

Cost-Benefit Analysis

A. Statement of Need

1. An explanation as to whether the rule is intended 1) to address a federal or state statutory requirement; 2) to address an alleged market failure; and/or 3) to serve a public need, such as improving government processes or promoting public safety or health:

The rule is intended to address federal and state statutory requirements. The Clean Water Act (CWA) at 33 U.S.C. 1313(c) and federal rules (at 40 C.F.R. 131.12) require states to develop, adopt, and retain a statewide antidegradation policy regarding water quality standards and establish procedures for its implementation. Additional requirements affecting antidegradation rules come from the Indiana General Assembly's requirements found in IC 13-18-3 enacted in the 2000 legislative session under Public Law 140-2000 (also known as SEA 431). The General Assembly adopted additional antidegradation requirements, in the 2009 regular session with the passage of Public Law 78-2009, which are made part of the draft rule.

The rule will also serve a public need as the proposed rule will enhance and protect public health and the environment by protecting the state's surface waters.

The rule is also, in part, a response to the Barnes Report. Issued in December, 2007, the report recommended revising Indiana's antidegradation rules. Indiana Gov. Mitch Daniels commissioned the report by Indiana University professor Jim Barnes.

Another force behind the rulemaking is a December 17, 2009 petition to the U.S. EPA by the Environmental Law and Policy Center, the Hoosier Chapter of the Sierra Club and the Hoosier Environmental Council asking that U.S. EPA withdraw Indiana's Clean Water Act Authority due to, among other issues, Indiana's lack of appropriate antidegradation implementation regulations.

2. An estimate of the number of individuals and businesses affected by the rule:

Based on 2009 National Pollution Discharge Elimination System (NPDES) permit submissions, up to 50 businesses and 30 municipalities may be required determine if they need to perform an antidegradation demonstration each year.

3. An evaluation of the policy rationale or goal behind the proposed rule, including an analysis of the following:

A. Identify the conduct and its frequency of occurrence that the rule is designed to change or address:

The purpose of the antidegradation process is to preserve the existing quality of water that is cleaner than minimum standards. It does this by requiring an evaluation of alternatives before permitting new pollutant discharges above a de minimis level. If the new discharge will degrade the existing water quality, the State needs to find that the social and economic benefits of the water degradation exceed the social and economic benefits of preserving the existing water quality.

Based upon 2009 permit applications, there are about 80 permit applications a year that may result in a new discharge of pollutants.

B. Discuss the harm resulting from the conduct that the rule is designed to change and the likelihood the conduct will continue to occur absent a rule change:

Without the proposed rule, there is not a clear path to satisfy the federal and state statutory antidegradation requirements. This means that U.S. EPA and environmental groups may legally challenge the permits issued by IDEM, resulting in uncertainty for regulated entities. The proposed rule will allow IDEM and the regulated community to clearly demonstrate that proposed discharges of regulated pollutants to surface waters of the state that are cleaner than the minimum standard will either maintain water quality in the current condition, or that the social and economic benefit of the project outweigh maintaining the current water quality.

C. How has the agency involved regulated entities in rule development?

An extensive public participation process was initiated in early 2008 and included representatives of the regulated community (industrial and municipal wastewater dischargers), environmental community, U.S. EPA and the Indiana Department of Environmental Management (IDEM). A large workgroup inclusive of all interested parties convened on April 29, 2008, to discuss the broad issues involved in this rulemaking. A second large workgroup meeting was held on June 25, 2008, and, at that meeting, the workgroup decided to select a smaller subgroup with chosen representatives from each of the interested sectors (environmental, municipal, and industrial communities) who would continue the rule development process with IDEM. The subgroup held meetings on nearly a monthly schedule from July 2008 through January 2009 and concluded with a final meeting on April 22, 2009. After the final subgroup meeting, IDEM took the collected information and finalized the developing draft rule, which was presented to the large workgroup in an open meeting held on August 4, 2009. For complete information on the workgroup and subgroup activities, please go to: <http://www.in.gov/idem/5387.htm>

4. Provide a detailed description of the methodology used in making the above determinations.

Most of the above determinations were made simply by following the requirements of the federal Clean Water Act (CWA) and Indiana statutes. The CWA itself provides a description of the policy and rationale behind the antidegradation rule, and Indiana statutes provide the required framework for public notice of and involvement in the rulemaking.

