application for industrial activities and average design flow for municipal activities combined with the 7Q10 flow of the receiving stream.

4C.2.a.1.A.2. For precipitation induced discharges, a simple mass balance substituting drainage area for flow. Flow from disturbed areas will be assumed to be 2X that of undisturbed areas. $C_1A_1 + C_2(2A_2) = C_3A_3$. Where: A1 = undisturbed area, A2 = disturbed area, A3 = total area, C1 = ambient instream water quality, C2 (unknown), and C3 = ambient + 5%. Alternatively, other approved models may be used to determine impact to water quality due to precipitation induced discharges.

4C.2.a.2. The following circumstances shall not be considered to cause significant degradation:

4C.2.a.2.A. Temperature: provided that the temperature of a discharge complies with the temperature criteria in section 46-1-8.28 (Appendix E of this rule)

4C.2.a.2.B. Fecal coliform - provided that the fecal coliform concentrations in the discharge are established as 200/100 ml monthly average and 400/100 ml daily maximum.

4C.2.a.2.C. pH - provided that the pH of the discharge is in the range of 6.0 to 9.0 standard units. In addition, any pH permitted at > 9.0 standard units will not be considered significant degradation if the purpose of the discharge is to improve the quality of the receiving stream, and a demonstration is made that such improvement is occurring.

4C.2.a.2.D. Dissolved Oxygen (DO) - any reduction of water quality of less than 0.4 ppm at maximum DO sag based upon an appropriate wasteload allocation model.

4C.2.a.2.E. Turbidity: provided that the discharge complies with the criteria in sections 46-1-8.32 and 46-1-8.32.1 of this rule.

4C.2.a.2.F. Trading. A determination may be made that a proposed activity will not pose significant degradation based upon the specifics of any upstream/downstream trading that has been agreed to by the project applicant. The basis for the trade shall be documented through a TMDL pursuant to CWA §303(d) requirements or other appropriate measures. Such documentation shall include an appropriate margin of safety, which shall address, in particular, the uncertainties associated with any proposed nonpoint source controls, as well as variability in effluent quality for point sources.

4C.3. If the proposed activity is determined not to result in significant degradation to the water, that finding will be documented and no further antidegradation review is necessary.

4C.4. If a determination is made that significant degradation will occur, the applicant must determine whether less-degrading or non-degrading alternatives to the proposed activity exist.

4C.4.a. An applicant requesting a permit for any new or expanded activity that would significantly degrade water quality in a high quality water is required to prepare an evaluation of alternatives to the proposed activity. The evaluation is required at a minimum, to provide substantive information pertaining to the cost and environmental impacts associated with the following alternatives: (a) pollution prevention measures (e.g., substitution of less toxic substances) (b) reduction in scale of project, (c) water recycle or reuse, (d) process changes, (e) innovative treatment technology, (f) advanced treatment technology, (g)seasonal or controlled discharge options to avoid critical water quality periods, (h) improved operation and maintenance of existing treatment systems, and (i) alternative discharge locations.

4C.5. After a determination that alternatives to allowing degradation have been adequately evaluated, a preliminary determination shall be made regarding whether non-degrading or less-degrading alternatives to the proposed activity shall be required.

4C.5.a. If no less-degrading or non-degrading alternatives to the proposed activity are determined to exist, the Tier 2 review shall continue and and the substance and basis for the preliminary determination shall be documented.

4C.5.b. If it is determined that less-degrading or non-degrading alternatives to the proposed activity do exist, coordination with the project applicant may occur to revise the project design. If mutually acceptable resolutions are not reached, the alternatives analysis findings will be documented and the activity will not be allowed.

4C.6. Determine whether the proposed activity is necessary to accommodate important economic or social development in the area in which the waters are located.

4C.6.a. The applicant shall provide documentation of the social and economic

include, but are not necessarily limited to, the following: (a) employment (e.g., increasing, maintaining or avoiding a reduction in employment), (b) increased production, (c) improved community tax base, (d) housing, and (e) correction of an environmental or public health problem.

