



WEST VIRGINIA LEGISLATURE
Legislative Rule-Making Review Committee

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February 13, 2001

NOTICE OF ACTION TAKEN BY THE LEGISLATIVE RULE-MAKING REVIEW COMMITTEE

TO: Ken Hechler, Secretary of State, State Register

TO: Elizabeth Chatfield
Environmental Quality Board
1615 Washington St., East, Rm. 201
Charleston, WV 25311

FROM: Legislative Rule-Making Review Committee

Proposed Rule: **Requirements Governing Water Quality Standards, 46C. R1**

The Legislative Rule-Making Review Committee recommends that the West Virginia Legislature:

1. Authorize the agency to promulgate the Legislative rule
 - (a) as originally filed
 - (b) as modified by the agency
2. Authorize the agency to promulgate part of the Legislative rule; a statement of reasons for such recommendation is attached.
3. Authorize the agency to promulgate the Legislative rule with certain amendments; amendments and a statement of reasons for such recommendation is attached.
4. Authorize the agency to promulgate the Legislative rule as modified with certain amendments; amendments and a statement of reasons for such recommendation is attached.
5. Recommends that the Legislative rule be withdrawn; a statement of reasons for such recommendation is attached.

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SECRETARY OF STATE

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OFFICE OF WEST VIRGINIA
SECRETARY OF STATE

February 12, 2001
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 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. "Ambient Concentration" is that measured value or level of water quality downstream of the proposed or existing activity (i.e., discharge point, but not in a mixing zone, for point sources; runoff area for nonpoint source) for any parameter of concern determined through EPA-approved or other methods accepted by the Chief, using collection and analytical methods in 40 CFR 136.

2.2. "Baseline Water Quality" is that ambient concentration established at the time of an initial antidegradation review under rules effective (date) for a stream or stream segment or any other water(s) of the state.

~~2.1.~~ 2.3. "Board" is the Environmental Quality Board.

~~2-2.~~ 2.4. "Chief" is the Chief of the Office of Water Resources of the West Virginia Division of Environmental Protection.

~~2-3~~ 2.5. "Conventional treatment" is the treatment of water as approved by the ~~State Health Department~~ West Virginia Bureau for Public Health to assure that the water is safe for human consumption.

~~2-4.~~ 2.6. "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.~~ 2.7. "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.~~ sections 6.2 - 6.6, herein)

2.8. "Director" is the Director of the West Virginia Division of Environmental Protection.

~~2-6.~~ 2.9. "Dissolved metal" is operationally defined as that portion of metal which passes through a 0.45 micron filter.

~~2-7.~~ 2.10. "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.~~ 2.11. 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 33 U.S.C. §§ 1251 - 1387.

~~2-9.~~ 2.12. "High quality 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.~~ 2.13. "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.~~ 2.14. "Outstanding national resource waters" are those waters whose unique character, ecological or recreational value or pristine nature constitutes a valuable national or State resource.

~~2-12.~~ 2.15. "Natural" or "naturally occurring" values or "natural temperature" shall mean for all of the waters of the State state:

~~2-12-a.~~ 2.15.a. Those water quality values which exist unaffected by -- or unaffected as a consequence of -- any water use by any person; and

~~2.12.b.~~ 2.15.b. 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.~~ 2.16. "Non-point source" shall mean any source other than a point source from which pollutants may reach the waters of the ~~State~~ state.

2.17. "Parameter of concern" means any parameter for which numeric water quality criteria have been adopted in 46 CSR 1 and any other parameter for which numeric criteria are not established but where the discharge of such parameter has a reasonable potential to either cause or contribute to a violation of the narrative criteria outlined under 46 CSR 1, section 3.

~~2.14.~~ 2.18. "Persistent" shall mean a pollutant and its transformation products which under natural conditions degrade slowly in an aquatic environment.

~~2.15.~~ 2.19. "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.

2.20. "Regulated activity" includes 1) any activity that requires a permit or a water quality certification pursuant to state or federal law (e.g., Clean Water Act §402 NPDES permits, Clean Water Act §404 dredge and fill permits, or any activity requiring a Clean Water Act §401 certification), 2) any activity subject to nonpoint source control requirements or regulations, and 3) any activity which is otherwise subject to state requirements and regulations developed to protect water quality. The term "proposed activity" means a proposed activity that is also a regulated activity.

~~2.16.~~ 2.21. "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.~~ 2.22. The "State Act" or "State Law" shall mean the West Virginia Water Pollution Control Act, W. Va. Code §22-11-1.

~~2.19.~~ 2.23. "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.

2.24. "Trading" means establishing upstream controls for a parameter of concern to compensate for new or increased downstream sources for the same parameter resulting in improved water quality for the parameter traded. More than one parameter of concern may be traded on a given stream. Trading may involve point sources, nonpoint sources or a combination of point and nonpoint sources. Unused permitted capacity cannot be traded.

2.25. "Trading Assessment Procedure" means methodologies to be used by the Director to document the basis for any trade allowed in sections 4C, 4D and 4E of Appendix F, herein, are EPA's Total Maximum Daily Load Procedures (40 CFR 130.2(i)), wasteload allocation procedures outlined in EPA's Technical Support Document for Water Quality-based Toxics Control (EPA/505/2-90-001 PB91-127415, March 1991), wasteload allocation methodologies outlined in EPA's Draft Framework for Watershed-Based Trading (EPA/800-R-96-001, May 1996) or other EPA approved wasteload allocation methodologies as long as these methodologies are consistent with the trading provisions of this rule.

~~2.19.~~ 2.26. "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.

~~2.21~~ 2.27 "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.

~~2.22~~ 2.28. "Water quality standards" means the combination of water uses to be protected and the water quality criteria to be maintained by these rules.

~~2.23~~ 2.29. "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.

~~2.24~~ 2.30. "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 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 state.

