UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 7
901 NORTH 5TH STREET
KANSAS CITY, KANSAS 66101

SEP 30 2010

Mr. Wayne Gieselman
Director, Environmental Protection Division
Iowa Department of Natural Resources
Wallace Building
502 East 9th Street
Des Moines, Iowa 50319

Dear Mr. Gieselman:

The United States Environmental Protection Agency (EPA) has completed its review of the revisions to Iowa's water quality standards (WQS) under Iowa's Code of State Regulations (567 Iowa Administrative Code, Chapter 61). The Iowa Department of Natural Resources (IDNR) sent revisions to Iowa's WQS to EPA for review, as required under the Code of Federal Regulations (CFR) at 40 CFR § 131.20, on May 5, 2010; EPA received this WQS package on May 11, 2010. The new or revised WQS were originally approved by the Iowa Environmental Protection Commission (EPC) on November 19, 2008, but were amended and approved by the EPC on August 12, 2009. The final rule was published in the Code of State Regulations on January 13, 2010, and became effective in Iowa on February 17, 2010. This formal submission to EPA included the Attorney General Certification dated May 5, 2010.

Under Section 303(c) of the Clean Water Act (CWA), 33 U.S.C. § 1313(c), states are to review their WQS at least every three years and submit any revised or new WQS to EPA for review and approval. Federal regulations at 40 CFR §§ 131.20, 131.21, and 131.22 implement these requirements. As part of the review process, IDNR held 13 public hearings for this rule revision to receive public input and comment on the proposed WQS revisions. IDNR published a Responsiveness Summary document responding to approximately 930 public comments on November 23, 2009. Based on our review, Iowa's public participation process is consistent with and satisfies the procedural requirements of 40 CFR § 131.20.

EPA commends the state's commitment to protecting its waters by establishing water quality standards and adopting an antidegradation policy and antidegradation implementation procedures that significantly increase environmental protection to waters in the state. The important aspect of this rulemaking is that antidegradation plays a critical role in allowing Iowa to maintain and protect the finite public resource of clean water and ensure that decisions to allow reductions in water quality are made in a public manner and serve the public good.

RECYCLE
PAPER CONTAINS RECYCLED FIBERS

TODAY'S DECISION

As Director of the Water, Wetlands and Pesticides Division, I am charged with the responsibility of reviewing and approving or disapproving new or revised state WQS under Section 303(c) of the CWA. With this letter, EPA is approving the new or revised WQS submitted by IDNR. The provisions addressed in today's decision are listed below. The enclosure to this letter provides a more detailed description of EPA's rationale for approving the new or revised WQS.

Items EPA is Approving

SECTION I – Iowa's New and Revised Antidegradation Policy

A. Subrule 61.2(2) Antidegradation Policy. Four New Tiers of Protection; paragraphs "a", "b", "c", and "d."
    1. Subrule 61.2(2), paragraph "a," Tier 1 Protection
    2. Subrule 61.2(2), paragraph "b," Tier 2 Protection
    3. Subrule 61.2(2), paragraph "c," Tier 2 ½ Protection – Outstanding Iowa Waters
    4. Subrule 61.2(2), paragraph "d," Tier 3 Protection – Outstanding National Resource Waters

SECTION II – Iowa's New Antidegradation Implementation Procedures

A. Subrule 61.2(2) Antidegradation Policy, paragraph "e"
    1. Pollutant-by-Pollutant Approach for Protecting Water Quality
    2. Assigning Tier Reviews
    3. Nominating a Water Body for Tier 2 ½ or Tier 3 Protection and Revising Tier Review Levels
    4. Temporary degradation factors.

B. Determining Whether an Activity Results in Degradation

C. Iowa's Tier 2 Antidegradation Review Process
    1. Section 3; Pollution Control/Pollution Prevention Alternatives
    2. The Affected Community
    3. Accommodate Important Social and Economic Development
    4. Finding of Necessity
    5. Full Satisfaction of the Intergovernmental Coordination and Public Participation Provisions Highest Statutory and Regulatory Requirements for All New and Existing Point Sources and All Cost-Effective and Reasonable Best Management Practices for Nonpoint Source Control

SECTION III - Subrule 61.2(2) Antidegradation Policy, Paragraphs "f" and "g"

SECTION IV – Amending the Bacteria Criteria Table and the Rule-Referenced Surface Water Classification Document

SECTION V – Revising the Date of the Surface Water Classification Document

We look forward to continue working with IDNR to continue to update its water quality standards through the triennial review process. If you have any questions regarding this matter, please contact John DeLashmit, Chief, Water Quality Management Branch, at (913) 551-7821 or delashmit.john@epa.gov. The staff level point of contact regarding this letter and enclosure is Ann Lavaty, and she may be reached at (913) 551-7370.

Sincerely,

Karen A. Flournoy

for William A. Spratlin
Director
Water, Wetlands and Pesticides Division

Enclosure: EPA's Review (Record of Decision)

cc: Mr. Chuck Corell
IDNR

Ms. Lori McDaniel
IDNR

Ms. Rochelle Cardinale
IDNR

Mr. Mike Coffey
U.S. Fish and Wildlife Service

Ms. Amy Newman
EPA Headquarters

ENCLOSURE

EPA REGION 7 REVIEW OF IOWA'S FEBRUARY 17, 2010 RULE REVISIONS TO IOWA'S WATER QUALITY STANDARDS

On May 11, 2010, the United States Environmental Protection Agency (EPA) received from the Iowa Department of Natural Resources (IDNR) a revision of Iowa's water quality standards (WQS). The revisions to Iowa's rules at 567 IAC Chapter 61 WQS consist of adoption of a revised antidegradation policy in Chapter 61 and new antidegradation implementation procedures, which are contained within a rule-referenced document, entitled ***Iowa Antidegradation Implementation Procedure***. These revisions to Chapter 61 were adopted by the State on February 17, 2010, and were certified by the Attorney General on May 5, 2010, as adopted pursuant to Iowa law.

Under Section 303(c) of the Clean Water Act (CWA or the Act), the Administrator of the United States Environmental Protection Agency (EPA) is charged with reviewing and approving or disapproving state-adopted new or revised water quality standards (WQS). To determine if new or revised state water quality standards are consistent with the CWA and EPA's implementing regulations at 40 CFR part 131, specifically 40 CFR §§131.5 and 131.6, EPA must review the water quality standards and determine:

1) Whether the state has adopted water uses which are consistent with the requirements of the Clean Water Act;
2) Whether the state has adopted criteria that protect the designated water uses;
3) Whether the state has followed its legal procedures for revising or adopting standards;
4) Whether the state standards which do not include the uses specified in section 101(a)(2) of the Act are based upon appropriate technical and scientific data and analyses; and
5) Whether the state submission meets the minimum requirements for water quality standards submissions to EPA (See 40 CFR § 131.6). Among these is the requirement that the state have an "antidegradation policy consistent with § 131.12." 40 CFR 131.12, in turn, requires that each state adopt an antidegradation policy, but also identify methods to implement that policy.

The IDNR has authority to develop surface WQS that apply to "Waters of the State," which has been defined in Iowa State regulations to mean:

> *"Any stream, lake, pond, marsh, watercourse, waterway, well, spring, reservoir, aquifer, irrigation system, drainage system, and any other body or accumulation of water, surface or underground, natural or artificial, public or private, which are contained within, flow through or border upon the State or any portion thereof."* 455B.171.

BACKGROUND

EPA's regulations at 40 CFR § 131.12 provide the following:

Antidegradation Policy.

(a) The State shall develop and adopt a statewide antidegradation policy and identify the methods for implementing such policy pursuant to this subpart. The antidegradation policy and implementation methods shall, at a minimum be consistent with the following:

(1) Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.

(2) Where the quality of the waters exceed levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the State finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the State's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In allowing such degradation or lower water quality, the State shall assure water quality adequate to protect existing uses fully. Further, the State shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control.

(3) Where high quality waters constitute an outstanding National resource, such as waters of National and State parks and wildlife refuges and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

(4) In those cases where potential water quality impairment associated with a thermal discharge is involved, the antidegradation policy and implementing method shall be consistent with section 316 of the Act.

Accordingly, EPA is required to determine whether Iowa's antidegradation policy and implementation procedures are consistent with 40 CFR § 131.12. Since the publication of EPA's regulations in 1983, EPA has maintained that EPA reviews state antidegradation implementation methods to determine whether they undermine the intent of the state's antidegradation policy, consistent with 40 CFR § 131.12. See 48 FR 51400 (November 8, 1983).

EPA's Consultation Requirements under the Endangered Species Act (ESA).

EPA is not required under ESA to consult on the approval of antidegradation policies or implementation procedures with the U.S. Fish and Wildlife Service or the National Oceanic and Atmospheric Administration (Services). Because EPA lacks authority to require a state or tribe to provide more than the minimum elements required in EPA's regulations, EPA lacks discretion

to require inclusion of measures that would benefit listed species, thus making any ESA consultation on the approval of the antidegradation policy or implementation procedures a meaningless exercise. Therefore, consultation is not required, consistent with the ESA and the Services' implementing regulations[1]. See 50 CFR § 402.03.

TODAY'S ACTION

In today's action, EPA is approving Iowa's revised antidegradation policy and the new procedures that Iowa will use to implement the antidegradation policy. EPA's rationale for today's decision is discussed in further detail below.

SECTION I – IOWA'S NEW AND REVISED ANTIDEGRADATION POLICY

A. Subrule 61.2(2) Antidegradation Policy. Four New Tiers of Protection; paragraphs "a", "b", "c", and "d."

567 IAC subrule 61.2(2) Antidegradation Policy. The new policy statements contained within paragraphs "a" through "d" provide for four levels of protection; specifically Tier 1, Tier 2, Tier 2 ½, and Tier 3. All surface waters in Iowa are subject to the antidegradation policy statements and the new procedures rule referenced in paragraph "e" addressed in Section II below. In the February 17, 2010, revisions to the WQS, IDNR revised the antidegradation policy by striking the following language; the new language is underlined:

"61.2(2) *Antidegradation policy.* It is the policy of the state of Iowa that:

~~*a.* Existing surface water uses and the level of water quality necessary to protect the existing uses will be maintained and protected.~~

~~*b.* Chemical integrity: For those water bodies where water quality significantly exceeds levels necessary to protect existing uses and the waters designated as high quality in 61.3(5)*"e,"* that water quality will be maintained at or above existing quality, except when it is determined by the environmental protection commission after public hearing and after intergovernmental coordination and public participation provisions noted in the continuing planning process that there is need to allow a lower chemical quality because of necessary and justifiable economic and social development in the area. The state shall ensure adequate chemical quality to fully protect existing uses.~~

[1] Antidegradation Policy Approvals and Endangered Species Act Consultations. Memorandum from Geoffrey H. Grubbs, Director of the Office of Science and Technology to Water Management Division Directors, Regions 1-10. January 27, 2005.

~~(1) Bear Creek, mouth in Winneshiek County and tributary to the Upper Iowa River.~~

~~(2) Bloody Run, mouth in Clayton County and tributary to the Mississippi River.~~

~~(3) Catfish Creek from Swiss Valley Park in Dubuque County to its source.~~

~~(4) Unnamed Creek known locally as Coldwater Creek with mouth in Winneshiek County and tributary to the Upper Iowa River.~~

~~(5) Fenchel Creek, mouth to Richmond Springs, in Delaware County and tributary to the Maquoketa River.~~

~~(6) Odell Branch (aka Fountain Spring Creek), mouth (section 10, T90N, R4W, Delaware County), tributary to Elk Creek, which is tributary to the Turkey River to west line of section 9, T90N, R4W, Delaware County.~~

~~(7) Iowa Great Lakes chain of lakes in Dickinson County, including West Lake Okoboji, Spirit Lake, East Lake Okoboji, Minnewashta Lake, Upper Gar Lake, and Lower Gar Lake.~~

~~(8) North Bear Creek, with mouth in Winneshiek County and tributary to Bear Creek, listed as number 1 in this listing.~~

~~(9) North Cedar Creek, with mouth in Clayton County and tributary to Sny Magill Creek.~~

~~(10) Sny Magill Creek, with mouth in Clayton County and tributary to the Mississippi River.~~

~~(11) Turkey River, from the point where it is joined by the Volga River in Clayton County to Vernon Springs in Howard County.~~

~~(12) Waterloo Creek, with mouth in Allamakee County and tributary to the Upper Iowa River.~~

~~(13) Maquoketa River, from confluence with South Fork Maquoketa River (section 16, T90N, R6W, Delaware County) to Highway 3 (north line of section 24, T91N, R7W, Fayette County).~~

~~(14) Spring Branch, mouth (section 10, T88N, R5W, Delaware County) to spring source (section 35, T89N, R5W, Delaware County).~~

~~(15) Little Turkey River, Clayton-Delaware County line to south line of section 11, T90N, R3W, Delaware County.~~

~~(16) Middle Fork Little Maquoketa River (aka Bankston Creek), west line of section 31, T90N, R1E to north line of section 33, T90N, R1W, Dubuque County.~~

~~(17) Brush Creek, north line of section 23, T85N, R3E to north line of section 1, T85N, R3E, Jackson County.~~

~~(18) Dalton Lake — Jackson County.~~

~~(19) Little Mill Creek, mouth (Jackson County) to west line of section 29, T86N, R4E, Jackson County.~~

~~(20) Mill Creek (aka Big Mill Creek), from confluence with Little Mill Creek in section 13, T86N, R4E, Jackson County, to confluence with Unnamed Creek, section 1, T86N, R3E, Jackson County.~~

~~(21) Unnamed Creek (tributary to Mill Creek), mouth (section 1, T86N, R3E, Jackson County) to west line of section 1, T86N, R3E, Jackson County.~~

~~(22) Unnamed Creek (aka South Fork Big Mill), tributary to Mill Creek, from mouth (section 8, T86N, R4E, Jackson County) to west line of section 17, T86N, R4E, Jackson County.~~

~~(23) Clear Creek, mouth (Allamakee County) to west line of section 25, T99N, R4W, Allamakee County.~~

~~(24) French Creek, mouth (Allamakee County) to east line of section 23, T99N, R5W, Allamakee County.~~

~~(25) Hickory Creek, mouth (Allamakee County) to south line of section 28, T96N, R5W, Allamakee County.~~

~~(26) Little Paint Creek, mouth to north line of section 30, T97N, R3W, Allamakee County.~~

~~(27) Paint Creek, from confluence with Little Paint Creek to road crossing in section 18, T97N, R4W, Allamakee County.~~

~~(28) Patterson Creek, mouth (Allamakee County) to east line of section 3, T98N, R6W, Allamakee County.~~

~~(29) Silver Creek, mouth (Allamakee County) to south line of section 31, T99N, R5W, Allamakee County.~~

~~(30) Village Creek, mouth (Allamakee County) to west line of section 19, T98N, R4W, Allamakee County.~~

~~(31) Wexford Creek, mouth to west line of section 25, T98N, R3W, Allamakee County.~~

~~(32) Buck Creek, mouth (Clayton County) to west line of section 9, T93N, R3W, Clayton County.~~

~~(33) Ensign Creek (aka Ensign Hollow), mouth (section 28, T92N, R6W, Clayton County) to spring source~~