4C.6.b. In addition to the above, an applicant may be required to submit the following: (a) information pertaining to current aquatic life, recreational, or other water uses, (b) information necessary to determine the environmental impacts that may result from the proposed activity, (c) facts pertaining to the current state of economic development in the area (e.g., population, area employment, area income, major employers, types of businesses, (d) government fiscal base, and (e) land use in the areas surrounding the proposed activity.

4C.6.c. Once the available information pertaining to the socio-economic importance of the proposed activity has been reviewed, a preliminary determination regarding importance shall be made. In evaluating the applicant's demonstration of socio-economic importance, the agency may use EPA's Interim Economic Guidance for Water Quality Standards Workbook (EPA 823-B-95-002, March, 1995). If the proposed activity is determined to have social or economic importance in the area in which the affected waters are located, the substance and basis for that preliminary determination shall be documented and the Tier 2 review shall continue.

4C.6.d. If a preliminary determination that the proposed activity does not have social or economic importance in the area in which the affected waters are located is made, that antidegradation review finding shall be documented and the proposed activity shall not be allowed.

4C.7. Prior to authorizing any proposed activity that would significantly degrade a Tier 2 water, existing uses of the water shall be fully protected consistent with Tier 1 implementation procedures

4B.8. Intergovernmental coordination and public notice requirements.

4C.8.a. The intergovernmental coordination requirements in section 46-1-4.1.b will be accomplished by providing notice to the agencies listed in Appendix F1. Such coordination will be accomplished by the agency performing the antidegradation review by notifying the agencies outlined in Appendix F1 of the results of any antidegradation review and requesting comments from them regarding that review.

4C.8.b. Based upon comments and information received during the public comment period, the preliminary determinations made as a result of the antidegradation review may be reversed.

4C.8.c. The public notice of the activity prepared by the agency shall include:

4C.8.c.1. Notice that the proposed activity has been determined to comply with the antidegradation rule

4C.8.c.1. Notice that the proposed activity has been determined to comply with the antidegradation rule

4C.8.c.2. Notice of the availability of a antidegradation review sheet, which may include:

4B.8.c.2.A. A determination of existing uses and their protection level,

4C.8.c.2.B. A determination of the impact of the activity to ambient water quality,

4C.8.c.2.C. The results of the socio-economic evaluation of the activity, and

4C.8.c.2.D. A determination regarding existence of non-degrading or less degrading alternatives.

4C.8.c.2.E. A description of the water which is subject to the antidegradation review.

46-1-4D. Tier 2.5 Protection Review Procedures: Waters of Special Concern See section 46-1-4.1.c for a description of waters of special concern.

4D.1. Determine whether the water is a water of special concern.

4D.2. Determine on a parameter-by-parameter basis whether the activity will lower ambient water quality conditions.

4D.2.a. If a determination is made that the activity will result in lowering of water quality conditions, the activity shall not be allowed.

4D.2.b. If the activity is determined not to result in the lowering of water quality conditions, the activity may be allowed. In such case the antidegradation review findings will be documented in writing and public notice activities will be initiated.

4D.2.c. Discharges from activities in waters upstream of a water of special concern shall not result in a lowering of ambient water quality of the water.

4D.2.c. Trading. A proposed activity that will result in a new or expanded source in a Tier 2.5 water may be allowed where the applicant agrees to implement or finance upstream controls of point or nonpoint sources sufficient to offset the water quality effects of the proposed activity. Where such trading occurs on or upstream of a Tier 2.5 segment or water, Tier 2.5 requirements will be considered satisfied where the applicant can show that water quality at all points within the study area will be either maintained or improved. The basis for trade will be

well as variability in effluent quality for point sources.