3.2. No sewage, industrial wastes or other wastes present in any of the waters of the State 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~~ Antidegradation Policy.

4.1. It is the policy of the State of West Virginia that 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. Tier 2 Protection. The existing high quality waters of the State state must be maintained at their existing high quality unless it is determined after satisfaction of the intergovernmental coordination of the State's 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 state or Federal 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 Director 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 (BMPs) for non-point source control. If BMPs are demonstrated to be inadequate to reduce or minimize water quality impacts, the Director may require that more appropriate BMPs be developed and applied.

4.1.b.1. High quality waters are those waters meeting the definition at section ~~2-9~~ 2.12 herein.

4.1.b.2. High quality waters may 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.B.~~ Streams or stream segments which receive annual stockings of trout but which do not support year-round trout populations.

~~4.1.e. 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 special concern include:~~

~~4.1.e.1.4.1.b.2.C.~~ 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.e.2. 4.1.b.2.D.~~ All naturally reproducing trout streams.

~~4.1.e.3. 4.1.b.2.E.~~ All streams and other bodies of water in State and National Forests and Recreation Areas.

~~4.1.e.4. 4.1.b.2.F.~~ National Rivers. Rivers designated under the "National Parks and Recreation Act of 1978." ~~Public Law 95-625, as amended~~, 16 U.S.C. §§1 et seq.

4.1.d. c. 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~~ Other waters to be afforded this level of protection shall be determined by the Board, following the public notice and hearing provisions as provided in 46 C.S.R. 6 and the procedures and criteria set forth in Appendix F of this rule.

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

§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.

5.2.b. Concentrations of pollutants which exceed the acute criteria for protection of aquatic life set forth in Appendix E, Table 1 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~~ section 4.3.3 of EPA's USEPA's 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, Table 1 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 ~~for~~ 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, ~~15 U.S.C.A. 1531 et seq.~~ 15 U.S.C. §§1531 et seq.

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 (1/2) 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~~ Federal Act and other applicable ~~State state and Federal 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 section 3, herein.

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 section~~ 316(a) of the Clean Water Federal 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)~~ 5.2.e and 5.2.h.2 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 subsections ~~(d)~~ and ~~(g)~~ 5.2.d and 5.2.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),(e),(e)~~ and ~~(h)(B)~~ 5.2.b, 5.2.c, 5.2.e, and 5.2.h.2, herein.

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~~ Maintenance of Fish and Other Aquatic Life (Category B) and for Water Contact Recreation (Category C) consistent with Clean Water Federal 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~~ section 301(b) and section 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~~ section 301 (b) and ~~Section~~ 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~~ 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~~ Category A waters; see section ~~7.2.a.B. 7.2.a.2, herein~~ for additional requirements for ~~category~~ Category A waters.) The manganese human health criteria shall not apply where the discharge point of the manganese is located more than five miles upstream from a known drinking water source.

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~~ section 2.28, herein (See Appendix A for a representative list.)

6.3.c. Category B4 -- Wetlands. -- As defined in ~~section 2.22~~ section 2.32, herein; certain numeric stream criteria may not be appropriate for application to wetlands (see Appendix E, Table 1).

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 - Youghieny 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~~ 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~~, section 6, herein.

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~~ section 8, herein. 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 to the requirements of ~~Section 3~~ section 3, herein.

7.2.c. Exceptions: Numeric water quality standards shall not apply: (See section 7.2.d, herein, 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~~ section 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: nothing in this regulation shall limit a permit writer's discretion to determine that a discharge is not causing or contributing to a violation of a water quality standard as a result of background concentrations of a pollutant in the discharger's intake. 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~~ 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~~ section 8.3 and ~~§-8.4~~ section 8.4, herein) The following are approved site-specific criteria, variances and use ~~removals~~ reclassifications:

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 Daugherty 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.~~ Except that in the unnamed tributary of Daugherty Run, approximately one mile upstream of Daugherty Run's confluence with the Cheat River, a site-specific numeric criterion for iron of 3.5 mg/l shall apply and the following frequency and duration requirements shall apply to the chronic numeric criterion for selenium (5ug/l): the four-day average concentration shall not be exceeded more than three times every three years (36 months), on average. Further, the following site-specific numeric criteria shall apply to Fly Ash Run of Daugherty Run: acute numeric criterion for aluminum: 888.5 ug/l and manganese: 5 mg/l.

7.2.d.9. Blackwater River - ~~(Reserved)~~ The Blackwater River below Davis, West Virginia shall be classified as a trout water, Category B2.

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/l; and iron not to exceed 3.5 mg/l as a monthly average and 7 mg/l 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 6.9 ug/l, Daily Maximum;~~ Lead 14 ug/l, Daily Maximum, ~~Total Phenolic Materials 10 ug/l, Daily Maximum;~~ Zinc 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 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 statewide criteria for these parameters shall apply, unless: Weirton Steel Corporation (1) submits to the Office of Water Resources on or before ~~March 1, 2000~~ January 31, 2001 a report setting forth the water quality of the discharge from Outlet 004 for these parameters during ~~the period from May 1, 1999 to February 1, 2000~~ calendar year 2000; (2) offers further proposals for any appropriate reductions in the above excepted levels; (3) provides 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 to the Office of Water Resources on a semi-annual basis ~~commencing on December 31, 1999,~~ 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, Turbidity, Oil and Grease 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, 2001~~ June 29, 2004, 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 ~~critierion~~ criteria 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 ~~critierion~~ criteria 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, Table 1.

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~~ 47 C.S.R. 10, section 7.3 - 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, Table 1 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~~ Limit From A Dissolved Criterion, ~~June 1996: (translator document)~~ EPA 823-B-96-007 June 1996.

8.1.b.3. NPDES permit ~~applications~~ applicants 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, Table 1 shall represent the applicable criteria.