~~(section 29, T92N, R6W, Clayton County).~~

~~(34) South Cedar Creek (aka Cedar Creek), mouth (Clayton County) to north line of section 7, T92N, R3W, Clayton County.~~

~~(35) Bear Creek, mouth (Fayette County) to west line of section 6, T92N, R7W, Fayette County.~~

~~(36) Unnamed Creek (aka Glover's Creek), mouth to west line of section 15, T94N, R8W, Fayette County.~~

~~(37) Grannis Creek, mouth to west line of section 36, T93N, R8W, Fayette County.~~

~~(38) Mink Creek, mouth to west line of section 15, T93N, R7W, Fayette County.~~

~~(39) Otter Creek, mouth (Fayette County) to confluence with Unnamed Creek (aka Glover's Creek) in section 22, T94N, R8W, Fayette County.~~

~~(40) Nichols Creek (aka Bigalk Creek), mouth (section 18, T100N, R10W, Winneshiek County) to west line of section 23, T100N, R11W, Howard County.~~

~~(41) Spring Creek, mouth (Mitchell County) to north line of section 8, T97N, R16W, Mitchell County.~~

~~(42) Turtle Creek, mouth (Mitchell County) to east line of section 7, T99N, R17W, Mitchell County.~~

~~(43) Wapsipinicon River, from the town of McIntire to north line of section 20, T99N, R15W, Mitchell County.~~

~~(44) Bohemian Creek, mouth (Winneshiek County) to Howard County Road V58 (west line of section 2, T97N, R11W, Howard County).~~

~~(45) Coon Creek, mouth (Winneshiek County) to road crossing in section 13, T98N, R7W, Winneshiek County.~~

~~(46) Smith Creek (aka Trout River), mouth to south line of section 33, T98N, R7W, Winneshiek County.~~

~~(47) Unnamed Creek (aka Trout Run), mouth to south line of section 27, T98N, R8W, Winneshiek County.~~

~~(48) Twin Springs Creek, mouth to springs in Twin Springs Park in section 20, T98N, R8W, Winneshiek County.~~

~~(49) Canoe Creek (aka West Canoe Creek), from Winneshiek County Road W38 to west line of section 8, T99N, R8W, Winneshiek County.~~

~~*c.* Standards and restrictions more stringent than those applied to other waters may be applied by the commission to those waters listed below when it is determined that such more stringent standards and restrictions are necessary to fully maintain water quality at existing levels.~~

~~West Lake Okoboji in Dickinson County.~~

~~*d.* The Mississippi River and the Missouri River do not meet the criteria of 61.2(2)"*c*" but nevertheless constitute waters of exceptional state and national significance. Water quality management decisions will be made in consideration of the exceptional value of the resource.~~

~~*e.* In furtherance of the policy stated in 61.2(2)"*b*," there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources, and feasible management and regulatory programs pursuant to Section 208 of the Federal Water Pollution Control Act for nonpoint sources, both existing and proposed.~~

~~*f.* Physical and biological integrity: The waters designated as high-quality resource waters in 61.3(5)"*e*" will receive protection of existing uses through maintaining water quality levels necessary to fully protect existing uses or improve water quality to levels necessary to meet the designated use criterion in Tables 1, 2 and 3 and at preserving or enhancing the physical and biological integrity of these waters. This involves the protection of such features of the water body as channel alignment, bed characteristics, water velocity, aquatic habitat, and the type, distribution and abundance of existing aquatic species.~~

~~*g.* It is the intent of the antidegradation policy to protect and maintain the existing physical, biological, and chemical integrity of all waters of the state. Consistency with Iowa's water quality standards requires that any proposed activity modifying the existing physical, biological, or chemical integrity of a water of the state shall not adversely impact these resource attributes, either on an individual or cumulative basis. An adverse impact shall refer to the loss of or irreparable damage to the aquatic, semiaquatic or wildlife habitat or population, or a modification to the water body that would cause an overall degradation to the aquatic or wildlife population and diversity. The fish and wildlife division of the department and the U.S. Fish and Wildlife Service shall serve as consultants to the department for assessing impacts. Exceptions to the preceding~~

~~will be allowed only if full mitigation is provided by the applicant and approved by the department.~~

~~For those waters of the state designated as high quality or high quality resource waters and the Mississippi and Missouri Rivers, any proposed activity that will adversely impact the existing physical, chemical, or biological integrity of that water will not be consistent with Iowa's water quality standards. Mitigation will not be allowed except in highly unusual situations where no other project alternatives exist. In these cases, full mitigation must be provided by the applicant and approved by the department.~~

a. Tier 1 protection. Existing surface water uses and the level of water quality necessary to protect the existing uses will be maintained and protected.

b. Tier 2 protection. Where the quality of the waters exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the department finds, after full satisfaction of the intergovernmental coordination and public participation provisions, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In allowing such degradation or lower water quality, the department shall ensure water quality adequate to protect existing uses fully. Further, the department shall ensure the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control before allowing any lowering of water quality.

c. Tier 2½ protection—outstanding Iowa waters. Where high quality waters constitute an outstanding state resource, such as waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

d. Tier 3 protection—outstanding national resource waters. Where high quality waters constitute an outstanding national resource, such as waters of national and state parks and wildlife refuges and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected. Any proposed activity that would result in a permanent new or expanded source of pollutants in an outstanding national resource water is prohibited.

1. Subrule 61.2(2), paragraph "a," Tier 1 Protection

As described above in the background section of this enclosure, the CWA and EPA's implementing regulations require states to provide that existing uses and the level of water quality to protect those uses will be maintained and protected. Existing uses are those uses actually attained in a surface water body or water body segment on or after November 28, 1975, whether or not they are included in the WQS. See 40 CFR 131.3(e). Iowa has adopted a Tier 1 antidegradation policy statement in subrule 61.2(2)(a) that is facially identical to EPA regulations at 40 CFR § 131.12(a)(1). As such, EPA hereby approves Iowa's new Tier 1 antidegradation policy statement.

2. Subrule 61.2(2), paragraph "b," Tier 2 Protection

EPA regulations at 40 CFR § 131.12(a)(2) state:

> Where the quality of the waters exceed levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the State finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the State's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In allowing such degradation or lower water quality, the State shall assure water quality adequate to protect existing uses fully. Further, the State shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control.

In "high-quality" waters, under 40 CFR § 131.12(a)(2), water quality may not be lowered to less than the level necessary to fully protect the "fishable/swimmable" uses and other existing uses. This provision is intended to provide relief only where the economic and social need for the activity clearly outweighs the benefit of maintaining water quality above that required for "fishable/swimmable" water, and both cannot be achieved. There is a high burden on the individual proposing such activities.

Iowa has adopted a Tier 2 antidegradation policy statement for high quality waters in subrule 61.2(2)(b) that is virtually identical to EPA regulations at 40 CFR § 131.12(a)(2) and is consistent with EPA's Water Quality Standard Handbook (2nd Ed. 1994) p. 4-8. As such, EPA hereby approves Iowa's new Tier 2 antidegradation policy statement.

3. Subrule 61.2(2), paragraph "c," Tier 2 ½ Protection - Outstanding Iowa Waters

Iowa's Tier 2 ½ level of protection is an application of the antidegradation policy that has implementation requirements that are more stringent than for Tier 2 high quality

waters, but somewhat less stringent than the prohibition against any permanent lowering of water quality in Tier 3 waters. The November 23, 2009, IDNR Responsiveness Summary to public comments describes that the ability to afford a level of protection that recognizes and attempts to preserve Iowa's truly remarkable surface water resources is needed and long overdue and a Tier 2 ½ level of protection is necessary for just that reason. The Outstanding Iowa Waters category provision that is included in the revisions to the WQS that EPA is approving today presents a unique opportunity to afford a level of protection commensurate with the caliber of waters listed in Appendix B of the *Iowa Antidegradation Implementation Procedure*.

EPA has accepted a Tier 2 ½ provision as being consistent with the intent and spirit of the antidegradation policy [63 FR 36787]. Inclusion of a Tier 2 ½ within the regulation encourages States and Tribes to apply more stringent controls than would be required under Tier 2 but with more flexibility to make adjustments in criteria and permitting decisions than would normally be allowed if the water body in question were designated as an Outstanding National Resource Water. As such, EPA hereby approves Iowa's new Tier 2 ½ antidegradation policy statement identified in subrule 61.2(2)(c) because it is consistent with EPA's requirements at 40 CFR part 131.12 by imposing requirements to waters that would otherwise only be subject to Tier 2 requirements that go above and beyond those contained in and required by 40 CFR part 131.12(a)(2).

4. Subrule 61.2(2), paragraph "d," Tier 3 Protection – Outstanding National Resource Waters (ONRWs)

Tier 3 applies to ONRWs. As described in the 1983 preamble to the WQS Regulation, "States may allow some limited activities which result in temporary and short-term changes in water quality," but such changes in water quality must not impact existing uses or permanently lower water quality of a Tier 3 water. [48 FR 51403] Iowa has adopted a Tier 3 antidegradation policy statement for ONRWs in subrule 61.2(2)(d) that is facially identical to EPA regulations at 40 CFR § 131.12(a)(3) and is consistent with the 1983 preamble to the WQS Regulation. As such, EPA hereby approves Iowa's new Tier 3 antidegradation policy statement.

SECTION II – IOWA'S NEW ANTIDEGRADATION IMPLEMENTATION PROCEDURES

A. Subrule 61.2(2) Antidegradation Policy, paragraph "e"

In the February 17, 2010, revisions to the WQS, Iowa added a new paragraph "e" to rule reference the State's new antidegradation implementation procedures as follows:

" *e.* The four levels of protection provided by the antidegradation policy in paragraphs *"a"* through *"d"* of this subrule shall be implemented according to procedures hereby incorporated by

reference and known as the "Iowa Antidegradation Implementation Procedure," effective February 17, 2010. This document may be obtained on the department's Web site at http://www.iowadnr.com/water/standards/index.html."

The antidegradation review requirements under 40 CFR § 131.12(a)(2) are triggered by any regulated action that would result in the lowering of water quality in a high-quality water. Such activities as new discharges or expansion of existing facilities would presumably lower water quality and would not be permissible unless the State conducts a review consistent with the previous paragraph. For instance, no permit may be issued, without a Tier 2 antidegradation review, if the discharge will allow lower water quality.[2] The most important function of the Tier 2 requirements is to ensure that an evaluation of alternatives (e.g., pollution elimination or reduction options) is conducted. Such an evaluation must demonstrate that the proposed water quality degradation is necessary because reasonable non-degrading or less-degrading alternatives are not available.

EPA's regulations provide a great deal of discretion to states and authorized tribes regarding the amount of specificity needed in antidegradation implementation methods. In reviewing implementation methods, EPA looks to see whether they render the antidegradation "policy" (requirements) inconsistent with 40 CFR § 131.12 (Water Quality Standard Handbook (2nd Ed. 1994) p. 4-2; 63 FR 36784). The regulations do not specify minimum elements for such methods, but do require that such methods are consistent with the intent of the antidegradation policy.

Iowa's new Antidegradation Implementation Procedures (AIP) describes the process by which Iowa will perform antidegradation reviews. The following sections describe EPA's rationale for approving these new implementation procedures.

1. Pollutant-by-Pollutant Approach for Protecting Water Quality.

The four Tiers of Iowa's antidegradation policy discussed above are designed to protect water quality from degradation in all surface waters of the State on a pollutant-by-pollutant basis. Under this approach, surface water quality might be allowed to be degraded for one or more pollutants of concern but be unaffected by other pollutants (page 4 of the *Iowa Antidegradation Implementation Procedure* (AIP)). EPA has previously found that the selection of high quality waters using either a designational (water body-by-water body) or a pollutant-by-pollutant approach could be consistent with the federal requirements at 40 CFR § 131.12(a)(2). In EPA's Advance Notice of Proposed Rulemaking, published on July 7, 1998, EPA stated:

[2] Application of Antidegradation Policy to the Niagara River. (Memorandum from Director, Office of Water Regulations and Standards to Director, Water Management Division, RII; August 4.) Washington D.C.

There are advantages and disadvantages to each approach. EPA's current thinking is that neither approach is clearly superior and that either, when properly implemented, is acceptable. EPA has approved both approaches in State standards. [63 FR 36782]

Iowa has defined pollutant of concern in the glossary of the AIP as follows:

"Pollutants of concern for antidegradation reviews include only those pollutants which are reasonably expected to be present in the discharge and may reasonably be expected to negatively affect the beneficial uses of the receiving water."

IDNR's Responsiveness Summary includes a discussion (page 22) of how inclusive the definition for a "pollutant of concern" is and clarifies that the term does not just include those pollutants for which numeric criteria exist, but also includes pollutants for which only narrative general criteria apply, as defined in IAC 61.3(2):

General water quality criteria. The following criteria are applicable to all surface waters including general use and designated use waters, at all places and times for the uses described in 61.3(1) "a."

a. Such waters shall be free from substances attributable to point source wastewater discharges that will settle to form sludge deposits.
b. Such waters shall be free from floating debris, oil, grease, scum and other floating materials attributable to wastewater discharges or agricultural practices in amounts sufficient to create a nuisance.
c. Such waters will be free from materials attributable to wastewater discharges or agricultural practices producing objectionable color, odor or other aesthetically objectionable condition.
d. Such waters will be free from substances attributable to wastewater discharges or agricultural practices in concentrations or combinations which are acutely toxic to human, animal, or plant life.
e. Such waters will be free from substances attributable to wastewater discharges or agricultural practices in quantities which would produce undesirable or nuisance aquatic life.
f. The turbidity of the receiving water shall not be increased by more than 25 nephelometric turbidity units by any point source discharge.

Iowa's approach using the pollutant-by-pollutant basis means that Tier 2 protection will be applied even where the criteria for some parameters are not always attained pursuant to the State's current CWA section 303(d) list of impaired waters. This means that water bodies identified on Iowa's CWA section 303(d) list of impaired waters as impaired for certain pollutant parameters (e.g., X and Y) would still be considered Tier 2 waters for other pollutant parameters for which the water body is not listed as impaired (all applicable WQS except X and Y). For example, a water body may be listed as impaired for bacteria, and for that reason the water body would be considered a Tier 1 water body for bacteria, but that same water body would be considered a Tier 2 water

body for all other pollutant parameters because it is not listed as impaired for anything other than bacteria.

Both Tier 1 and Tier 2 protections are provided for pollutants for which water quality is better than the WQS. Tier 2 ½ and Tier 3 protection will be provided for all pollutants of concern in Outstanding Iowa Waters (OIWs) and ONRWs. In addition, where water bodies have not been listed as impaired on the § 303(d) list or as an OIW and ONRW, the presumed antidegradation protection level is Tier 2 for all pollutants of concern (page 7, AIP). Using the pollutant-by-pollutant approach in this way is consistent with EPA's antidegradation regulation because it provides Tier 2 protection to waters that are exceeding applicable WQS on a pollutant-by-pollutant basis. For these reasons, EPA approves Iowa's pollutant-by-pollutant approach of the Iowa AIP (Section 1.2, page 7), to identifying and protecting Tier 2 waters.