4D.3. The public notice of the activity shall include:

4D.3.a. Notice that the proposed activity has been determined to comply with the antidegradation rule

4D.3.b. Notice of the availability of a antidegradation review sheet, which may include:

4D.3.b.1. A determination of existing uses and their protection level,

4D.3.b.2. A determination that the activity will not result in the reduction of ambient water quality and the basis for that determination

46-1-4E. Tier 3 Protection Review Procedures: Outstanding National Resource Waters. See §46-4.1.c for a description of outstanding national resource waters.

4E.1. Determine whether the water is an Outstanding National Resource Water (ONRW).

4E.2. Determine whether the proposed activity is short term in nature and the resulting changes in water quality will be temporary. Generally, activities with durations of less than one month and which result in less than a 5% change in ambient concentration will be deemed to have temporary and limited effects. Such determination will be made on a case-by-case basis and shall be made after consideration of the following factors:

4E.2.a. The length of time during which the water quality will be lowered

4E.2.b. The percent change in ambient concentrations

4E.2.c. The parameters affected

4E.2.d. The likelihood for long-term water quality benefits to the segment (e.g., as may result from dredging of contaminated sediments)

4E.2.e. The degree to which achieving applicable water quality standards during the proposed activity may be at risk, and

4E.2.f. The potential for any residual long-term influences on existing uses.

4E.3. If a determination is made that the criteria in §4D2 a-f will be met, the activity may be authorized. In such case the antidegradation review findings shall be documented and public notice activities shall be initiated.

4E.4 The public notice of the activity shall include:

4E.4.a. Notice that the proposed activity has been determined to comply with the antidegradation rule

4E.4.b. Notice of the availability of a antidegradation review sheet, which may include:

4E.4.c. A determination of existing uses and their protection level,

4E.4.d. A determination that the activity will be short-term in nature and the resulting changes in water quality will be temporary. This determination shall be based on the factors listed in section 4E.2.a-f, above.

4E.5 For ONRWs in federally designated Wilderness Areas, nothing in this rule is intended to authorize activities not authorized by the Wilderness Act.

4E.6. If it is determined that the criteria in §4E.2 will not be met, the agency shall deny the activity.

4E.7. All upstream segments of a ONRWs shall be considered ONRWs.

4E.8. Tier 3 Nomination Procedures.

4E.8.1. Qualification Criteria. Factors to be considered in determining whether to assign an ONRW designation to a water from another category may include the following:

4E.8.1.a. The location of the water

4E.8.1.b. Any previous special designations: such as Wild and Scenic River

4E.8.1.c. Existing water quality: e.g., pristine or naturally occurring

4E..8.1.d. Ecological value: e.g., presence of threatened or endangered species during one or more life stages

4E.8.1.d. Recreational or aesthetic value: e.g., presence of an outstanding recreational fishery

4E.8.1.e. Other factors that indicate outstanding ecological or recreational resource value: e.g., rare or valuable wildlife habitat.

4E.9. Any interested party or the Board may nominate a water for inclusion in the Outstanding National Resource Water (ONRW) antidegradation category according to the notice and comment provisions of 46 CSR 6 - Procedural Rules Governing Site-Specific Revisions to Water Quality Standards. The address for filing such petitions is:

West Virginia Environmental Quality Board
1615 Washington Street, East
Room 301
Charleston, West Virginia 25311-2126

APPENDIX F-1

ANTIDEGRADATION IMPLEMENTATION PROCEDURES

INTERGOVERNMENTAL COORDINATION AGENCIES

STATE AGENCIES

Bureau of Commerce

Division of Natural Resources

Division of Forestry

Development Office

Department of Health and Human Resources

Bureau for Public Health

Bureau of the Environment

Division of Environmental Protection - all offices

Department of Education and the Arts

Division of Culture and History

Department of Agriculture

Soil Conservation Agency

Public Service Commission

FEDERAL AGENCIES

US Environmental Protection Agency, Region III

US Fish and Wildlife Service

US Army Corps of Engineers

National Park Service

US Forest Service

US Office of Surface Mining

Federal Energy Regulatory Commission

US Geological Survey

OTHER

Regional Planning Councils (statewide)