8.1.d. Charts of water quality criteria in Appendix E, Table 1 shall be applied in accordance with major stream and use applications, ~~Sections 6 and 7~~ sections 6 and 7, herein.

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, Table 1 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, herein, 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, Table 1 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 EPA's USEPA's "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 waters 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 2.28.

<u>River Basin</u>	<u>County</u>	<u>Stream</u>
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)
<u>MC</u>	<u>"</u>	<u>Blackwater River (Below Davis) (insert date adopted)</u>
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

KNB	"	Little River-West Fork
KNB	"	Five Mile Run
KNB	"	Mullenax Run
KNB	"	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 section 6.2, herein.

<u>River Basin</u>	<u>County</u>	<u>Operating Company</u>	<u>Source</u>
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	Morgantown Water Comm.	Colburn Creek & Monongahela River
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	Deacons & 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 Compressor 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
O	"	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	"	Prociou 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 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 River
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.e section 6.6.c, herein.

<u>River Basin</u>	<u>County</u>	<u>Station Name</u>	<u>Operating Company</u>
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 Kammer	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~~ section 6.4, herein.

<u>River Basin</u>	<u>Stream Code</u>	<u>Stream</u>	<u>County</u>
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, TABLE I

PARAMETER	USE DESIGNATION					
	AQUATIC LIFE			HUMAN HEALTH		ALL OTHER USES
	B1, B4	B2	CHRON ²	ACUTE ¹	CHRON ²	
	ACUTE ¹	CHRON ²				ACUTE ¹

<p>8.1 Dissolved Aluminum (ug/l) Not to exceed: $(\text{See } 7.2.d.B(\theta))$</p> <p>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)</p> <p>The concentration of un-ionized ammonia (NH3) shall not exceed 50 ug/l.</p>	750xCF ⁵	87xCF ⁵	750xCF ⁵	87xCF ⁵	50	
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APPENDIX E, TABLE 1

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 USEPA's Ambient Water Quality Criteria for Ammonia--1984 (EPA 440/5-85-001, January 1985) the National Criterion for Ammonia in Fresh Water ^d from USEPA's 1999 Update of Ambient Water Quality Criteria for Ammonia (EPA-822-R-99-014, December 1999)	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, TABLE 1

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			
8.9.1 Chromium, dissolved hexavalent (ug/l): Not to exceed:	16 x CF ⁵	11 x CF ⁵	16 x CF ⁵	7.2 x CF ⁵	50		
8.9.2 Chromium, trivalent (ug/l) The one-hour average concentration of dissolved trivalent chromium shall not exceed the value determined by the following equation: $\exp\{0.8190[\ln(\text{hardness})] + 3.7256\} \times (\text{CF}^5)$	X		X				
8.9.3 The four-day average concentration of dissolved trivalent chromium shall not exceed the value determined by the following concentration: $\exp\{0.8190[\ln(\text{hardness})] + 0.6848\} \times (\text{CF}^5)$.		X		X			
8-9 8.10 Copper (ug/l) Not to exceed:					1000		
8-9+ 8.10.1 The four-day average concentration of dissolved copper shall not exceed the value determined by the following equation ^a : $\text{Cu} = e^{(0.8545[\ln(\text{hardness})] - 1.465)} \times \text{CF}^5$		X		X			

APPENDIX E, TABLE 1

PARAMETER	USE DESIGNATION							ALL OTHER USES	
	AQUATIC LIFE			HUMAN HEALTH					
	ACUTE ¹	B1, B4	CHRON ²	ACUTE ¹	B2	CHRON ²	C ³		A ⁴
<p>8.9-2 <u>8.10.2</u> The one-hour average concentration of dissolved copper shall not exceed the value determined by the following equation^a:</p> $C_{Cu} = e^{(0.9422[\ln(\text{hardness})]-1.464)} \times CF^5$	X			X					
<p>8.10 <u>8.11</u> Cyanide (ug/l) (As free cyanide HCN+CN⁻) Not to exceed:</p>	22		5.0	22		5.0		5.0	
<p>8.11-2 <u>8.12</u> Dissolved Oxygen^c: not less than 5 mg/l at any time.</p>	X							X	X
<p>8.11-1 <u>8.12.1</u> Kanawha River main stem, Zone 1 - Not less than 4.0 mg/l at any time.</p>	X								
<p>8.11-2 <u>8.12.2</u> 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.</p>	X								

APPENDIX E, TABLE 1

PARAMETER	USE DESIGNINATION							ALL OTHER USES
	AQUATIC LIFE			HUMAN HEALTH		C ³	A ⁴	
	B1, B4	B2	CHRON ²	ACUTE ¹	CHRON ²			
8-11-3: 8.12.3 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 8.13 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
8-12-1 8.13.1 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	X

APPENDIX E, TABLE 1

PARAMETER	USE DESIGNATION						
	AQUATIC LIFE				HUMAN HEALTH		ALL OTHER USES
	ACUTE ¹	CHRON ²	ACUTE ¹	CHRON ²	C ³	A ⁴	
							B1, B4
8.13 <u>8.14</u> Fluoride (mg/l) Not to exceed:						1.4	
8.13-† 8.14.1 Not to exceed 2.0 for category D uses.							X
8.14. Dissolved Hexavalent-chromium (ug/l) —Not to exceed:	—16 × CF ⁵	†† × CF ⁵	—16 × CF ⁵	7.2 × 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	
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			

APPENDIX E, TABLE I

PARAMETER	USE DESIGNATION						
	AQUATIC LIFE			HUMAN HEALTH		ALL OTHER USES	
	ACUTE ¹	B1, B4	B2	C ³	A ⁴		
						CHRON ²	ACUTE ¹

8.16.2 The one-hour average concentration of dissolved lead shall not exceed the value determined by the following equation ^a : $Pb = e^{(.275[(ln(hardness)) - 1.46])} \times CF^5$											
8.17 Manganese (mg/l) (see §6.2.d) Not to exceed:	X									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									0.15	0.14
8.18.2 Methylmercury (water column) Not to exceed (ug/l):									.012		.012