2. Assigning Tier Reviews.

a. Tier 1.

In order to implement Tier 1, a State or Tribe must define what is meant by the term "existing instream water use" (40 CFR 131.12(a)(1)) and must also be able to identify the level of water quality that is required to permit an existing use to occur. All waters of the U.S. are subject to Tier 1 protection. In general, waters that are subject to only Tier 1 antidegradation policies are those water bodies that do not exceed the CWA Section 101(a)(2) goals, or do not have assimilative capacity to receive additional quantities of a pollutant(s) without jeopardizing the existing use. [63 FR 36781] The Iowa AIP satisfies these requirements through the following definitions and provisions described below, and as such, these definitions and provisions are hereby approved as consistent with EPA regulations at 40 CFR 131.12(a)(1).

The definition of existing use (existing instream water use) in the Iowa AIP glossary is identical to EPA's regulatory definition at 40 CFR 131.3(e) as follows:

"Beneficial uses actually attained in a surface water on or after November 28, 1975, whether or not the uses are designated in the water quality standards."

A Tier 1 Review is defined in the Iowa AIP glossary as follows:

"Policies and procedures that prohibit degradation which results in the loss or impairment of a beneficial use or violation of water quality criteria and that prohibit degradation of existing water quality where pollutants of concern are at or violating applicable water quality standards. Tier 1 protection applies to all surface waters regardless of existing water quality as the minimum protection level."

The definition of "Beneficial Use" is provided in the AIP glossary as:

"*All existing and designated uses on or in surface waters of the state*."

In addition, the following statement from IDNR's Responsiveness Summary (page 33) clarifies Iowa's intent when there is an absence of information on existing water quality:

"In the absence of information on existing water quality, waters shall automatically receive Tier 2 review prior to allowing any additional pollutants of concern that might result in a degradation of the water quality."

Section 1.2 of the Iowa AIP (page 5) specifies that Tier 1 requires that the level of water quality necessary for existing uses be maintained and protected and that the WQS be achieved. Tier 1 reviews prohibit degradation that may cause or contribute to the impairment of a beneficial use or violation of water quality criteria. The definition of a Tier 1 review and this part of Section 1.2 (Tier 1 and Assigning Tier 1 Review) of the Iowa AIP are consistent with the guidance provided in EPA's 1998 Advanced Notice of Proposed Rulemaking (63 FR 36781) and as such are hereby approved.

b. Tier 2.

A Tier 2 Review is defined in the AIP glossary as follows:

"Policies and procedures that prohibit degradation of a surface water unless a review of reasonable alternatives and social and economic considerations justifies a lowering of water quality or the lowering of water quality is temporary and limited. Tier 2 protection level applies to all surface waters where existing water quality is better than applicable water quality standards as determined on a pollutant-by-pollutant basis."

When assigning Tier 2 reviews, the Iowa AIP requires the following (Section 1.2; page 5):

"A Tier 2 review shall be conducted for new and expanding discharges to all surface waters of the state where existing water quality is better than applicable water quality standards as determined on a pollutant-by-pollutant basis, unless one of the following conditions apply:

- *the water is an OIW or ONRW to which Tier 2 ½ & Tier 3 protection applies or,*
- *existing water quality is worse than the applicable water quality criteria for the pollutants of concern."*

As explained above, Tier 2 protection applies on a pollutant-by-pollutant basis to all surface waters where existing water quality is better than applicable WQS as determined on a pollutant-by-pollutant basis; unless the water body is an OIW (Tier 2 ½) or ONRW (Tier 3). Although Iowa's AIP states that Tier 2 protection does not apply to intermittent watercourses or those watercourses whose channels are normally above the water table, antidegradation requirements would still apply to many of Iowa's general use waters that may not yet be designated with uses specified in Section 101(a)(2) of the CWA and, as a result, are not included in Iowa's Surface Water Classification Document (IAC 61.3(5)). These waters may indeed exist on the specific United States Geological Survey map[3] referenced in rule 61.3(1) "b" as intermittent streams with perennial pools; IDNR provides more discussion on this issue below in their response to comments.

IDNR clarified its intent in these regards with the following statement from their Responsiveness Summary (pages 38-39):

"The Department's proposed antidegradation protections apply to all surface waters of the state except intermittent watercourses and those watercourses which typically flow only for short periods of time following precipitation and whose channels are normally above the water table. Such intermittent watercourses do not support a viable aquatic community during low flow and do not maintain pooled conditions during periods of no flow.

The Department specifically chose this language for defining the scope of the antidegradation protections in an effort to align this policy with the previously approved application of the "rebuttable presumption" through rule 567 IAC 61.3(1). It was agreed by the Department, U.S. EPA, and the regulated community that the "rebuttable presumption" applies only to jurisdictional waters. Rule 567 IAC 61.3(1) establishes the definitions of "general use segments" and "designated use segments". Designated use segments are intended to be waters that are subject to Clean Water Act jurisdiction.

The rebuttable presumption applies to waters shown as perennial on the specific U.S. Geological Survey map referenced in rule 61.3(1) "b" and to other intermittent streams with perennial pools until such time as a use attainability analysis makes a determination that the water body does not fit the applicable definitions. Such perennial waters satisfy both tests as set forth in Rapanos.

Some of the comments did not object to the use of the term "designated waters" to define the extent of the antidegradation protections but objected to the use of the underlying definition. The Department has chosen to use the underlying

[3] This data is identical to EPA's National Hydrography Database Medium Resolution data described and found at http://www.epa.gov/waters/doc/rad/nhd_model.html.

definitions for clarity and to avoid circumstances in which a stream segment is subject to the rebuttable presumption and has not yet been redesignated after completion of a use attainability analysis. The antidegradation protections should apply when a stream segment actually meets the definition of a "designated water" under Iowa law. Similarly, a proposed new or expanded discharge should not be subject to antidegradation procedures if a use attainability analysis shows that the stream is a nonjurisdictional water but has not yet been recategorized through the use attainability analysis process. It is important to note that the issue is whether the discharge impacts a covered water, not necessarily whether the stream receiving the discharge meets the definition of a covered water. Antidegradation will apply if a downstream water qualifies and will be impacted."

The proposed antidegradation protections are not intended to exceed the jurisdictional authority of the Clean Water Act and the Department does not believe they exceed such authority.

However, the Department believes the these comments rely upon an overly restrictive reading of section 455B.173(2) of the Code of Iowa. Section 455B.173(2) relates only to the establishment of effluent standards. The Department does not consider the proposed antidegradation protections to constitute an effluent standard for purposes of application of section 455B.173(2). Regardless, the proposed protections are designed to conform to the jurisdictional limits of the Clean Water Act."

EPA's interpretation of IDNR's response, specifically the last sentence of the last paragraph, is that the Iowa AIP must apply to all waters of the U.S. as they exist in Iowa. Further, Section 2 .1 (page 10) of the AIP clarifies that:

"*This antidegradation implementation procedure applies to all surface waters of the state regardless of use designations or water classification.*"

In addition, IDNR provides the following rationale in their Responsiveness Summary (page 33) for presuming that all surface waters not listed as impaired on the State's CWA section 303(d) list are "high quality" waters deserving a Tier 2 level of protection:

"Presuming Tier 2 makes the antidegradation policy simpler. Determining existing water quality is an administrative and economic burden for facilities and the likely result will be that an alternatives analysis is needed in nearly all situations. This approach results in savings for both facilities and the state by performing the alternatives analysis to determine if degradation is necessary and avoids complicated implementations issue such as establishing existing water quality and tracking a water body's available assimilative capacity."

Although not discussed in 40 CFR 131.12 of the water quality standards regulation, State and, on occasion, Tribal Tier 2 implementation procedures often include guidelines which are used to determine when the water quality degradation that will result from a proposed activity is significant enough to warrant further antidegradation review. Where the degradation is not significant, the antidegradation review is typically terminated for that proposed activity. Significance tests range from simple to complex, involve qualitative or quantitative measures or both, and may vary depending upon the type of pollutant (e.g., the approach may be different for highly toxic or bioaccumulative pollutants). States or Tribes that define a high threshold of significance may be unduly restricting the number of proposed activities that are subject to a full antidegradation review. [63 FR 36783] The Iowa AIP does not include a significance test, rather, it requires (Section 1.2; page 5):

"Tier 2 review shall prohibit the degradation of water quality of a surface water unless a review of reasonable alternatives and social and economic considerations justifies the degradation in accordance with the procedures presented in this document."

In addition, Iowa has chosen to identify as a Tier 2 water all surface waters of the State not listed as impaired on the State's CWA section 303(d) list. This approach ensures broad applicability in Tier 2 protection to all surface waters of the State. As such, EPA approves this part of Section 1.2 because it is consistent with 63 FR 36783, and 40 CFR 131.12(a)(2).

c. Tier 2 ½.

A Tier 2 ½ review is defined in the AIP glossary as follows:

"Policies and procedures that prohibit any lowering of water quality in unique waters as identified in the water quality standards unless the lowering is temporary and limited, results from expansion of existing sources, or serves to maintain or enhance the value, quality, or use of the OIW, as determined by the Director of IDNR on a case-by-case basis."

Iowa's new Tier 2 ½ list of OIW's is identified in Appendix B of the AIP; the list consists of 118.08 miles of rivers and streams and two lakes (Big Spirit Lake and West Okoboji Lake). Section 2.1 (pages 5-6) of the AIP explains that existing sources may be allowed to expand, on a case-by-case basis, if the resulting degradation is:

- *Temporary and limited;*
- *The applicant documents that less-degrading alternatives are not available, that effects on existing water quality be minimal, and that the project will, overall, serve to enhance the value, quality, or use of the OIW; or*

- *The applicant has conducted an alternatives analysis, selected the least degrading alternative that is "affordable" within the meaning of Section 3.2 of the AIP, and demonstrated the socioeconomic importance of the project as described in Section 3.3 of the AIP.*

Temporary and Limited degradation is defined in the AIP glossary as follows:

"Degradation that is not permanent. The effects can be regarded as temporary and limited following a review of all of the following factors, if applicable:

1. *length of time during which water quality will be lowered*
2. *percent change in ambient conditions*
3. *pollutants affected*
4. *likelihood for long term water quality benefits to the water body*
5. *degree to which achieving the applicable water quality standards during the proposed activity will be at risk*
6. *potential for any residual long term effects on existing uses."*

Page 6 of Section 1.2 expands further in describing the factors that may be considered when judging whether to allow temporary degradation of a Tier 2 ½ and Tier 3 water; these factors are discussed below in Section 4 of this enclosure.

IDNR's intent in implementing Tier 2 ½ is clarified in its Responsiveness Summary (page 74) where they state:

"Additional flexibilities will be a part of the final rule based on public input compared to how the rule was originally proposed in October of 2008. The original proposal did not allow flexibility for existing discharges within OIW watersheds and prohibited degradation resulting from expansions. The revisions will allow expansions to occur for existing discharges, but is still protective of Iowa's outstanding resources by not allowing the cost-effective cap to be considered in the alternatives analysis. Therefore, any existing facility proposing an expansion that may degrade water quality in an OIW must select the least degrading option they can afford. This is one example of the implementation flexibilities that are possible under Tier 2 ½ that are not possible under Tier 3."

As discussed earlier, EPA has accepted a Tier 2 ½ provision as being consistent with the intent and spirit of the antidegradation policy [63 FR 36787]. Inclusion of a Tier 2 ½ within the regulation encourages States and Tribes to apply more stringent controls than would be required under Tier 2 but with more flexibility to make adjustments in criteria and permitting decisions than would normally be allowed if the water body in question were designated as an ONRW; the Tier 2 ½ review within the Iowa AIP does just that. As such, EPA hereby approves this part of Section 1.2 of the Iowa AIP because it is consistent with EPA's requirements at 40 CFR part 131.12 by

imposing requirements to waters that would otherwise only be subject to Tier 2 requirements that go above and beyond those contained in and required by 40 CFR part 131.12(a)(2).

d. Tier 3.

A Tier 3 review is defined in the AIP glossary as follows:

"Policies and procedures that prohibit any lowering of water quality in unique waters as identified in the water quality standards unless it is temporary and limited, as determined by the Director of IDNR on a case-by-case basis. Any proposed activity that would result in a permanent new or expanded source of pollutants is prohibited."

"*Any proposed activity that would result in a permanent new or expanded source of pollutants to any segment which has been classified as ONRW is prohibited*" (page 6 of the AIP) under Iowa's new Tier 3 antidegradation policy statement approved above, unless the degradation is short-term, temporary and limited. This differs from Tier 2 ½ due to the different prohibition; there is no availability of alternatives to degradation because no permanent degradation is allowed. Iowa has not yet identified any Tier 3 waters but has identified a nomination process discussed below in Section 3 of this document.

EPA, in Chapter 4 of the Water Quality Standards Handbook, interprets the "water quality to be maintained and protected" provision of the regulation as requiring no new or increased discharge to ONRWs and no new or increased discharges to tributaries to ONRWs that would result in lower water quality in the ONRWs. The only exception is for short-term and temporary changes. Iowa's Tier 3 implementation process is consistent with EPA's regulations at 40 CFR 131.12(a)(3) because it prohibits permanent new or expanded discharges, unless the degradation is short-term, temporary and limited, which is consistent with the 1983 preamble to the WQS regulation; as such, this part of Section 1.2 is hereby approved by EPA.

3. Nominating a Water Body for Tier 2 ½ or Tier 3 Protection and Revising Tier Review Levels.

Any person may nominate a water body for protection under Tier 2 ½ or Tier 3 by filing a nomination that will be reviewed by IDNR at the triennial review of Iowa's WQS regulations in Chapter 61 (Section 1.3; page 7). Section 1.3 of the AIP describes the specific process for an individual to follow as well as the weight of evidence approach and the factors the IDNR will consider when undertaking a public request. IDNR may classify a water body as an OIW or ONRW based on a combination of the following criteria (page 8 of the AIP):

- *Location of the surface water (e.g. on federal or state lands such as national parks or national wildlife refuges);*
- *The surface water has exceptional water quality as demonstrated by credible chemical data, the documented maintenance of pollutant intolerant species, or other data available to the department;*
- *The surface water is of exceptional ecological significance because of its unique attributes as demonstrated through detailed aquatic community assessments, population surveys, or other data available to the department;*
- *The surface water is of exceptional recreational significance because of its unique attributes as demonstrated by detailed information highlighting economic benefits, number of users relative to other similar waters, and exceptional water quality demonstrated by credible water quality data, or other data available to the department;*
- *The surface water supports threatened or endangered species or provides critical habitat for a state or federally threatened or endangered fish, mussel, or aquatic invertebrate species; and/or*
- *The surface water is highly aesthetic; has archeological, cultural, or scientific importance; or provides a special educational opportunity.*

The criteria above are good indicators of outstanding water quality and ecological significance, particularly for the purpose of evaluating surface waters for Tier 2 ½ or Tier 3 protections under antidegradation because each of the factors taken alone, or in combination, provide supporting evidence of a water body deserving more protection than provided by the Tier 2 antidegradation policy. If IDNR's evaluation of these criteria results in a finding that either of these Tiers may be appropriate, then IDNR will consider the following list of factors when making a decision to classify nominated surface waters as an OIW or ONRW (page 8 of the AIP):

- *Whether there is the ability to effectively manage the OIW or ONRW and its watershed to maintain and protect existing water quality;*
- *The social and economic impact that will result from Tier 2 ½ or 3 antidegradation protection;*
- *Public comments in support or opposition to the OIW or ONRW classification;*
- *The timing of the OIW or ONRW nomination relative to the triennial review of surface water quality standards;*
- *The consistency of an OIW or ONRW classification with applicable water quality management plans;*
- *Whether the nominated surface water is located within a national or state park, national monument, national recreation area, wilderness area, riparian conservation area, wildlife management area, area of critical environmental concern, or has another special use; and*
- *Any other factors the department considers relevant when making a decision whether to classify a nominated surface water as OIW or ONRW.*

In addition, the last paragraph of Section 1.3 (page 9) describes that once a nominated water body is determined by IDNR to possess an OIW or ONRW status, IDNR will hold at least one public meeting in the local area of the nominated OIW or ONRW to solicit public comment, and all details considered in IDNR's determination will be made part of

the public record. Any changes to the list of OIW or ONRW waters must proceed through Iowa's rule making process as described in the Administrative Procedures Act (page 9).