APPENDIX E, TABLE I

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			

8.19 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 : $Ni = e^{(0.846(\ln(\text{hardness}))+1.1645)} \times CF^5$					X			
8.19.2 The one-hour average concentration of dissolved nickel shall not exceed the value determined by the following equation ^a : $Ni = e^{(0.846(\ln(\text{hardness}))+1.361)} \times CF^5$								
8.20 Nitrate (as Nitrate-N) (mg/l)	X				X		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
DDT ^b (ng/l)	1100	1.0			1100	1.0	0.024	0.024

APPENDIX E, TABLE I

PARAMETER	USE DESIGNATION									
	AQUATIC LIFE					HUMAN HEALTH				
	B1, B4		B2		CHRON ²	ACUTE ¹	CHRON ²	C ³	A ⁴	ALL OTHER USES
	ACUTE ¹	CHRON ²	ACUTE ¹	CHRON ²						
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	
Carbon tetrachloride ^b (ug/l)								4.4	0.25	

APPENDIX E, TABLE 1

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						
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			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								
Vinyl chloride ^b (chloroethene)(ug/l)					525	2.0				
alpha-BHC (alpha- Hexachloro-cyclohexane) ^b (ug/l)					0.013	.0039				

APPENDIX E, TABLE J

PARAMETER	USE DESIGNATION							
	AQUATIC LIFE				HUMAN HEALTH			
	B1, B4		B2		C ³		A ⁴	
	ACUTE ¹	CHRON ²	ACUTE ¹	CHRON ²				ALL OTHER USES
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.								

APPENDIX E, TABLE 1

PARAMETER	USE DESIGNATION							ALL OTHER USES
	AQUATIC LIFE			HUMAN HEALTH		C ³	A ⁴	
	B1, B4	B2	CHRON ²	ACUTE ¹	CHRON ²			
<p>8.22.2 The following body burden criteria shall not be exceeded in edible tissues of fish: Parameter Body Burden</p> <p>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)</p>								
<p>8.23 pH^c No values below 6.0 nor above 9.0. Higher values due to photosynthetic activity may be tolerated.</p>	X			X			X	X
8.24 Phenolic Materials								
8.24.1 Phenol (ug/l) (except Category A) Not to exceed:	10,200	2,560		10,200	2,560	4,600,000	3.5 mg/l 21,000	
8.24.2 2-Chlorophenol (ug/l) Not to exceed:						400	120	

APPENDIX E, TABLE I

PARAMETER	USE DESIGNATION								
	AQUATIC LIFE				HUMAN HEALTH				
	B1, B4		B2		C ³		A ⁴		
	ACUTE ¹	CHRON ²	ACUTE ¹	CHRON ²				ALL OTHER USES	
8.24.3 <u>2,4-Dichlorophenol (ug/l) Not to exceed:</u>						790		93	
8.24.4 <u>2,4-Dimethylphenol (ug/l) Not to exceed:</u>						2300		540	
8.24.5 <u>2,4-Dinitrophenol (ug/l) Not to exceed:</u>						14,000		70	
8.24.6 <u>Pentachloropheno^lb (ug/l)</u>						8.2		0.28	
8.24.6.a <u>The one-hour average concentration of pentachlorophenol shall not exceed the value determined by the following equation: exp(1.005(pH)-4.869)</u>					X				
8.24.6.b <u>The 4-day average concentration of pentachlorophenol shall not exceed the value determined by the following equation: exp(1.005(pH)-5.134).</u>							X		
8.24.7 <u>2,4,6-Trichloropheno^lb (ug/l) Not to exceed:</u>						6.5		2.1	

APPENDIX E, TABLE I

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	
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							
8.26 Selenium (ug/l) Not to exceed:	20	5	20	5			10	

APPENDIX E, TABLE I

PARAMETER	USE DESIGNATION								
	AQUATIC LIFE				HUMAN HEALTH				
	B1, B4		B2		C ³		A ⁴		
	ACUTE ¹	CHRON ²	ACUTE ¹	CHRON ²				ALL OTHER USES	
8.27 Silver (µg/l)									
Hardness Silver (µg/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 ^{(1.72ln(hardness)) - 6.52} x CF ⁵								X	
8.28 Temperature Temperature rise shall be									

APPENDIX E, TABLE I

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	
<p>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 seasonal temperature fluctuations that existed before the addition of heat due to other natural causes should be maintained.</p>							

APPENDIX E, TABLE 1

PARAMETER	USE DESIGNATION						
	AQUATIC LIFE			HUMAN HEALTH		ALL OTHER USES	
	B1, B4	B2	C ³	A ⁴			
					ACUTE ¹	CHRON ²	ACUTE ¹
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.							
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					X	

APPENDIX E, TABLE I

PARAMETER	USE DESIGNATION						ALL OTHER USES																
	AQUATIC LIFE			HUMAN HEALTH																			
	B1, B4		B2	C ³		A ⁴																	
	ACUTE ¹	CHRON ²	ACUTE ¹	CHRON ²																			
<p>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:</p> <table border="1"> <thead> <tr> <th>Daily</th> <th>Hourly</th> <th>Mean °F</th> <th>Max °F</th> </tr> </thead> <tbody> <tr> <td>Oct-Apr</td> <td>50</td> <td>55</td> <td></td> </tr> <tr> <td>Sep-May</td> <td>58</td> <td>62</td> <td></td> </tr> <tr> <td>Jun-Aug</td> <td>66</td> <td>70</td> <td></td> </tr> </tbody> </table>	Daily	Hourly	Mean °F	Max °F	Oct-Apr	50	55		Sep-May	58	62		Jun-Aug	66	70					X			
Daily	Hourly	Mean °F	Max °F																				
Oct-Apr	50	55																					
Sep-May	58	62																					
Jun-Aug	66	70																					

APPENDIX E, TABLE I

PARAMETER	USE DESIGNATION							
	AQUATIC LIFE				HUMAN HEALTH			
	B1, B4		B2		C ³		A ⁴	
	ACUTE ¹	CHRON ²	ACUTE ¹	CHRON ²	ACUTE ¹	CHRON ²	ACUTE ¹	CHRON ²
8.28.4 For Ohio River Main Stem (01) Section 7-1-d (see section 7.1.d, herein):								
Period Inst.								
<u>Dates</u> <u>Ave.</u> <u>Max.</u>								
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								
8.29 Thallium (ug/l)						6.3		1.7

APPENDIX E, TABLE 1

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 ^f Not to exceed a threshold odor number of 8 at 104°F as a daily average.		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, TABLE I

PARAMETER	USE DESIGNATION						
	AQUATIC LIFE			HUMAN HEALTH		ALL OTHER USES	
	B1, B4	B2	CHRON ²	ACUTE ¹	CHRON ²		C ³
						ACUTE ¹	
<p>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.</p>							
	X				X	X	X
<p>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.</p>							
	X					X	X

APPENDIX E, TABLE 1

PARAMETER	USE DESIGNATION					
	AQUATIC LIFE			HUMAN HEALTH		
	B1, B4	B2		C ³	A ⁴	ALL OTHER USES
	ACUTE ¹	CHRON ²	ACUTE ¹	CHRON ²		

<p>8.33 Zinc (ug/l) The four-day average concentration of dissolved zinc shall not exceed the value determined by the following equation^a: $Zn = e^{(0.8473(\ln(\text{hardness}))+0.7614)} \times CF^5$</p>						
<p>8.33.1 The one-hour average concentration of dissolved zinc shall not exceed the value determined by the following equation^a: $Zn = e^{(0.8473(\ln(\text{hardness}))+0.8694)} \times CF^5$</p>	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 in 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.

d The early life stage equation in the National Criterion shall be used to establish chronic criteria throughout the state unless the applicant demonstrates that no early life stages of fish occur in the affected water(s).

**APPENDIX E
TABLE 2**

Conversion Factors

Metal	Acute	Chronic
<u>Aluminum</u>	<u>1.000</u>	<u>1.000</u>
Arsenic (III)	1.000	1.000
Cadmium	1.136672-[(ln hardness)(0.041838)]	1.101672-[(ln hardness)(0.041838)]
<u>Chromium (III)</u>	<u>0.316</u>	<u>0.860</u>
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 antidegradation implementation procedures herein are intended to apply to regulated activities that have the potential to affect water quality. Entities that are responsible for regulated activities are referred to as “regulated entities.” The generic term “agency” is used for any government entity evaluating compliance with antidegradation requirements. The specifics of the review called for depend upon the existing uses of the water body segment that would be affected, the level of protection (“tier”) assigned to the applicable water body segment, the nature of the activity, and the extent to which existing water quality would be degraded.

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. These include, but are not limited to, best management practices programs for silviculture administered by the Division of Forestry, programs for oil and gas operations administered by the

Office of Oil and Gas of the Division of Environmental Protection, and reasonable land, soil and water conservation measures, practices applied to agricultural nonpoint sources.

4A.3. Regulated activities that qualify for coverage under a Corps of Engineers nationwide permit, or any subsequent reissuance of the same nationwide permit (or subsequent nationwide permit that regulates those activities) for which state water quality certification has been granted or conditionally approved, and regulated activities that are covered by a WV/NPDES general permit, will be deemed to be in compliance with antidegradation requirements.

4A.4. A proposed new or expanded discharge from a sanitary wastewater treatment plant constructed or operated to alleviate a public health concern associated with failing septic systems or untreated or inadequately treated sewage, shall be exempt from these procedures. This exemption would include combined sewer overflow elimination or reduction projects affecting one or more water bodies and shall apply only where there will be a net decrease in the overall pollutant loading discharged to the combined receiving waters.

4A.5 The discharge of filter backwash from a potable water treatment plant, where the backwash is discharged into the water body from which it was removed, shall be exempt from these procedures.

4A.6. Reissuance of an individual sanitary wastewater treatment plant NPDES permit where no new increase in permitted levels will occur shall be exempt from these procedures, provided that the Director may require antidegradation review procedures be applied where individual circumstances warrant.

46-1-4B. Antidegradation Review Process.

4B.1. The following section outlines how the agency conducting the antidegradation review will determine the level of protection (“tier”) assigned to the receiving water body associated with the activity subject to this rule. All regulated activities not covered by the provisions of Sections 4A.2 and 4A.3 must undergo this review.

4B.2. In conducting an antidegradation review the agency’s first task is to determine the baseline water quality for the receiving water body. Data for establishing the baseline water quality may come from a federal or state agency, the regulated entity, the public, or any other source, as long as the data are recent and reliable. If adequate data are not available, the agency may, in conjunction with the regulated entity or on its own initiative, establish a plan for obtaining the necessary data. The regulated entity may be required to provide ambient concentrations for those parameters of concern that are or may be discharged as a result of the regulated activity into the affected water body to help the permitting agency determine the baseline water quality, the existing uses, and the applicable tier.

4B.3. The agency's second task in conducting an antidegradation review is to determine the existing uses of the receiving water body associated with the proposed activity. The existing uses of the water body shall be determined by identifying whether the water body currently supports, or has supported since November 28, 1975, any of the uses described in 46 CSR 1, Section 6.

4B.4. After determining the baseline water quality for parameters of concern and the existing uses for a water body, the agency will determine which level of protection (i.e. "tier") applies to the receiving water body associated with the activity.