In determining whether a water body should be considered an ONRW or an OIW, the Iowa AIP requires the entity nominating a water as an ONRW to compare the water body to ONRWs from across the country (Section 1.3; page 8), and review information such as highly detailed data for water quality, ecological significance, recreational significance, criteria used for ONRW categorization, and any other unique factor appropriate in demonstrating national significance must be submitted (page 9). These considerations are consistent with Iowa's new Tier 3 antidegradation policy statement approved above because Iowa has chosen to require that its Tier 3 waters be of significance to the nation, and that EPA believes this is consistent with 131.12(a)(3) because the regulation states "where high quality waters constitute an outstanding national resource..... that water quality shall be maintained and protected."

4. Temporary degradation factors.

Iowa has identified the following factors (page 6 of the AIP) to be considered, if applicable, in making a determination to allow temporary degradation of OIW's and ONRW's:

- *Percent change in ambient conditions predicted at the appropriate critical flow conditions;*
- *Percent change in loading (i.e. the new or expanded loading compared to total existing loading to the segment);*
- *Percent reduction in assimilative capacity;*
- *Nature, persistence, and potential effects of the parameter;*
- *Potential for cumulative effects; and*
- *Degree of confidence in the various components of any modeling technique used (e.g., degree of confidence associated with the predicted effluent variability.*

IDNR clarified its intent when applying temporary degradation factors on page 52 of its Responsiveness summary:

"The department intends to apply the "temporary and limited" provisions to situations that are truly temporary and have a minimal impact on ambient conditions. Given the wide variety of potential activities that may occur it is not felt to be appropriate to place specific time and percent change values. The department does not anticipate many permitted activities will qualify as temporary and limited and therefore do not anticipate these provisions having widespread use. For example, certain hydrostatic testing activities may be considered temporary and limited."

EPA considers these factors to be reasonable when determining what to consider temporary degradation because when using the parameter-by-parameter approach, they are EPA accepted approaches to use when identifying load capacities in receiving streams, and developing wasteload allocations for National Pollution Discharge Elimination Permits (NPDES permits) and load allocations for nonpoint sources in Total Maximum Daily Loads (TMDLs). As such, these factors are considered scientifically defensible because they are common engineering approaches in EPA and state water protection programs.

B. Determining Whether an Activity Results in Degradation

It is explicitly stated in Section 2 (page 10) of the Iowa AIP:

"*All new or expanded regulated activities are subject to antidegradation review requirements. Regulated activities include any activity that requires a permit or a water quality certification pursuant to the following federal laws: 1) CWA § 402 NPDES permits, 2) CWA § 404 dredge and fill permits, 3) any activity requiring a CWA § 401 certification*."

The AIP explains that Tier 2 antidegradation reviews are required when new or expanded activities will degrade water quality. The Tier 2 review includes consideration of the necessity for a regulated activity, the social and economic importance of the activity, and ensures that proposed activities fully protect designated uses. Activities are also required to achieve the highest statutory and regulatory requirements, and the IDNR must assure that activities within a watershed are implementing cost-effective reasonable best management practices to control nonpoint source pollution. EPA requested further clarification from IDNR with respect to the following provisions of IA's AIP.

Section 2.2 of the AIP (page 11) provides several situations (provisions) where a regulated activity shall not be considered to result in degradation as follows:

- *The proposed activity would neither result in a net increase in mass loading or an increase ambient water quality concentration for a pollutant of concern after mixing; or*

- *The activity is occurring within the design capacity of the treatment plant as specified in the existing construction permit; or*

- *The activity will result in only temporary and limited degradation of water quality as defined in the glossary and further described in Sections 1.2 and 2.4; or*

- *A permit for an existing facility proposes neither less stringent permit limits or increased treatment plant design capacity; or*

- *Additional treatment is added to an existing discharge and the facility retains their current permit limits and design capacity; or*

- *Treatment is added to a previously unpermitted discharge resulting in improvements to the receiving water, such as an unsewered community; or*

- *The department concludes that the proposed activity will not cause degradation based upon the specifics of any watershed-based trading that has been agreed to by the project applicant. NOTE: Because Iowa does not currently have a watershed-based trading program in place, the applicant might experience some permitting delays in pursuing this exemption unless the department is given significant advanced notice of the applicant's proposal; or*

- *The activity is a thermal discharge that has been approved through a Clean Water Act 316(a) demonstration.*

In response to EPA's comments and questions, IDNR provided clarification as well as a substantial justification for these provisions. (See Attachment A to this enclosure). For instance, EPA requested an explanation from IDNR for excluding activities that result in the issuance of a permit for an existing facility that proposes neither less stringent permit limits or increased treatment plant design capacity from the definition of degradation. Among other things, IDNR explained that:

> "*The concept is that any increase in treatment plant design capacity is considered degradation. Implementing this concept will appropriately address these situations as all treatment plants have specified design lives and will eventually need to be upgraded to accommodate for population growth, compliance with new water quality rules, or to maintain operational functionality. It would not be appropriate or logical to go back and perform a review for a discharger that is not proposing any changes to its treatment plant design capacity or permit limits. Doing so would not produce any meaningful result in regard to preserving water quality because any and all alternatives to continuing to allow the plant to perform within its design capacity will be cost prohibitive by definition. This is because the performance of an alternatives analysis presumes that the cost of a proposed treatment alternative will be compared with the costs of other less degrading alternatives. When the first alternative is to continue to use the existing facility as designed and built, the cost of constructing that alternative is always zero. Performing a cost comparison to an alternative with zero cost will result in all other options being determined to not be cost-effective. As a result, any alternatives analysis will always result in the determination that the least degrading, cost-effective alternative is operating the plant as normal.*"

Tier 2 seeks to provide for a public process and an analysis that the "lowering" is necessary to accommodate important social and economic concerns in the area of the lowering. In a case where the facility is not increasing treatment plant capacity, and the existing permit has already authorized pollution up to the level in the permit being reissued, it is reasonable for the State to conclude that a reissued permit will not allow lower water quality. Further, EPA is approving Section 2.2 because any new source of a pollutant of concern that is not designed to be treated at a wastewater treatment plant would likely trigger

an alternatives analysis. For example, a new metal finisher that will discharge a small amount of cadmium to a municipal treatment facility that does not have existing cadmium limits would require an alternatives analysis for that new pollutant of concern.

After reviewing IDNR's responses to EPA's comments and questions, EPA was satisfied that the provisions in Section 2.2 of IDNR's antidegradation implementation procedures are consistent with EPA's regulations.

C. Iowa's Tier 2 Antidegradation Review Process.

The water quality standards regulation requires that the water quality of high quality waters not be lowered unless the State or Tribe determines that such degradation is necessary to accommodate important social and economic development (40 CFR 131.12(a)(2)). Given the variety of available engineering approaches to pollution control and the emerging importance of pollution prevention, the finding of necessity is among the most important and useful aspects of an antidegradation program and potentially an extremely useful tool in the context of watershed planning.

An approach that has been recommended by EPA (63 FR 36784) is to require the proponent of the proposed activity to develop an analysis of pollution control/pollution prevention alternatives. In conducting its antidegradation review, the State or Tribe then ensures that all feasible alternatives to allowing the degradation have been adequately evaluated, and that the least degrading reasonable alternative is implemented. Also, note that where less-degrading alternatives are more costly than the pollution controls associated with the proposal, the State or Tribe should determine whether the costs of the less-degrading alternative are reasonable. EPA believes that such an alternatives analysis approach can be an effective tool for maintaining and protecting existing assimilative capacity. [63 FR 36784] EPA believes Iowa's process is consistent with the intent of 40 CFR 131.12(a)(2) and hereby approves the following provisions of the Iowa AIP for the reasons discussed further below; these sections are organized for the most part, according to EPA's regulations at 40 CFR 131.12(a)(2).

1. Section 3; Pollution Control/Pollution Prevention Alternatives.

Section 3 of the Iowa AIP describes the pollution control alternatives to degradation process; an applicant proposing any regulated activity that would degrade water quality is required to prepare an evaluation of alternatives to the proposed activity (page 13). Iowa defines an <u>alternative analysis</u> in the AIP glossary as:

"An evaluation of reasonable alternatives for regulated activities that might degrade water quality, including less-degrading alternatives, non-degrading alternatives, and no-discharge alternatives, such as treatment process changes, relocated discharge facilities, land application, reuse, and subsurface discharges."

A less-degrading alternative is defined in the AIP glossary as:

"A reasonable alternative to a proposed discharge or change to an existing discharge that would result in less degradation to water quality than an alternative that protects existing uses."

A non-degrading alternative is defined in the AIP glossary as:

"A reasonable alternative to a proposed or existing discharge that would not result in degradation of water quality as characterized by the existing water quality assessment."

a. Section 3.1; Identifying Non-Degrading and Less-Degrading Pollution Control Measures.

The primary emphasis of Iowa's Tier 2 and 2 ½ antidegradation reviews determines whether reasonable non-degrading or less-degrading alternatives to allowing the proposed degradation are available; this is consistent with EPA's 1998 ANPRM. [63 FR 36784]

Section 3.1 of the AIP identifies the following general processes or practices that can be reasonably expected to achieve greater pollution reduction:

- *Land application*
- *Subsurface irrigation*
- *Waste transport*
- *Groundwater recharge*
- *Improvements in the collection system*
- *Recycling or reuse (i.e., closed loop system)*
- *Discharge to a regional wastewater collection and treatment system*
- *Improved operation and maintenance of existing treatment system*
- *Alternative discharge locations*
- *Installation of biological/physical/chemical treatment processes that provide higher levels of treatment*
- *Seasonal or controlled discharges to avoid critical water quality periods*

Iowa requires that an applicant evaluate a range of non-degrading or less degrading pollution control alternatives with the intent of identifying reliable, demonstrated practices to ensure greater pollution reduction (page 13). EPA has approved several states that identify such a list of practices in their antidegradation implementation procedures (e.g., Ohio, Illinois and Utah) because they are reasonable alternatives. The applicant is also required to document any less-degrading alternatives that were determined to be unreasonable and provide a basis for that conclusion.

The following steps summarize the alternatives analysis process and other relevant actions during antidegradation reviews for Tier 2 and Tier 2 ½ protection levels (Section 3.4; page 18):

- If it is determined that degradation would likely occur due to the proposed activity, an analysis of less degrading and non-degrading alternatives to the proposed activity will be required.

- The applicant will be required to analyze cost information for minimum level of pollution control associated with the proposed activity, alternative pollution control measures that would result in no degradation, and for other less or non-degrading alternatives as appropriate.

- The applicant shall evaluate the proposed activity, the less and non-degrading alternatives, and the practicability, economic efficiency and affordability associated with each option or mix of options.

- The applicant shall identify the least degrading alternative – or mix of alternatives – that is practicable, economically efficient, and affordable as described in this section. This will be the preferred option.

- If the preferred option (i.e., pollution control alternative or mix of alternatives) will not result in degradation of the receiving water segment, permitting of the activity may proceed.

- If the preferred option (i.e., pollution control alternative or mix of alternatives) will result in degradation of the receiving water, the applicant will be required to conduct an analysis of economic and social benefits.

The process summarized above includes requiring the applicant to provide public notice and opportunity for public comment on the alternatives analysis and the social and economic review. Before the alternatives analysis is finalized, a public notice must be issued by the applicant that includes a number of criteria discussed further below in part 5 of this section. IDNR explained the reason for including public participation during the alternatives analysis in their Responsiveness Summary (page 29):

"One of the main purposes of this process was to perform the alternatives analysis process in an expeditious fashion which benefits both applicant and the department. Through this process which includes having the alternatives analysis and public comment period at the onset, it is the department's expectation that alternative analysis will be received that are thorough, meet the requirements established in the AIP, account for public comments, and are therefore acceptable upon submittal to the department."

Including comments and information received during the public notice period during the alternatives analysis process ensures the IDNR will avoid implementation issues other states have experienced regarding the availability of all reasonable alternatives to allowing the degradation of water quality. Too often, the alternatives analysis is done too late in a facility's planning and construction process to have any real impact. Many entities building sewage treatment plants and many industrial facilities have invested large amounts of money in planning, design and construction before they apply for a NPDES discharge permit. If the NPDES permit process (or other process, such as 404 or 401) is the first time alternatives are considered, it is unlikely that many alternatives will receive real consideration, given the amount of money already invested by this stage. By inserting the review process early in the process, the Iowa alternatives analysis process ensures that discharges can save resources and time.

EPA believes that such an alternatives analysis approach can be an effective tool for maintaining and protecting existing assimilative capacity [63 FR 36784], and as such, hereby approves Section 3.1 of the Iowa AIP.

b. Section 3.2; Evaluating and Selecting Alternatives.

Section 3.2 of the Iowa AIP describes the process for evaluating and selecting alternatives following the evaluation of possible alternatives. The Iowa AIP requires the applicant to "*select the least degrading reasonable alternative and provide the basis for its selection*" (page 14). Iowa defines a reasonable alternative as "*practicable, economically efficient, and affordable*" (page 14). Further, the Iowa AIP allows an applicant to bypass further evaluation of practicability, cost-effectiveness and affordability by selecting the least degrading alternative.