4B.5. Once the correct level of protection ("tier") and water body use(s) are identified for the receiving water body, the agency shall make a preliminary determination whether authorizing the proposed activity will be consistent with the antidegradation requirements set forth herein. Based upon the review findings, the agency will either deny the activity; approve the activity, or approve the activity and proceed on to any additional public participation and intergovernmental coordination phase of the antidegradation review process.

4B.6. All antidegradation review findings shall be documented by the agency in an antidegradation review worksheet and made part of the public record. The findings, including the baseline water quality, the existing uses, the tier assigned to the water body, and whether a regulated activity is consistent with the antidegradation policy, are to be made available to the public. The agency must provide notice of the availability of the antidegradation review worksheet and the opportunity to comment. This notification might be combined with other required notifications. This might be done, for example, by including the antidegradation review worksheet findings in the Fact Sheet of an NPDES permit.

46-1-4C. Tier 1 Protection (Existing Uses).

4C.1. The State's antidegradation policy requires that existing uses and the level of water quality necessary to protect the existing uses shall be maintained and protected. This protection (Tier 1) applies to all waters of the state. A water body shall be considered a Tier 1 water unless the water body is specifically designated as a Tier 2 or Tier 3 water body, in accordance with the procedures contained in this Appendix.

4C.2. Where the CWA fishable/swimmable national goal uses are not attained (for example, where a water body is placed on a list of impaired streams pursuant to Section 303(d) of the Federal Act), or where there is insufficient information to establish which tier should apply, it is the intent of these procedures to apply only Tier 1 protection to such waters until such time as the fishable/swimmable goals are attained or sufficient water quality data is obtained. There also may be waters in the state where one or both of the fishable/swimmable uses are attained, but existing water quality is not "better than necessary" to support the goal uses (i.e. assimilative capacity does not exist for one or more parameters of concern). Tier 1 protections are appropriate for such water bodies.

4C.3. Where existing uses of the water body are impaired, there shall be no lowering of the water quality with respect to the parameters of concern that are causing the impairment. The agency shall consider nomination of such water body for the 303(d) list of water quality-impaired streams.

4C.4. A proposed activity that will result in a new or expanded discharge of a parameter of concern that would otherwise prevent attainment of an existing use may be allowed where the regulated activity agrees to implement or finance 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 regulated activity can show that the level of water quality necessary to protect existing uses fully will be achieved. The agency shall document the basis of the trade through an acceptable wasteload allocation demonstration, or other appropriate means. A trade may be made between more than one stream within a watershed (where removing a discharge in one stream directly results in improved water quality in another stream), provided that existing uses are not impaired within the watershed.

46-1-4D. Tier 2 Protection (High Quality Waters).

4D.1. A water body shall be designated as a Tier 2 high quality water if the agency determines from a review of all available data that water quality criteria are being met and fishable/swimmable national goal uses are being exceeded.

4D.2. The agency shall ensure that no new or expanded regulated activity (i.e., an activity that begins or is expanded after the effective date of this rule) resulting in any significant lowering of water quality in a Tier 2 water body occurs unless an antidegradation analysis has been completed in accordance with this Subpart 4D. In allowing any degradation, the agency shall assure water quality adequate to protect existing uses fully (i.e., Tier 1 protection).

4D.3. The agency may determine that certain types or classes of activities should be exempt from Tier 2 review after balancing the relative impact of the activities on water quality against the overall benefit of the activities to the public health or welfare. Such types or classes of activities may include, for example, expansions or improvements to wastewater treatment facilities or activities, or discharges related to environmental remediation activities. Where the agency tentatively determines to grant an exemption under this provision, public notice of this tentative determination must be given and at least thirty days allowed for public comment. At the time a final determination is made the agency shall issue a response to all significant comments filed during the public comment period. In the case of the Division of Environmental Protection, such final determination is a final order of the Director, and subject to appeal to the Environmental Quality Board.

4D.4. Once it is determined that Tier 2 protection applies to a water body, the next step in the review process is to determine whether the degradation that will result from the proposed activity is significant enough to warrant further review. Significant degradation will be determined on a

parameter-by-parameter basis for each parameter of concern that might be affected by the regulated activity.

4D.5. Degradation for Tier 2 shall be deemed significant if the activity results in a reduction in the water body's available assimilative capacity (the difference between the baseline water quality and the water quality criteria), outside of a mixing zone, of ten percent or more at the appropriate critical flow condition(s) for concentrations for which there are numeric criteria. Critical flow conditions for non-precipitation induced discharges are the 7Q10 flow of the receiving stream, plus either of the following: maximum permitted flow or maximum flow specified in the application, for industrial activities, or the average design flow, for municipal activities.

4D.6. The agency may conclude that a new or expanded activity will not pose significant degradation based upon the specifics of any trading assessment procedure that has been approved by the agency. A proposed activity that will result in a new or expanded discharge of a parameter of concern that would otherwise cause significant degradation may be allowed where the regulated activity agrees to implement or finance controls of point or nonpoint sources sufficient to prevent significant degradation. The agency shall document the basis of the trade through an acceptable wasteload allocation demonstration, or other appropriate means. A trade may be made between more than one stream within a watershed (where removing a discharge in one stream directly results in improved water quality in another stream), provided that existing uses are not impaired within the watershed.

4D.7. New or expanded activities determined to be significant by the agency shall be subject to the Tier 2 review requirements described in Section 4D.8 through 4D.13. If the agency determines that an activity will not cause significant degradation, no further Tier 2 review requirements shall apply; however, the activity must still meet the most stringent applicable technology and/or water quality-based control requirements, or conditions of the permit, or water quality certification, and that determination must be made a part of the public notification, as provided in Section 4B.6.

4D.8. If a determination is made that significant degradation will occur, the agency shall determine whether reasonable and cost effective less-degrading or non-degrading alternatives to the proposed activity exist. The agency will evaluate any alternatives analysis submitted by the regulated activity for consistency with the requirements set forth in Subsection 4D.8.a. herein.

4D.8.a. A regulated entity proposing any new or expanded regulated 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 must provide substantive information pertaining to the cost and environmental impacts associated with the following alternatives:

4D.8.a.1. Pollution prevention measures (e.g., substitution of less toxic substances);

4D.8.a.2. Reduction in scale of project;

4D.8.a.3. Water recycle or reuse;

4D.8.a.4. Process changes;

4D.8.a.5. Innovative treatment technology (e.g., land application of wastewater);

4D.8.a.6. Advanced treatment technology;

4D.8.a.7. Seasonal or controlled discharge options to avoid critical water quality periods;

4D.8.a.8. Improved operation and maintenance of existing treatment systems;
and

4D.8.a.9. Alternative discharge locations.

4D.9. After a determination that alternatives to allowing degradation have been adequately evaluated, a preliminary determination shall be made regarding whether cost-effective and reasonable non-degrading or less-degrading alternatives to the proposed activity shall be required. This determination will be based primarily on the alternatives analysis developed by the regulated entity, but may be supplemented with other information and data. As a rule of thumb, cost effective and reasonable non-degrading or less-degrading pollution control alternatives with costs that are less than 110% of the costs of the pollution control measures associated with the proposed activity shall be considered reasonable.

4D.9.a. If it is determined that reasonable and cost effective less-degrading or non-degrading alternatives to the proposed activity do exist, the project design may be revised accordingly. In general, if reasonable alternative(s) exist, the alternative or combination of alternatives that provide the least amount of degradation shall be implemented up to the reasonable and cost-effective threshold.

4D.10. If significant deterioration would occur, even after application of reasonable less-degrading or non-degrading alternatives, a determination shall be made as to whether the proposed activity is necessary to accommodate important economic or social development in the area in which the waters are located.

4D.11. The regulated activity must document the social and economic importance of the proposed activity.

4D.11.a. The factors to be addressed in such documentation may include, but are not limited to, the following:

4D.11.a.1 Employment (e.g., increasing, maintaining or avoiding a reduction in employment);

4D.11.a.2. Increased production;

4D.11.a.3. Improved community tax base;

4D.11.a.4. Housing;

4D.11.a.5. Ancillary community economic benefit; and

4D.11.a.6 Correction of an environmental or public health problem.

4D.11.b. In addition to the above, a regulated entity may be required to submit the following:

4D.11.b.1 Information pertaining to current aquatic life, recreational, or other water uses;

4D.11.b.2. Information necessary to determine the environmental impacts that may result from the proposed activity;

4D.11.b.3 Facts pertaining to the current state of economic development in the area (e.g., population, area employment, area income, major employers, types of businesses;

4D.11.b.4. Government fiscal base; and

4D.11.b.5 Land use in the areas surrounding the proposed activity.

4D.11.c. Once the available information pertaining to the socio-economic importance of the proposed activity has been reviewed by the agency, a preliminary determination regarding importance shall be made. In evaluating the regulated activity'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). 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 a demonstrated hydrological connection between contaminated groundwater and surface water, and the activity is otherwise subject to this rule, the socio-economic justification process required under 47 C.S.R. 57-6.2.i will satisfy the requirements of this section. 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.

4D.12. Information regarding the agency's preliminary determination regarding socio-economic performance must be made available to the public and other state and federal agencies.

4D.12.a. The intergovernmental coordination requirements in section 46-1-4.1.b will be accomplished by providing notice, to those agencies listed in Appendix F1 that the agency believes may have regulatory oversight of the regulated activity, of the results of the socioeconomic review and requesting comments from them regarding that review.

4D.12.b. The public notice of the proposed activity will be provided in the manner required by Section 4B.6 and shall include notice of the availability of the following:

4D.12.b.1. The decision as to whether the proposed activity has been determined to comply with the antidegradation implementation rule,

4D.12.b.2. The antidegradation worksheet,

4D.12.b.3. A determination of the impact of the activity to baseline water quality,

4D.12.b.4. The results of the socio-economic evaluation of the activity,

4D.12.b.5. The determination regarding existence of reasonable and cost-effective non-degrading or less-degrading alternatives, and

4D.12.b.6. A description of the water body which is subject to the antidegradation review.

4D.13. Once the intergovernmental coordination and public notice requirements of Subpart 4D are satisfied, the agency or Director shall make a determination concerning the social or economic importance in the area in which the affected water bodies are located. All determinations, including determinations to prohibit the activity, shall be documented and made a part of the public record.

46-1-4E. Tier 3 Protection (Outstanding National Resource Waters).

4E.1. The agency shall use the following antidegradation implementation procedures for evaluating new or expanded regulated activities that have the potential to affect Outstanding National Resource Waters (ONRWs), as described in Section 4.1.c., and as nominated and approved in accordance with this subpart.

4E.2. ONRWs are to be maintained, protected and improved where necessary. Any proposed new or expanded regulated activity that would degrade (result in a lowering of water quality) a water body that has been finally approved as an ONRW, other than temporary lowering of water quality, is prohibited.

4E.2.a. Whether degradation is temporary will be determined on a case-by-case basis and shall be made after consideration of the following factors:

4E.2.a.1. The length of time during which the water quality will be lowered;

4E.2.a.2. The parameters affected;

4E.2.a.3. The likelihood for long-term water quality benefits to the segment (e.g., as may result from dredging of contaminated sediment);

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

4E.2.a.5. The potential for any residual long-term influences on existing uses.

4E.2.b. Whether degradation in water quality will occur as a result of an activity will be determined on a case-by-case basis and shall be made after consideration of the following factors:

4E.2.b.1. change in ambient concentrations predicted at the appropriate critical condition(s);

4E.2.b.2. change in loadings (ie., the new or expanded loadings compared to total existing loadings to the segment);

4E.2.b.3. reduction in available assimilative capacity;

4E.2.b.4. nature, persistence and potential effects of the parameter of concern;

4E.2.b.5. potential for cumulative effects;

4E.2.b.6. degree of confidence in the various components of any modeling technique utilized (e.g., degree of confidence associated with the predicted effluent variability); and

4E.2.b.7. other factors determined by the Director, when appropriate.