<u>Practicability</u>

If an applicant does not select the least degrading alternative, they must evaluate the <u>practicability</u> of the alternative, that is, the effectiveness, reliability, and potential impacts on the overall environment; the latter of which includes land, air, water and energy use (page 14). Iowa's AIP requires that unless an evaluation to the contrary is provided, non-degrading and less-degrading alternatives shall be considered practicable (page 14). The following are provided (page 14) as examples of the practicability factors that may be evaluated during this process:

1) Effectiveness and Reliability

- *Certainty of achieving technology-based requirements and water quality criteria to protect existing uses*

- *Technical feasibility of alternatives (e.g., feasibility of no-discharge options for large volumes of wastewater within dense urban areas)*
- *System or technology reliability, potential for upsets/accidents*
- *Nature of pollutants discharged*
- *Discharge timing and duration*
- *Need for low-flow augmentation*
- *Dilution ratio for pollutants discharged*

2) *Potential Environmental Impacts*

- *Sensitivity of stream uses*
- *Sensitivity of groundwater uses in the area*
- *Effect on endangered species*
- *Potential to generate secondary water quality impacts (storm water, hydrology)*
- *Secondary pollutants created by products of treatment*

The Iowa AIP also lists other factors that should be considered, such as:

- *the potential impact of alternatives on odor, noise, energy consumption, air emissions, solid waste and sludge generation (*secondary environmental impacts)*;*
- *the technical, legal, and local considerations of the various alternatives examined*; and,
- *the schedule and the estimated time of completion of the project should also be provided for each alternative discussed.*

EPA believes these are reasonable considerations when evaluating and selecting reasonable alternatives because each situation may be different depending on what pollutants are being discharged, as well as whether the discharge emanates from an industrial or wastewater treatment plant. Since all alternatives analyses use qualitative and quantitative assessments of water quality benefits and treatment costs and feasibility, best professional judgment is of the utmost importance when evaluating alternatives. For example, allowing the selection of one alternative might be acceptable for some pollutants, but not at all in the case of certain toxics or other pollutants. Treatment technology commonly used in industry should typically be considered cost-effective unless case-specific factors justify a different conclusion. The Iowa AIP clarifies (Section 3; page 13) that alternatives are compared (in terms of practicability, economic efficiency, and affordability):

"…to the controls required to protect existing uses and to achieve the highest statutory and regulatory requirements (i.e., the more stringent between the water

quality-based effluent limits to protect an existing use and the applicable technology-based effluent limits)."

As such, EPA believes the approach outlined above is reasonable for evaluating and selecting reasonable alternatives and is consistent with the intent of 40 CFR 131.12(a)(2).

Economic Efficiency

Economic efficiency is also discussed in Section 3.2 of the Iowa AIP; if alternatives are deemed practicable, they "*must undergo a direct cost comparison and alternatives that impose a cost that is disproportionate to the possible environmental gain must be eliminated from further consideration*" (page 15). The following general cost categories that should be considered include (page 15):

- *Capital costs*
- *Annual operating and maintenance costs (including cost escalation)*
- *Other costs (one-time costs, savings, opportunity cost, salvage value)*

This step in the Iowa AIP provides an opportunity for applicants to compare the cost-effectiveness of the available alternatives. If the incremental cost of a less-degrading alternative under consideration substantially outweighs the incremental pollution reduction benefits, the applicant may attempt to make the case that the least-degrading alternative is not reasonable. This potential step focuses on the cost of pollution control and not the economic situation of the individual source (as discussed below in part 3 of this section of the enclosure). The approach Iowa recommends is to use a present worth framework for reporting cost information for various pollution control alternatives by using the following calculation[4] (page 15):

$$P = C + O + [A * P/A, d, n)] - S$$

Where:
P = Present worth
C = Capital cost
O = Other costs (expressed as present worth)
A = Average annual operating cost (alternatively a gradient factor may be applied to account for cost escalation)
d = Discount rate
n = Useful life
S = Salvage value of facilities and land (expressed as net worth)
(P/A, d, n) = Equal series present worth factor $= [(1 + d)^n - 1] / [d(1 + d)^n]$

[4] Lindeburg, Michael R. 1992. Engineer in Training Reference Manual. Professional Publication, Inc. 8th Edition.

The applicant then compares the cost of each alternative to the base cost of pollution control. The base cost of pollution control is defined as (page 15):

> *"… the cost of the controls required to protect existing uses and to achieve the highest statutory and regulatory requirements, i.e., the more stringent of water quality based effluent limits for existing use protection or technology-based effluent limits."*

The Iowa AIP provides that (page 15):

> "*As a non-binding guideline* [emphasis added]*, alternatives less than 115 percent of the base cost of the minimum level of pollution control are presumed to be economically efficient. Alternatives greater than 115 percent of the base costs should also be considered if implementation of the alternative would produce a substantial improvement in the resulting discharge. Conditions that might warrant consideration of alternatives of greater cost (above 115 percent) are the effectiveness, reliability, and environmental factors identified above. The base cost of the minimum level of pollution control is the cost of the controls required to protect beneficial uses and/or technology-based effluent limits, whichever is more expensive."*

IDNR clarified its' intent with this provision in the Responsiveness Summary (page 46):

> ***"The 115% threshold is used to determine* [the] *economic efficiency* [of] *a particular alternative. A separate affordability analysis may be used to determine if the alternative is too expensive to reasonably implement. This approach results in the selection of the least degrading alternative, while maintaining affordability to the public or private entity. If the applicant determines that the least degrading remaining alternative is affordable, then it is the preferred alternative. If it is not affordable, then the affordability of the next alternative should be evaluated until an alternative is chosen that is practicable, economically efficient and affordable. A demonstration that an alternative is not affordable should be clearly documented and should show that the alternative has a substantial adverse economic impact that would preclude the use of the alternative for the activity under review."***

EPA interprets this to mean that applicants performing this step would evaluate the treatment options for each of the primary pollutants of concern. Further, in order to justify the elimination of an alternative, the applicant should demonstrate to the satisfaction of IDNR that the additional costs of the pollutant control alternative are disproportionately high when compared to the pollution allowed by the next least-degrading alternative for a pollutant of concern. Alternatively, as stated above, an applicant can bypass the cost comparison step by choosing to implement the least-degrading alternative. The approach outlined above is consistent with EPA's 1998 ANPRM [63 FR 36784] where EPA states:

Also, note that where less-degrading alternatives are more costly than the pollution controls associated with the proposal, the State or Tribe should determine whether the costs of the less-degrading alternative are reasonable.

As such, EPA hereby approves Section 3.2 of the Iowa AIP.

2. The Affected Community

Section 3.3.1 of the Iowa AIP describes the affected community as follows:

"The affected community is considered as the community in the geographical area in which the waters are located. The affected community should include those living near the site of the proposed project as well as those in the community that are expected to directly or indirectly benefit from the project."

This description is consistent with and reasonably expands upon 40 CFR 131.12(a)(2) because it explicitly accounts for those "*living near the site of the proposed project as well as those in the community that are expected to directly or indirectly benefit from the project."* There are no simple rules for defining the relevant area or community; the decision is based on the judgment of the applicant and state, subject to EPA review (*Interim Economic Guidance for Water Quality Standards, Chapter 5*. EPA-823-B-95-002 (1995)). As such, EPA approves this provision at Section 3.3.1 of the Iowa AIP.

3. Accommodate Important Social and Economic Development

This task must be completed as part of the antidegradation review to evaluate whether a proposed activity that will result in degradation is necessary to accommodate important social or economic development in the area in which the waters are located (40 CFR 131.12(a)(2)), as described above. The significance of determining if an activity will provide for important social or economic benefit is that, absent important social or economic benefit, degradation under Tier 2 must not be allowed. Factors that may be addressed in such an evaluation include: a) employment (i.e., increasing, maintaining, or avoiding a reduction in employment), b) increased production, c) improved community tax base, d) housing, and e) correction of an environmental or public health problem. [63 FR 36784]

Iowa's AIP requires that an applicant demonstrate that the preferred alternative (or "project") will allow important economic and social development, if the preferred alternative identified will result in degradation to the receiving waters (page 16). Social and Economic Importance (SEI) is defined in the AIP glossary as:

"The social and economic benefits to the community that will occur from any activity resulting in a new or expanded discharge."

The Iowa AIP recommends the applicant use the following three steps to demonstrate the SEI:

- Identify the affected community
- Identify relevant factors that characterize the social and economic conditions of the affected community
- Describe the important social and economic development associated with the project

The Iowa AIP states (page 17) that when describing the economic and social development associated with a proposed project, the applicant will first need to determine the social and economic factors that best characterize the affected community. The following examples to be considered by the applicant are provided on page 17:

- Rate of employment
- Personal or household income
- Poverty level
- Population trends
- Increasing production
- Housing starts, median values, etc.
- Community tax base
- Available public services (e.g., fire department, school, infrastructure)
- Current or potential public health, safety or environmental problems

EPA has determined that Iowa's approach at Section 3.3.2 for considering factors that would accommodate important social and economic development is consistent with the requirements of 40 CFR 131.12.(a)(2) because they are consistent with and reasonably expand upon EPA's Advanced Noticed of Proposed Rule Making (63 FR 36784) and EPA's *Interim Economic Guidance for Water Quality Standards*, Chapter 5, EPA-823-B-95-002 (1995). As such, EPA hereby approves Section 3.3.2 of the Iowa AIP.

4. Finding of Necessity

As discussed above, the finding of necessity is among the most important and useful aspects of an antidegradation program. As described in Section 3.3.3 of the Iowa AIP (page 17), once the applicant has identified the appropriate social and economic measures, the applicant must describe the projected change in these factors that is associated with the project. The following guidance is provided to the applicant in these regards:

- First describe the existing condition of the affected community.

- Compare this base-line condition to the predicted change (benefit or loss) in social and economic condition after the activity is allowed.

- The area's use or dependence upon the water resource affected by the proposed discharge must be included in the analysis.

- In doing so, the applicant shall evaluate any associated environmental related benefits or costs, such as:

  - Promoting/impacting fishing, recreation, tourism or other economic benefits for the community, and
  - Reserving assimilative capacity for future industry and development.

If the applicant demonstrates, upon consideration of all relevant factors, that the project will lead to overall beneficial changes in the factors presented above, the project will be analyzed by IDNR to determine if it constitutes important social and economic development. The IDNR will make this determination on a case-by-case basis using information provided by the applicant, as well as information obtained by the public (page 17-18). Alternatively, if IDNR determines that the social and economic impact of the proposed activity has not been demonstrated, IDNR shall deny the proposed activity (page 18).

Section 3.3.2 of the Iowa AIP discusses the issue of affordability (page 16) for public and private entities is an emerging issue nationally, and as such, federal guidelines have not yet been finalized. With this in mind, IDNR recommends within this section that the applicant use the U.S. Environmental Protection Agency's water quality standards handbook – "*Interim Economic Guidance for Water Quality Standards*," EPA-823-B-95-002 (1995). This guidance document presents one set of public and private sector approaches that can be used by the applicant. As such, this approach presented in the Iowa AIP is reasonable; this approach also ensures a finding that it is necessary to accommodate important economical or social development in the area in which the waters are located. As such, EPA hereby approves Section 3.3.2 of the Iowa AIP.

5. Full Satisfaction of the Intergovernmental Coordination and Public Participation Provisions

The protection of high quality waters envisioned by the regulation encourages a systematic, public decision making process for determining whether or not to allow limited deterioration of water quality in high quality waters. [63 FR 36782)] As discussed above, the Iowa AIP requires the applicant to provide public notice and opportunity for public comment on the alternatives analysis and social and economic importance review. Section 4 of the Iowa AIP provides specific detail on public participation requirements. The applicant is required to issue a public notice before the alternatives analysis is finalized (page 19) which includes the availability of:

- *determination of projected impacts on existing water quality;*
- *findings and determinations from the alternatives analysis;*

- *the conclusions of any social and economic evaluation of the proposed activity, where necessary;*
- *a description of the surface water that is subject to the antidegradation review;*
- *the time frame for submitting comments; and*
- *the methods by which comments may be submitted and to whom comments must be directed.*

The Iowa AIP requires circulation of the public notice for at least 30 days in either a local or county newspaper or periodical within the geographical area of the proposed activity. The notice must include the action being considered, all beneficial uses of the surface water, and request public comment on the proposed activity. The applicant must submit a summary of the public comments received and their responses to those public comments at the time the "*applicant requests authorization for the activity under review*" (page 19).

In addition, the applicant must send a copy of the public notice discussed above, at a minimum, to the following entities (pages 19-20):

- *EPA Region VII;*
- *U.S. Fish & Wildlife Service;*
- *the regional Iowa DNR Field Office;*
- *any applicable industrial contributor to the publicly owned treatment works;*
- *the county department of environmental health or comparable department in the county to which the facility discharges;*
- *any other state whose waters may be affected by the issuance of the permit; and*
- *any interested person or organization upon request.*

Section 4.2 of the Iowa AIP discusses the intergovernmental coordination and review process and requires this process to occur prior to IDNR approving a regulated activity that would degrade water quality in any surface water of Iowa. Further, it requires that the process occur prior to finalizing the alternatives analysis and social and economic importance review, or in tandem with the public notice procedures discussed above. The processes discussed above are consistent with EPA's regulations at 40 CFR Part 131.12(a)(2) because they provide for full satisfaction of all intergovernmental coordination and public participation provisions. As such, EPA hereby approves Section 4 of the Iowa AIP.

6. Highest Statutory and Regulatory Requirements for All New and Existing Point Sources and All Cost-Effective and Reasonable Best Management Practices for Nonpoint Source Control.

a. Antidegradation Review Decisions.

Section 5 of Iowa's AIP describes the process for documenting the final determination to allow or deny the activity associated with the proposed lowering of water quality. This section also includes a description of how determinations can be appealed under Iowa law (IAC Chapter 561-7, as adopted by reference at 567 IAC 7.1). Once the intergovernmental coordination and public notice requirements discussed earlier are satisfied, the applicant shall submit the alternatives analysis, the social and economic importance review, and the results of the public comment and intergovernmental review process to the IDNR (page 21).

Regulated activities that may result in degradation of waters can only be approved after the IDNR makes all of the following findings (page 21):

- *The level of water quality necessary to protect applicable beneficial uses is fully maintained. Water quality shall not be degraded to a level that does not comply with the applicable Water Quality Standards (WQS).*
- *The highest statutory and regulatory requirements for new and existing point sources are achieved.*
- *All cost-effective and reasonable BMPs for nonpoint source pollution control are implemented (see Section 8).*
- *Allowing degradation of water quality is necessary and accommodates important economic or social development in the area where the surface water is located.*

Section 8 of the Iowa AIP is referenced in the list above and states:

"When applying Tier 2 review to a proposed regulated activity the department shall assure the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control before allowing any lowering of water quality. To the extent that existing programs establish best management practice requirements for entities contributing to nonpoint pollution those requirements establish the maximum regulatory requirements that can be required pursuant to rule 61.2"b" and 40 CFR 131.12(a)(2). In many cases the Department lacks the authority to require entities that contribute to nonpoint pollution to implement all cost-effective and reasonable best management practices. In either situation, additional best management practices or regulatory requirements must be imposed through modification of statutes or rules outside of the antidegradation review."

The language in Section 8, above, is consistent with EPA's regulations at 40 CFR 131.12(a)(2) because EPA requires states to adopt an antidegradation policy that includes a provision that will assure that all cost-effective and reasonable best management practices (BMPs) established under state authority are implemented for non point sources before the state authorizes degradation of high quality waters by point sources; Iowa's new Tier 2 antidegradation policy does this. However, 131.12(a)(2) does not require a state to establish BMPs for nonpoint sources where such BMP requirements do not exist. The CWA leaves it to the state to determine what, if any, controls on nonpoint sources are needed to provide for attainment of state WQS. See CWA Section 319. States may adopt enforceable requirements, or voluntary programs to address nonpoint source pollution. Id. Section 40 CFR 131.12(a)(2) does not require the states adopt or implement BMPs for nonpoint sources prior to allowing point source degradation of a high quality water. However, states that have adopted nonpoint source controls must assure that such controls are properly implemented before authorization is granted to allow point source degradation of water quality.[5]

The Iowa AIP requires that if the antidegradation review is accepted by the IDNR, implementation of the preferred alternative will be required in the permit (page 21). The IDNR will document all determinations; including determinations to deny the activity and make them part of the Administrative Record of Decision (page 21). In addition, the following will be made available to the public:

"Review documents, including existing water quality assessments, determination of degradation, analysis of public comments, alternatives analyses, demonstration of social and economic importance and any other decisions or findings…."

EPA believes this process to be reasonable because it provides clear instruction to the applicant and describes clearly how IDNR will review what is defined in this part as a complete antidegradation review package. The process also describes how an applicant may appeal a decision made by IDNR, as well as clearly providing what will be contained within the Administrative Record. The findings listed above are consistent with 40 CFR 131.12(a)(2), and as such, EPA hereby approves Section 5 of the Iowa AIP.

b. Section 6; Permit Considerations.

Early notification by the applicant is strongly recommended in this section to help ensure that the information collection process begins well before the applicant needs a permit to conduct planning activities, design facilities or proceed with project construction (page 22). It is also stated in this part that:

[5] February 22, 1994 Memorandum from Tudor Davies, Director of EPA's Office of Science and Technology to Water Management Divisions Directors, Regions I – X.

"Any regulated activity that may temporarily degrade an Outstanding National Resource Water or Outstanding State Resource Water will require an individual NPDES permit or individual § 401 certification to ensure that impacts will be temporary and limited and that the public can participate in the decision."

1. General Permits.

Section 6.1 of the Iowa AIP discusses general permits which include storm water runoff from municipalities and industries, mining and processing facilities, private on-site wastewater treatment systems and construction sites one acre or larger. Any new and reissued general permits "*must be evaluated to consider the potential for degradation as a result of the permitted discharge.*" Section 6.1 also requires that general permits will be required to seek coverage under an individual permit when a general permit cannot comply with general permit conditions or antidegradation requirements (page 22).

The following is also stated in Section 6.1:

"Antidegradation reviews for discharges authorized by general permits will occur for the entire class of general permittees when the general permit is issued by the department. Antidegradation reviews will focus on pollutants of concern that may contribute to water quality degradation.

Individual activities authorized by general NPDES permits may be subject to a full antidegradation review through the individual permit process if the Director determines that the cumulative degradation resulting from multiple discharges to a water body, degradation from a single discharge over time, or other individual circumstances warrant a full antidegradation review at the time the Notice of Intent is submitted."

This section also provides the following exemption:

"For permittees covered under general permits #1 through #5, the antidegradation requirements of this section can be considered met where there is a permit requirement to select, develop, adopt, and refine control practices (i.e., design, installation, and maintenance) for protecting water quality. This adaptive management process must ensure that information is developed and used to revise permit or program requirements."

EPA approves the provision for Tier II review of general permits as consistent with 40 CFR § 131.12(a)(2). This provision requires that Tier II reviews be conducted at the time the State develops and approves the general permit or program.

EPA's approval of this provision differs from positions that EPA has taken in the past with regard to Tier II review at the general permit issuance stage. A brief discussion describing past actions that EPA has taken on Tier II review of general permits at the general permit issuance stage, and EPA's rationale for approving Iowa's provision, is provided below.

Previous EPA Statements Regarding Tier II Antidegradation Requirements and General Permits

EPA has stated that conducting a Tier II antidegradation review at the time of general permit issuance would be difficult. *See* Final Reissuance of NPDES Storm Water Multi-Sector General Permit for Industrial Activities, 65 Fed. Reg. 64746 (Oct. 30,2000). Specifically, EPA responded in 2000 to a commenter concerned with how Tier II review would be conducted in relation to activities under the NPDES Storm Water Multi-Sector General Permit for Industrial Activities by stating the following:

> The commenter correctly recognizes the difficulty in determining what defines "necessary to accommodate important economic or social development" in accordance with 40 CFR Section 131.12(a)(2). By [regulation], this determination involves public participation, the assurance that water quality will be protected, and several other factors. EPA would have to modify the permit for each discharge in question in order to comply with 40 CFR Section 131.12(a)(2). Individual considerations such as these are contrary to the concept of a general permit. In addition, public participation would be impossible since the permit issuance authority would not know about the particular discharge to Tier II waters before a NOI [notice of intent] was submitted. Therefore, a facility operator must seek coverage under an individual permit to discharge to Tier II waters under 40 CFR Section 131.12(a)(2)'s allowable degradation provisions to satisfy the requirements for public participation and protection of water quality. The only discharges allowed coverage under today's permit are those which do not degrade the use of a Tier II water below its existing levels, even though those existing levels exceed levels necessary to support propagation of fish, shellfish and wildlife and recreation in and on the water. 65 Fed. Reg. 64736, 64793-94. In addition, in the *Final NPDES General Permits for Water Treatment Facility Discharges in the States of Massachusetts and New Hampshire,* 65 Fed. Reg. 69000 (November 15, 2003), EPA required each additional new or expanded facility seeking coverage under the general permit to first undergo individualized antidegradation review.

West Virginia Tier II Antidegradation Procedures

EPA departed from these previous statements when it approved the State of West Virginia's antidegradation implementation procedures on November 26, 2001. West Virginia had adopted an antidegradation implementation procedure stating that "[r]egulated activities that are granted coverage by a WV/NPDES general permit will not

be required to undergo a Tier II antidegradation review as part of the permit registration process." In approving West Virginia's procedure, EPA stated that it was possible for the Tier II antidegradation review to occur at either the general permit issuance stage or the individual notice of intent stage. With regard to the earlier statements made by the Agency, EPA argued that those statements regarding other general permits were inapposite and that the September 2000 Storm Water Multi-Sector General Permit covered discharges from many industrial facilities in numerous states, such that EPA could not make a blanket antidegradation determination for so many discharges in such a large area in that case. In addition, EPA claimed that either approach is a permissible interpretation of EPA's antidegradation regulation. That is, while it was reasonable for the Agency to require Tier II review at the notice of intent stage, it is also reasonable simply to require antidegradation review on a general permit-wide basis.

District Court Decision on EPA's approval of West Virginia's procedures

On August 23, 2003, the U.S. District Court for the Southern District of West Virginia issued a decision regarding EPA's approval of West Virginia's methods for implementing its antidegradation policy. Ohio Valley Environmental Coalition, et at v. Horinko, 279 F.Supp.2d 732 (S.D. W.Va. 2003). Specifically, the court held that EPA's approval of West Virginia's antidegradation implementation procedure allowing Tier II antidegradation reviews to be conducted during the general permit issuance stage rather than at the individual notice of intent stage was arbitrary and capricious. Id. At 763.[6]

In response to EPA's first argument that the Agency's earlier statements were inapposite, the court found that general statewide NPDES permits and general section 404 permits, like the September 2000 Storm Water MultiSector General Permit, also cover many separate discharges from different facilities in a large and varied geographic area. Id. at 760. The court found that EPA had not explained why the difficulties that were present in making blanket antidegradation determinations for the September 2000 Storm Water Multi-Sector General Permit were not also present for general permits in West Virginia. Id. The State could not know, the court held, the specific locations of the discharges that might be covered by the general permit because the locations are not known until individuals seek permission to discharge under the general permit. Id. at 761. The court asked if the State could determine, at the time the general permit is issued, whether a specific discharge will be associated with "important" economic or social development. Id. The court queried whether the State could determine, at the time the general permit is issued, whether the lowering of water quality would be "necessary" for

[6] It is important to note that the West Virginia court agreed with EPA that the Agency's statements in its 1998 Advance Notice of Proposed Rulemaking ("ANPRM"), 63 Fed. Reg. 36743, 36780 (July 7, 1998), in which EPA stated the Agency's position that States must apply antidegradation requirements to activities that are regulated under State or federal law, can reasonably be read to allow Tier II antidegradation review of a general permit at the general permit issuance stage. Id. at 759. The court disagreed with the plaintiffs, who had argued that EPA's statement in its ANPRM required Tier II antidegradation review of each individual use under that general permit. Id.

such development. .Id. And the court questioned if the State could conduct meaningful public participation before members of the public were aware of the nature and location of the specific discharges to be covered by the permit. Id.

In summary, the court concluded that EPA had failed to offer a reasoned analysis, or a reasonable factual basis, to justify the change in its opinion that Tier II antidegradation review could not feasibly be performed at the general permit issuance stage. Id. at 761-62. However, the court noted that, inherent in the notion of an agency's discretion to interpret its own regulations is the idea that an agency may adopt anyone of various reasonable interpretations of that regulation. Id. at 762. The court stated that an agency's prior choice of one reasonable interpretation does not preclude it from reconsidering its position in light of its ongoing experience and accumulated knowledge and adopting another reasonable interpretation. Id. That said, EPA's interpretation of its regulation must still be a reasonable one. Id.

EPA's Basis for Approving Iowa's Procedures

Since the court's decision in the West Virginia case, EPA has re-considered whether 40 CFR § 131.12(a)(2) could be satisfied by allowing States to conduct a Tier II antidegradation review at the general permit issuance stage. In a May 2, 2007, letter from EPA's Region 10 Office to the State of Washington's Department of Ecology, EPA found that such an approach is possible and could satisfy the requirements of the federal antidegradation regulation. Just as with other CWA requirements, and as the West Virginia court explained, there is no legal reason why States cannot comply with Tier II antidegradation requirements in a bundled manner as opposed to through an individual permit.[7]

Regarding EPA's statements in the context of earlier EPA-issued general permits, those statements reflect EPA's reasoning at that time for choosing not to conduct Tier II antidegradation review at the general permit issuance stage where EPA was the permit issuing authority. Either choice (i.e., conducting the review at the general permit issuance stage or at the individual Notice of Intent stage) is permissible and is consistent with EPA's regulations for approving water quality standards found at 40 CFR §§ 131.6 and 131.12. EPA's antidegradation regulation for Tier II water bodies, at 40 CFR § 131.12, states:

> (a) The State shall develop and adopt a statewide antidegradation policy and identify the methods for implementing such policy pursuant to this subpart.

[7] Note that whether the permit authority has reasonably conducted such a required Tier II review in issuing a particular general permit is an issue that a person may challenge (just as a person may challenge the reasonable application of any CWA requirement) in a pennit. The possibility that a particular application of this provision may not be reasonable does not mean that the authorizing provision is inconsistent with the federal antidegradation regulation at 40 CFR § 131.12(a)(2).

> The antidegradation policy and implementation methods shall, at a minimum, be consistent with the following:
> ***
> (2) Where the quality of the waters exceed levels necessary to support propagation of fish, shell\fish, and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the State finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the State's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In allowing such degradation or lower water quality, the State shall assure water quality adequate to protect existing uses fully. Further, the State shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control.

EPA has since determined (first in the Washington State approval, and now in this document) that it is possible for states (and EPA) to conduct a Tier II antidegradation review at the general permit issuance stage. Substantively, general permits are no different than individual permits; they must include all of the same types of permit limitations required to be included in individual permits. For example, in addition to general permits including mandatory technology-based requirements, as noted by the court in the West Virginia case, general permits must also contain, as needed, water quality-based effluent limits. 40 CFR § 122.28(a)(3). In addition, general permits must provide for public notice and comment. Under EPA's regulations, EPA-issued general permits are governed by 40 § CFR 122.28(b)(I), which cross-references all of the procedures, including notice and comment procedures, listed at 40 CFR part 124, which contains EPA procedures for issuing, modifying, revoking and reissuing or terminating NPDES permits. Included among the requirements for states to be authorized to administer the NPDES program is the requirement that states have legal authority to implement 40 CFR § 122.28(b)(1) and the notice and comment procedures at 40 CFR part 124. See 40 CFR § 123.25(a)(1l), (26)-(34).

In the NPDES CWA section 402 discharge contexts, if a general permit were to apply to a particular industry statewide, independent of antidegradation requirements, the permit authority would be required to propose for public comment the area to be covered by the general permit and the proposed effluent limitations that would be authorized under such a general permit. Those proposed effluent limitations would be specific pollutant limits to be placed on each parameter in a discharge in order to comply with applicable technology-based requirements (e.g., best available technology or "BAT") and applicable state water quality standards.

As far as satisfying the requirements of 40 CFR § 13l.l2(a)(2), the permit authority could first identify and subject to public comment its determination of the high quality waters (if any) in the area to be covered by the general permit. Next, the permit authority

could determine and subject to public comment its determination of whether the discharge limits it intends to propose would lower the quality of water in any high quality waters. This analysis would be subject to public comment in the permit process. Third, the permit authority, obtaining information as necessary from the permitted industry or industries, would conduct the Tier II antidegradation analysis – an analysis of reasonable alternatives to the discharge and a determination of whether any lowering of water quality in high quality waters would be "necessary to accommodate important economic or social development in the area in which the waters are located."

As recommended by EPA in its July 7, 1998 ANPRM, the essence of finding that the limited lowering (still meeting water quality criteria and protecting applicable designated uses) is "necessary" is to "develop an analysis of pollution control/pollution prevention alternatives. By doing this, the State ensures that all feasible alternatives have been adequately evaluated, and that the least degrading reasonable alternative is implemented." 63 Fed. Reg. 36784. Further, in the ANPRM EPA stated that "EPA's current thinking is that determining the social and economic importance of a proposed activity is a public question best addressed by State, Tribal or local interests, perhaps as part of the development of a basin plan." Id.

Where the general permit is crafted to address a class of activities that are appropriately similar, the alternatives based on certain technologies or pollution prevention measures would be the same set of alternatives for all of the dischargers to be authorized under the general permit. And the finding of social or economic importance could be done with respect to a broader group of related dischargers over a broad geographic area, up to and including an entire state. Alternatively, the permit authority could choose to subcategorize different types of facilities and different types of water bodies within one general permit for separate "sub analyses" within the general permit. All of these analyses would be required to be subjected to public notice and comment and response by the permit authority. The reasonableness of this decision-making, along with any other aspect of the general permit, would be subject to judicial review under applicable state permit procedures.

Given the above, EPA finds that it is possible for the State of Iowa to conduct a Tier II antidegradation review, consistent with 40 CFR § 131.12(a)(2), in the context of a general permit at the general permit issuance stage. As a result, EPA determines that this provision is consistent with 40 CFR § 131. 12(a)(2) and EPA hereby approves this provision.

2. Individual Permits

Section 6.2 discusses individual permits. Federal regulations require that in designating uses of a water body and the appropriate criteria for those uses, the State shall take into consideration the water quality standards of downstream waters and shall ensure that its water quality standards provide for the attainment and maintenance of the water

quality standards of downstream waters. [40 CFR § 131.10(b)] This requirement applies to antidegradation because antidegradation is the third component of WQS required by the Federal CWA, along with designated uses and numeric and narrative criteria.