4E.3. If a preliminary determination is made that the new or expanded regulated activity will not violate the prohibition of 4E.2, the antidegradation review findings shall be documented and the applicable public notice activities shall be initiated. If after review of the factors in 4E.3.a.1-7, the agency preliminarily determines that the proposed activity will violate the prohibition of Section 4E.2, the proposed activity shall be denied. The public notice of the preliminary determination required by Section 4B.5 shall include:

4E.3.a. Information about the proposed activity and its projected impact on the ONRW; and

4E.3.b. An explanation of the decision of the agency to allow or to prohibit the activity in light of the factors considered pursuant to Section 4E.2.

4E.4. A proposed activity that would result in a permanent new or expanded indirect or direct source of pollutants (e.g. an upstream activity) to an ONRW segment is prohibited except where such activity would have no adverse effect on the existing quality of the downstream ONRW segment. Effects on ONRW water quality resulting from upstream activity will be determined based on appropriate techniques and best professional judgment. Factors that may be considered in judging whether ONRW quality would be adversely affected include the criteria in §4E.2.

4E.5. A proposed activity that will result in a new or expanded discharge into an ONRW may be allowed where the regulated entity 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 upstream of an ONRW segment, Tier 3 requirements will be considered satisfied where the regulated activity can show that water quality at all points within the proposed ONRW will be either maintained or improved. The agency will document the basis for the trade through an acceptable wasteload allocation demonstration, or other appropriate method that is reported in the antidegradation review sheet.

4E.6. Upon receipt of a petition filed in accordance with the requirements of Section 4E.7, the Board shall determine whether a water body satisfies the definition of an ONRW, found in 46 C.S.R. 1-4.1.c. Factors to be considered in determining whether to assign an ONRW designation to a water body include the following:

4E.6.a. Impact on private property owners;

4E.6.b. Whether the interests of all affected parties have been adequately represented during the nomination and designation petitioning process;

4E.6.c. The location of the water;

4E.6.d. Any previous special designations;

4E.6.e. Existing water quality;

4E.6.f. Indications of exceptional ecological value;

4E.6.g. Indications of exceptional recreational or aesthetic value;

4E.6.h. Other factors that indicate the outstanding nature of the resource;

4E.6.i. Information about the potential economic impacts of the ONRW designation;
and

4E.6.j. Other factors determined by the Board, when applicable.

4E.7. Any person having an interest which is or may be adversely affected may petition the Board for a regulatory amendment to have a stream or stream segment added to or removed from the list in Appendix F3, Outstanding National Resource Waters.

4E.7.a. The Board shall determine what information must be provided by the petitioner. At a minimum, a complete petition under this section shall include:

4E.7.a.1. The petitioner's name, address, telephone number, and signature;

4E.7.a.2. Identification of the petitioned stream or stream segment, including its location and size, and a U.S. Geological Survey topographic map highlighting the petitioned stream or stream segment;

4E.7.a.3. An identification of the petitioner's interest which is or may be adversely affected by designation or non-designation of the stream or stream segment as an ONRW, including a statement demonstrating how the petitioner satisfies the requirements of Section 4E.8;

4E.7.a.4. A discussion of each of the factors under Section 46.6. and how each supports the requested regulatory action for the petitioned stream or stream segment;

4E.7.a.5. The Board may request that the petitioner provide other supplementary information which is readily available.

4E.7.b. After reviewing the petition and determining that the petitioner satisfies the requirements of Section 4E.8, the Board shall consider the qualification criteria and will provide a written response to the petitioner stating whether the Board will initiate rulemaking to grant the relief requested, i.e., to add the stream or stream segment to or to remove it from Appendix F3, Outstanding National Resource Waters.

4E.7.c. Should the Board determine that the petitioner does not satisfy the requirements of Section 4E.6.e or decide not to grant the relief requested by the petition, the written response shall set forth the reasons supporting this determination.

4E.7.d. If the Board decides to initiate rulemaking to designate a water body as an ONRW, the Board shall notify each locality in which the water or segment lies and areas upstream and downstream and shall provide individual notice to property owners on the nominated segment steam or stream segment that is the subject of the proposed rule-making. The written notice shall include, at a minimum:

4E.7.d.1. A description of the location of the water or segment;

4E.7.d.2. The procedures and criteria for adding a stream or stream segment to or removing it from Appendix F3, as well as the impact of such action;

4E.7.d.3. The name of the person(s) making the nomination; and

4E.7.d.4. The name of a contact person at the Environmental Quality Board who is knowledgeable about the nomination of the water or segment proposed rule-making.

4E.7.e. After receipt of the notice of the nomination proposed rule-making, landowners, the public and localities shall be provided 60 days to comment

4E.7.f. The Board will carry out its rulemaking in the manner provided in 46 C.S.R. 6.

4E.8. For the purpose of Section 4E.7, a person having an interest which is or may be adversely affected must demonstrate how he or she meets an "injury in fact" test by describing the injury to his or her specific affected interests and demonstrate how he or she is among the injured.

46-1-4F. Appeals

4F.1. Final agency decisions, made after public comment, that identify applicable uses, designate tiers, or that find regulated activities to be allowed or prohibited, are final actions that are appealable as set forth in the Administrative Procedures Act. Final agency actions made by the Director are appealable to the Board.

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 Agriculture

Soil Conservation Agency

FEDERAL AGENCIES

US Environmental Protection Agency, Region III

US Fish and Wildlife Service

US Army Corps of Engineers

US Forest Service

US Office of Surface Mining