Section 131.12(a)(1), as described in the Preamble to the regulation, provides the absolute floor of water quality in all waters of the United States. This paragraph applies a minimum level of protection to all waters. However, it is most pertinent to waters having beneficial uses that are less than the Section 101(a)(2) goals of the Act. If it can be proven, in that situation, that water quality exceeds that necessary to fully protect the existing use(s) and exceeds water quality standards but is not of sufficient quality to cause a better use to be achieved, then that water quality may be lowered to the level required to fully protect the existing use as long as existing water quality standards and downstream water quality standards are not affected. If, however, analysis indicates that the higher water quality does result in a better use, even if not up to the Section 10l(a)(2) goals, then the water quality standards must be upgraded to reflect the uses presently being attained (40 CFR 131.10(i).[8]

IDNR clarified its intent with respect to protection of downstream uses on page 45 of its Responsiveness Summary as follows:

> ***"An antidegradation review shall be performed for the entire segment (or multiple segments) of a water body that could be degraded by a new or expanded discharge. The review may extend into more than one designated segment depending on the pollutant load within the discharge and the distance to and assimilative capacity of waters down gradient of the discharge point. The review must extend down gradient as far as degradation could occur regardless of the classification status of the receiving waters. If the potential degradation is confined within a single segment, the review may be limited to only the portion of the segment to be affected. In general, the department anticipates the overwhelming majority of review to be conducted on the first designated water body expected to be impacted by the proposed degradation."***

EPA interprets IDNR's response above to mean that IDNR will ensure that downstream uses will be protected regardless of whether a water is classified with designated uses. In addition, page 23 (Section 6.2 Individual Permits) of the Iowa AIP provides the following clarification in these regards as well:

> *"Following the effective date of this document, all applications for new or expanded regulated activities shall undergo an antidegradation review if degradation is likely in the receiving water or downstream waters. In these cases, site-specific permit requirements will be based upon applicable effluent guidelines, water quality standards, the characteristics of the discharge and the alternatives analysis. In*

[8] Questions and Answers on Antidegradation. U.S.EPA. December, 1983.

addition, the permit must ensure that beneficial uses are maintained and protected in the receiving waters and downstream waters."

As discussed above, the Iowa AIP defines a beneficial use as:

"All existing and designated uses on or in surface waters of the state."

The Iowa AIP ensures that downstream uses, whether or not they are existing uses or designated in Iowa's Surface Water Classification Document (IAC 61.3(5)), will be protected by Iowa's AIP through the individual permitting process. As such, Section 6.2 of the Iowa AIP is hereby approved.

c. Section 6.3; 401 Certifications

EPA's position on CWA 404, 401 certifications and antidegradation is described in EPA's WQS Handbook, Appendix G,[9] Question #13 which says:

" Since a literal interpretation of the antidegradation policy could result in preventing the issuance of any wetland fill permit under Section 404 of the Clean Water Act, and it is logical to assume that Congress intended some such permits to be granted within the framework of the Act, EPA interprets Section 131.12 (a)(l) of the antidegradation policy to be satisfied with regard to fills in wetlands if the discharge did not result in "significant degradation" to the aquatic ecosystem as defined under Section 230.10(c) of the Section 404(b)(l) guidelines. If any wetlands were found to have better water quality than "fishable/ swimmable", the State would be allowed to lower water quality to the no significant degradation level as long as the requirements of Section 131.12(a)(2) were followed. As for the ONRW provision of antidegradation (131.(a)(2)(3)), there is no difference in the way it applies to wetlands and other water bodies."

Simply put, 404 requirements satisfy antidegradation Tier 1; Tier 2 review is still needed for high quality waters, and Tier 3 waters should have no degradation.

Section 6.3 discusses CWA Section 401 water quality certifications and Section 404 regulating the placement of dredged or fill material into the "waters of the United States" including small streams and wetlands adjacent or connected to "waters of the United States." In Section 6.3, applicants who fulfill the terms and conditions of applicable 404 permits and the terms and conditions of the corresponding 401 water quality certification "will have fulfilled the antidegradation requirements." The State also allows additional antidegradation considerations to be incorporated into 404 permits and the corresponding 401 certifications at the time of permit issuance. If

[9] Questions and Answers on Antidegradation. U.S.EPA. December, 1983.

any project results in water quality degradation which is necessary to accommodate important social or economic development, the State shall issue a 401 certification.

Section 6.3 allows antidegradation requirements to be met for minor activities covered under 404 general permits (e.g., road culvert installation, utility line activities, bank stabilization, etc.) if all appropriate and reasonable BMPs related to erosion and sediment control, project stabilization and prevention of water quality degradation (e.g. preserving vegetation, stream bank stability and basic drainage) are applied and maintained. Under this BMP-based approach, regulated activities for which mitigation has been certified by the state pursuant to CWA Section 401 will not be required to undergo a separate Tier 2 review.

Based on EPA's review of this information, EPA finds that the State has provided adequate assurance that pollution controls related to a dredging or fill material projects including projects listed above will be sufficiently addressed through compliance with requirements established under federal or state regulatory programs in the process of planning and constructing these projects. Therefore, the regulatory processes outlined by the State are consistent with 40 CFR 131.12(a)(2) in relation to controls for new and existing point sources and best management practices for nonpoint source control.

d. Section 6.4; Activities Covered by NPDES Storm Water Permits

Section 6.4 discusses activities covered by NPDES Storm Water Permits and states that "Phase I or Phase II MS4s authorized under individual storm water permits are required to meet antidegradation requirements" (page 24).

The state requires antidegradation reviews for individual NPDES storm water permits to be based on an adaptive management approach. This approach may include routine monitoring of storm water quality at representative outfalls to adequately characterize storm water discharges. The MS4 will then evaluate, through effectiveness monitoring, whether storm water quality is being maintained, improving, or degrading and whether BMPs identified in the MS4's storm water pollution prevention plan are effective at controlling the discharge of pollutants. Antidegradation reviews of individual NPDES storm water permits will consist of an analysis of the effectiveness of the BMPs and compliance with the requirements of the storm water permit. The State will issue an individual NPDES storm water permit where the degradation resulting from the project is necessary to accommodate important social or economic development.

EPA finds that the State has provided adequate assurance that pollution controls related to storm water permits will be sufficiently addressed because they require analysis of the BMP effectiveness and that any lowering of water quality be necessary to accommodate important economic or social development. In addition, this

provision does not exempt individual storm water permits from Tier 2 antidegradation requirements; it requires individual storm water permits to be reviewed, just differently than other individual NPDES permits. Therefore, the regulatory processes outlined by the State are consistent with 40 CFR 131.12(a)(2) in relation to controls for new and existing point sources and best management practices for nonpoint source control.

e. Section 6.5; CAFO Considerations

Section 6.5 discusses concentrated animal feeding operations (CAFOs) and how these permitted operations must comply with the antidegradation policy when applying for or renewing a NPDES permit. The following clarification for CAFO operations is provided on page 24**:**

> *"An expanded discharge from a CAFO includes adding more animals or increasing the size of the feeding areas or the areas that contain manure. Adding pollution controls to an existing CAFO is not degradation if the operation is not expanded at the same time. Permitting an existing CAFO that never had a NPDES permit is not degradation if the permit application does not include an expansion of the operation (see Section 2.2)."*

Section 6.5 provides that a Tier 2 analysis, similar to the process described in Section 3 of the Iowa AIP, must be submitted to the State when an applicant requests a new or expanded discharge from a CAFO. However, because CAFO NPDES permits are required by Iowa Chapter 567 IAC 65 to implement controls on their discharge, an analysis of less degrading alternatives is not required. The control requirements in Chapter 567 IAC 65 are identical to the controls required in EPA Federal regulations at 40 CFR 401.31 which are listed as the "best practical control technology currently available."

While an applicant may provide a separate notice period for public comment for the antidegradation review, it can also be combined with the notice period for public comments for the nutrient management plan (NMP), required by Iowa's Subrule 567 IAC 65.112(7) (page 25). If the applicant chooses a combined notice period for public comment for the antidegradation review with the NMP, the Iowa AIP provides eight requirements, specific to the applicant and its operation, to follow on pages 25-26.

This section also describes that the applicant must follow Sections 3.3 and Section 4 of the Iowa AIP to ensure a finding of social and economic importance and public intergovernmental coordination and review, respectively, as described earlier in this enclosure.

Based on EPA's review of this information, EPA finds that the State has provided adequate assurance that pollution controls related to permitted CAFOs will be sufficiently addressed because they ensure that the least degrading alternative (best practical control technology currently available) for a CAFO is used. The processes outlined by the State are consistent with 40 CFR 131.12(a)(2).

SECTION III - SUBRULE 61.2(2) ANTIDEGRADATION POLICY, PARAGRAPHS "f" and "g"

In the February 17, 2010, revisions to the WQS, IDNR revised the antidegradation policy by striking the following language in paragraph "g" and adding new language that is underlined in paragraph "f.":

f. All unapproved facility plans for new or expanded construction permits, except for construction permits issued for nondischarging facilities, shall undergo an antidegradation review if degradation is likely in the receiving water or downstream waters following the effective date of the "Iowa Antidegradation Implementation Procedure."

~~*h.*~~ *g.* This policy shall be applied in conjunction with water quality certification review pursuant to Section 401 of the Act. In the event that activities are specifically exempted from flood plain development permits or any other permits issued by this department in 567—Chapters 70, 71, and 72, the activity will be considered consistent with this policy. Other activities not otherwise exempted will be subject to 567—Chapters 70, 71, and 72 and this policy. ~~The repair and maintenance of a drainage district ditch as defined in 567—70.2(455B,481A) will not be considered a violation of the antidegradation policy for the purpose of implementing Title IV of these rules.~~ United States Army Corps of Engineers (Corps) nationwide permits 3, 4, 5, 6, 7, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25, 27, 29, 30, 31, 32, 33, 34, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, and 50 as well as Corps regional permits 7, 33, and 34 as promulgated October 29, 2008, are certified pursuant to Section 401 of the Clean Water Act subject to the following Corps regional conditions and the state water

quality conditions:

(1) to (9) No change.

The new language in paragraph "f" clarified that an antidegradation is required review for all unapproved facility plans for new or expanded construction permits for discharging facilities where degradation is likely in the receiving water or downstream waters. This requirement is in effect following the effective date of the "Iowa Implementation Procedures."

The language struck from paragraph "g" was revised and adopted by the Iowa EPC on October 18, 1993, and was disapproved by EPA on July 1, 1999. EPA disapproved this provision as inconsistent with EPA's longstanding interpretation that WQS apply to all waters and it is inappropriate to exempt classes of activities from those WQS. EPA's 1991 disapproval states:

"The State can remedy this disapproval by removing this statement from Chapter 61."

This revision resolves EPA's 1991 disapproval. These new and revised paragraphs provide clarity and are consistent with EPA's interpretation that WQS are applicable to all waters and in all situations, regardless of the activity or source of degradation. As such, EPA hereby approves paragraphs "f" and "g."

SECTION IV – AMENDING THE BACTERIA CRITERIA TABLE AND THE RULE-REFERENCE SURFACE WATER CLASSIFICATION DOCUMENT.

In the February 17, 2010, revisions to the WQS, IDNR revised the Bacteria Criteria Table in subparagraph 61.3(3)"a"(1) by striking "HQ" and adding the new underlined "or Category," "OIW" and "ONRW" as follows:

Bacteria Criteria Table (organisms/100 ml of water)

Use or Category	Geometric Mean	Sample Maximum
Class A1		
3/15 – 11/15	126	235
11/16 – 3/14	Does not apply	Does not apply
Class A2 (Only)		
3/15 – 11/15	630	2880
11/16 – 3/14	Does not apply	Does not apply

[Class A2 and (B(CW)] or ~~HQ~~ OIW or ONRW)		
Year-Round	630	2880
Class A3		
3/15 – 11/15	126	235
11/16 – 3/14	Does not apply	Does not apply
Class A1 – Primary Contact Recreational Use Class A2 – Secondary Contact Recreational Use Class A3 – Children's Recreational Use		

The OIW and ONRW categories are Tiers under Iowa's new antidegradation policy, they are not "designated uses" and therefore EPA's regulations do not require additional requirements beyond that required by EPA's regulation for Tier 2 waters as these are discretionary with the State. Thus, EPA has determined that these revisions are consistent with federal antidegradation requirements (see 40 CFR 131.12). However, EPA is not taking action on the recreational criteria Iowa has associated with the OIW and ONRW Tiers.

SECTION V – REVISING THE DATE OF THE SURFACE WATER CLASSIFICATION DOCUMENT

In the February 17, 2010, revisions to the WQS, IDNR revised, IDNR amended Chapter 61, Water Quality Standards, subrule 61.3(5), in order to modify the effective date of the rule-referenced document entitled, "Surface water classification," referred to in the subrule as follows:

61.3(5) *Surface water classification.* The department hereby incorporates by reference "Surface Water Classification," effective ~~June 11, 2008~~ [February 17, 2010]. This document may be obtained on the department's Web site at http://www.iowadnr.com/water/standards/index.html.

Iowa's prior Surface water classification (SWC) document was adopted into the Iowa WQS on June 11, 2008. However, as referenced in EPA's May 22, 2009, approval action on the first subset of the August 18, 2008, WQS revision package from IDNR, that SWC, dated June 11, 2008, had necessarily undergone several revisions which EPA received on May 18, 2009. EPA has relied on the May 18, 2009, revised SWC in order for EPA to act on designated use changes on May 22, 2009, November 24, 2009, June 29, 2010 and August 19, 2010.

EPA has determined that the above revisions made to subrule 61.3(5) meet the minimum requirements of Section 303(c) of the CWA, and are consistent with EPA's implementing regulations at 40 CFR §§ 131.6, and 131.10. EPA hereby approves these revisions.

SECTION VI – NONSUBSTANTIVE CHANGES TO THE WATER QUALITY STANDARDS

Section 303(c) of the CWA requires EPA to review and approve revision to states' WQS. The following revisions IDNR made to the WQS regulations (567 IAC Chapter 61) do not constitute new or revised WQS. As such, EPA is not required under Section 303(c) of the CWA to review and approve such administrative actions identified below.

Rescind subparagraphs **61.3(1)"b"(6)** and **(7)**.

Renumber subparagraphs **61.3(1)"b"(8)** to **(13)** as **61.3(1)"b"(6)** to **(11)**.

Attachment A

Iowa Department of Natural Resources
Response to EPA Comments on Iowa's Draft Antidegradation Implementation Procedures

Antidegradation Rulemaking November 2009

Issue: Clarification of how Iowa's Antidegradation Implementation Procedures apply to facilities that are renewing their NPDES permit with no changes to permit limits or treatment plant design capacity.

Background:

This issue was brought forward during the rulemaking process through a question posed by the Environmental Law and Policy Center (ELPC) and questions had also previously been raised during the Department's consultation with EPA.

ELPC Comment from their March 4, 2009 public comment letter:

Please clarify how Iowa's antidegradation policy will be implemented for facilities that apply for a permit renewal with effluent limitations that were never determined to be "necessary."

Section 2.2 of the draft Iowa procedures contains several exemptions for categories of activities that are deemed to "not be considered to result in degradation." One of these situations is the issuance of a permit for an existing facility that "does not propose less stringent permit limits or increased treatment plant design capacity." This exemption may be appropriate in cases where the facility in question has previously undergone an antidegradation review and the resulting effluent limitations have been determined to be "necessary." In these cases, a permit renewal with identical permit limits would prevent further degradation of water quality and a Tier 2 anti degradation review would be unnecessary. However, many Iowa facilities have been previously granted effluent limits that authorize extremely high levels of ammonia and other toxic pollution without first evaluating whether these high limits were "necessary." In this situation, a permit renewal that "does not propose less stringent permit limits" would still allow the facility to continue increasing pollutant loading to Iowa waters without ever going through an antidegradation review. This would violate 40 C.F.R. § 131.12(a)(2), which requires states to demonstrate that degradation is "necessary to accommodate important social and economic development."[1]

---

1 The Department's current antidegradation rules establish a steam-by-stream approach for Tier II analysis, as authorized pursuant to the Clean Water Act, rather than the parameter-by-parameter approach now proposed. To the extent that a facility discharged to a stream that is not an HQ or HQR water, the Department disputes the assertion that a failure to previously determine that degradation was "necessary to accommodate import social and economic development" constitutes a violation of 40 CFR 13 I. 12(a)(2).

In order to fix this problem, we recommend modifying the proposed exemption as reflected below and in Appendix A.·

A regulated activity shall not be considered to result in degradation, if:

- A permit for an existing facility that has previously been subject to an antidegradation review does not propose less stringent permit limits or increased treatment plant design capacity;

DNR Response on August 31, 2009:

Language was added during the stakeholder process to address this concern in Section 2.2 of the proposed AIP.

- A permit for an existing facility does not propose less stringent permit limits or increased treatment plant design capacity; or
- Additional treatment is added to an existing discharge and the facility retains their current permit limits and design capacity; or

The concept is that any increase in treatment plant design capacity is considered degradation will appropriately address these situations as all treatment plants have specified design lives and will eventually need to be upgraded to accommodate for population growth, compliance with new water quality rules, or to maintain operational functionality. It is not appropriate or logical to go back and perform a review for discharger that isn't proposing any changes. It would not produce any meaningful result in regard to preserving water quality, in part because alternatives to continuing to allow the plant to perform within its design capacity will be cost prohibitive by definition. The alternatives analysis will always fail.

The example cited would appear to support an argument for more stringent technology based limits for ammonia, and possibly other pollutants. This is an issue that is beyond the scope of this antidegradation rulemaking.

Excerpt from DNR Response to EPA August 5th, 2008 e-mail regarding to Iowa's Consultation Package on this issue

Section 2.2. Determining the Appropriateness of Degradation

This section states that a "regulated discharge shall not be considered to result in degradation if a permit for a facility does not propose less stringent permit limits (third bullet). If effluent concentration levels remain constant but the discharge volume doubles, the ambient pollutant concentration in the stream can increase up to 33%, which is degradation. This language should be clarified to prevent this situation.

The fourth bullet could also allow a similar situation to occur. A facility may add additional treatment, but the load to the receiving waterbody may increase, resulting in an increase in the ambient pollutant concentration. Again, this language should be clarified.

DNR Response:

Degradation assessments consider both mass and concentration limit increases. In the examples used, doubling the discharge volume and keeping the effluent concentration the same will result in less stringent mass limits as calculated in Iowa, thus preventing the situation EPA fears.

Excerpt from DNR Response to EPA September 22, 2008 email regarding to Iowa's Consultation Package for this issue.

EPA Comment:

> Bullet 3 (note bullet 2 is empty) - New language: "The activity is occurring within the design capacity of the treatment plant as specified in the existing construction permit"; the intent of this bullet is not clear.

DNR Response:
The intent is to allow for the normal fluctuation of loads received at a wastewater treatment plant that are within the stated design capacity of that treatment plant. For example, a treatment plant is built to handle 1000 lbs of BOD/day but it currently treating 200 lbs. of BOD/day, and a new subdivision would contribute an additional 100 lbs. of BOD/day. Since the facility is permitted at 1000 lbs. of BOD by construction permit and appropriately reflected by the NPDES permit, the new loading is well within its stated design capacity so adding the subdivision would not trigger an antideg review.

EPA Region VIII Antidegradation Guidance Question #10 and corresponding answer from August 1993 referenced in the November 3, 2009 EPA/DNR conference call:

Q 10: The proposed guidance advocates triggering of antidegradation when permitted effluent quality is increased, but what about municipalities with 20 year growth plans where the permit was written based on optimistic growth forecasts? Would antidegradation ever be triggered for such facilities?

A10: The Region acknowledges that many POTWs were designed based on optimistic population growth forecasts and as a result have "permitted" loading rates that greatly exceed "existing" loading rates. To address these and other situations, the guidance has been revised to recommend consideration of existing versus permitted effluent quality when judging "significant degradation." This factor will allow states to conclude significance even where there would be no increase in permitted loadings. The Region anticipates that some consideration of EEQ should be included in an anti degradation review, particularly where persistent toxics are of concern and where there may be pollution-prevention alternatives that could result in elimination of the parameters of concern from a facility's effluent.

CFR 131.12(a)(2)

(2) Where the quality of the waters exceed levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the state finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the state's continuing planning process, **that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located.** In allowing such degradation or lower water quality, the state shall assure water quality adequate to protect existing uses fully. Further, the state shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control.

_____

Explanation of Iowa's proposed antidegradation procedures regarding this issue:

The Iowa Department of Natural Resources considers lowering of water quality to mean lowering of the ambient water quality condition instream from increased pollutant loading from point sources in excess of currently permitted values. This allows for a simple, workable approach for implementing anti degradation principles consistent with the spirit of the CWA and its implementing regulations at 40 CFR 131.12. This innovative approach works to preserve existing instream water quality and was selected for several reasons:

1. **The Tier 2 review is determining whether degradation of water quality is "necessary".** The heart of anti degradation is the alternatives analyses required in a Tier 2 review. The evaluation of non-degrading and less-degrading alternatives is appropriate when a facility is proposing changes that will result in degradation under the antidegradation policy. The Environmental Law and Policy Center agrees with this approach. As stated from the presentation materials for the May 2009 River Rally in Baltimore, MD submitted to IDNR as public comments for how alternatives analyses may be considered,

   i. "It is critical that the antidegradation review's alternatives analysis be incorporated early in the process when decisions are made about technology, most often at the facility planning stage. It is also critical that public notice and comment on the alternatives analysis - as well as the response to public comment - happen at the point where alternatives are truly under review. At least one state -Iowa - is already considering this as a requirement to maximize the efficiency of the antidegradation process"

   The necessary evaluation in these procedures is intended to investigate whether or not there are any reasonable treatment alternatives that exist to prevent degradation, not whether certain effluent limitations are appropriate. The establishment of permit limitations is done through the NPDES permit process and any issue regarding limitations is more appropriately addressed through NPDES permitting. For example, in cases where total residual chlorine limits have become less stringent as a result of a change in permit limit derivation / WQS, but

the facility has routinely complied with more stringent TRC limits in the previous permit, NPDES staff has traditionally kept the more stringent TRC limits in place in the renewed permit.

2. **Avoids pointless expenditure of money by avoiding needless retroactive Tier 2 reviews.** The concept is that any increase in treatment plant design capacity is considered degradation. Implementing this concept will appropriately address these situations as all treatment plants have specified design lives and will eventually need to be upgraded to accommodate for population growth, compliance with new water quality rules, or to maintain operational functionality. It would not be appropriate or logical to go back and perform a review for a discharger that is not proposing any changes to its treatment plant design capacity or permit limits. Doing so would not produce any meaningful result in regard to preserving water quality because any and all alternatives to continuing to allow the plant to perform within its design capacity will be cost prohibitive by definition. This is because the performance of an alternatives analysis presumes that the cost of a proposed treatment alternative will be compared with the costs of other less degrading alternatives. When the first alternative is to continue to use the existing facility as designed and built, the cost of constructing that alternative is always zero. Performing a cost comparison to an alternative with zero cost will result in all other options being determined to not be cost-effective. As a result, any alternatives analysis will always result in the determination that the least degrading, cost - effective alternative is operating the plant as normal.

   For example, if a facility is not proposing to change its operations from one permit cycle to the next, the base cost of pollution control is zero dollars since the treatment system is already in place and operational. The procedure for evaluating and selecting alternatives is set forth in section 3.2 of the Iowa Antidegradation Implementation Procedures. A part of that evaluation processes is a determination of economic efficiency. The implementation procedure states:

   > As a *non-binding guideline,* alternatives less than 115 percent of the base cost of the minimum level of pollution control are presumed to be economically efficient. Alternatives greater than 115 percent of the base costs should also be considered if implementation of the alternative would produce a substantial improvement in the resulting discharge. Conditions that might warrant consideration of alternatives of greater cost (above 115 percent) are the effectiveness, reliability, and environmental factors identified above. The base cost of the minimum level of pollution control is the cost of the controls required to protect beneficial uses and/or technology-based effluent limits, whichever is more expensive.

   Analyzing alternatives within 115% of the base cost of pollution control will not provide any meaningful alternatives since 115% of zero dollars is zero dollars. Mathematically, it would not matter if the guidance was 150% or 500% of the base cost because the base cost is zero where the facility that is designed to protect beneficial uses and comply with technology-based effluent limits already exists. In other words, because any alternative to normal plant operation would exceed zero dollars, conducting an alternatives analysis would, by definition, be a pointless exercise since no alternative could be determined to be

economically efficient. Any forced examination of alternatives under these circumstances is a waste of valuable time and money.

3. **Using existing water quality and discharge conditions results in less stringent limitations.** If changes in existing effluent quality were to be considered, so should the existing discharge conditions, specifically the volume of flow discharged. In essentially all cases, a facility is routinely discharging less flow than what the treatment plant is designed to handle based of the 20-year design flow. Using the 20-year design flow is a conservative method for establishing water quality-based permit limits.

   Since current IDNR water quality-based limits use both concentration and mass limits, as well as monthly average and daily maximum limits, the discharges have to meet both concentration and mass limits. By using a 20-year design flow instead of current existing discharge flows for facilities, it should always result in more stringent concentration limits based on mass balance of stream dilution. For example, a design flow of 50 mgd for a town will result in a monthly average ammonia concentration and mass limits of 5.1 mg/l and 2126 lbs/day for August after mixing with 10-year critical low flows; a design flow of 40 mgd will result in a monthly average ammonia concentration and mass limits of 6.1 mg/l and 2035 lbs/day for August after mixing with 10-year critical low flows. Thus, on average, a higher design flow would result in more stringent permit limits. If fluctuation in existing effluent quality were to be considered, it would be expected to result in the initial imposition of water quality-based permit limits that are less stringent than the limits that are currently provided by using the 20-year design flow.

4. **Determining fluctuations in existing effluent quality is cumbersome and confuses implementation.** Region VIII guidance suggests determining "consideration of existing versus permitted effluent quality when judging 'significant degradation' ." First, Iowa's procedures do not recognize "significant degradation" as there are no de minimus provisions. Second, existing effluent quality is not static; it changes throughout the course of a year, month, even a day. For example, the treatment efficiency of ammonia is heavily dependent on temperature with warmer temperatures allowing for better treatment and colder temperatures working to limit the biological treatment process resulting in less removal of ammonia. The effluent quality can fluctuate greatly throughout the year depending on the treatment technology, season, and normal variations in loading to the plant.

   There is no simple way to determine 1) enforceable permit limits based upon existing effluent quality and 2) how existing effluent quality concentrations may change based on a certain activity occurring within the treatment system or the community. Determining an enforceable measure of existing effluent quality as a permit limit, absent any EPA required technology based limitations, will require detailed review of a facility's treatment history, technological limitations, changes seen and unforeseen in influent water quality, etc. As a result, determining a reliable method for the establishment of new permit limits based on existing effluent quality is problematic due to the multitude of variables that will need to be considered and the fact that, in the end, it will result in a subjective limitation that does not provide meaningful results for water quality or enforcement and will bog down the

department and facilities in unending alternative analyses for every perceived incremental change in existing effluent quality.

Additionally, the use of existing effluent quality as a trigger for antidegradation, rather than permit limits, may act to punish past long term planning or the prior imposition of pretreatment controls. A community that designed and built a plant to treat anticipated 20-year influent levels should not now be limited from the use of that plant at the levels of influent it was designed to handle. Similarly, voluntary imposition of additional controls, such as pretreatment agreements, to achieve the highest possible level of effluent quality will be discouraged if the facility will be required to maintain those more stringent effluent limits despite the facility's ability to handle and properly treat higher levels of influent concentrations. For example, without a technology or TMDL-based limit for ammonia it will be in the best financial interest of a facility to maximize ammonia discharge prior to permit renewal to avoid antidegradation review and thereby lower existing effluent quality.

5. **There is no de minimus in DNR's implementation procedures.** Facilities are not able to suggest their increased loading is insignificant to the point where an alternatives analysis is not necessary or required. It is the intent of the Department that a request to increase the permitted level of discharge of pollutants of concern of even 1 molecule beyond existing permitted loading levels will trigger a Tier 2 review.

6. **Pristine water quality is presumed.** This makes the antidegradation policy simpler and moves regulated entities to perform alternatives analyses. Determining existing water quality is an administrative and economic burden for facilities and the likely result will be that an alternatives analysis is needed in nearly all situations. This approach results in facilities moving right to the alternatives analysis to determine if degradation is necessary. It also makes it simpler by downplaying issues such as de minimus degradation and available assimilative capacity.

7. **Any increase in permitted loading will trigger a Tier 2 review and subsequent alternatives analyses.** The use of loading, as opposed to solely concentration, is a very conservative approach to considering degradation. Any new source of a pollutant of concern that is not designed to be treated at a wastewater treatment plant will trigger an alternatives analysis. For example, a new metal finisher that will discharge a small amount of cadmium to a municipal treatment facility that does not have existing cadmium limits will require an alternatives analysis for that new pollutant of concern.

8. **Any increase in permitted design capacity will trigger a Tier 2 review and subsequent alternatives.** In many cases, facilities that are upgrading their facilities to meet more stringent permit limits as a result of previous rule making efforts will be required to conduct alternatives analyses as a result of designing a larger facility with higher flows and capacity to accommodate for future growth.

9. **Nearly all permanent facilities will be required to perform an alternatives analysis.** Existing facilities that are expanding the size of their treatment plants or planning to receive additional waste from industrial contributors outside of their design capacity (e.g., a new

treatment agreement for a metal finisher to a municipal wastewater treatment plant) will be required to perform an antidegradation review. New facilities that require construction permits such as a rest area or mobile home park and new facilities that do not require construction permits such as cooling water discharges will be required to perform an antidegradation review. The department estimates the following **annual** occurrence ranges (Low - High) that may require an antidegradation review:

- 44 - 64 New or Expanded Discharges
- 10 - 20 New Industrial Construction projects
- 30 - 40 New or expanded industrial contributors to municipal wastewater treatment plants
- 20 - 40 New discharges that do not require a construction permit
- 104 - 164 estimated overall annual range for regulated facilities needing an antidegradation review.

It is anticipated that most NPDES permitted facilities will likely go through an alternatives analyses within a 10 to 15 year period.