B. Evaluation of Costs and Benefits

Provide a comprehensive enumeration of the costs and benefits of the rule, including tangible and intangible costs and benefits. If costs and benefits cannot be monetized or quantified, explain why and include a thorough description of the non-quantifiable costs and benefits as well as a determination whether such costs and benefits will be significant. The cost-benefit analysis should conclude with the agency's determination whether the benefits are likely to exceed the costs. In reaching that determination, include the following factors or an explanation of why each factor is not applicable:

1. An estimate of the primary and direct benefits of the rule, including the impact on consumer protection, worker safety, the environment, and business competitiveness;

There are three main benefits of the proposed rule: regulatory certainty, preservation of the capacity of waters to accept new discharges of pollutants from future economic development projects or population growth, and the health and environmental benefits of preserving existing water quality.

Environmental protection, specifically water quality protection, is the direct and primary benefit of this rule. The reason to protect the environment is for the protection of human health, which is both a direct and indirect benefit of this rule.

2. An estimate of the secondary or indirect benefits of the rule and an explanation of how the conduct regulated by the rule is linked to the primary and secondary benefits;

Secondary or indirect benefits of the rule include protection of human health, consumer protection (from higher costs of drinking water treatment and water borne disease or infection), and worker safety for those working in or around waters of the state, protection of aquatic life and the recreational use of Indiana's surface waters.

3. An estimate of the compliance costs for regulated entities, including fees, new equipment or supplies, increased labor and training, education, supervisory costs, and any other compliance cost imposed by the requirements of the rule;

Based upon the 80 permit applications received in 2009 that might be required to consider antidegradation, a consulting cost of \$100 per hour, and our estimate that a complex antidegradation process would require 160 professional hours, the annual cost to the regulated community to implement the rule would be up to \$1,280,000. If the cost of professional services was \$300 per hour, this estimate would increase to \$3,840,000 per year.

The Indiana Manufacturers Association has submitted public comments estimating the total annual cost to be between \$3,034,200 and \$9,920,000. They did not provide the estimated number of professional hours or the cost per hour behind their estimates. Major differences between the IMA estimate and IDEM's estimate is that the IMA assumes that each request to change a water treatment additive at a facility (estimated at 108 requests per year) would require full antidegradation review at an annual cost of between \$1,425,600 and \$4,050,000. They also assume that up to 105 permits a year will require review versus the 80 assumed by IDEM—this increases their estimate by about 30%. Finally, they assume that the public notice process will cost between \$720,000 and \$945,000 per year—this is far in excess of IDEM's experience and the proposed rule makes the public notice process optional for the applicant (if they do not choose to engage in the process, IDEM will do it).

4. An estimate of the administrative expenses, including legal, consulting, reporting, accounting or other administrative expenses imposed by the requirements of the rule;

These costs are included in the estimates responding to item 3. Administrative expenses related to this rule are considered to be the cost to submit an antidegradation demonstration to IDEM and would be similar to the cost and process to submit an NPDES application and occur in combination with the NPDES permit application, an activity required of a discharger proposing a new or increased discharge, even in the absence of an antidegradation rule. The possible cost for preparing an antidegradation demonstration, including consultant services if utilized, is not considered to be administrative but is the cost of complying with the rule.

5. An estimate of any cost savings to regulated entities as a result of the proposed rule. State whether savings are from a change in an existing requirement or the imposition of a new requirement.

It is unlikely that this rule will result in cost savings to regulated entities.

On March 10, 2010, the Environmental Law & Policy Center, in response to IDEM's request for information from interested parties regarding the fiscal impacts of IDEM's draft antidegradation implementation rules, submitted their estimates for economic benefits of the rule. This document estimates the economic benefits to Indiana from anglers, hunters and wildlife watchers at greater than \$2 billion per year.

The incremental water quality values addressed by the proposed antidegradation rule and the 80 applications a year that may be subject to this rule would not be expected to significantly impact existing fishing, hunting or wildlife watching in Indiana.

C. Examination of Alternatives

Include an evaluation of alternatives to achieve the objectives of the proposed rule or amendment.

1. Alternatives considered in the rulemaking workgroup process

a. Applicability: Section 1 of the Antidegradation Standards and Implementation Procedures rule explains the applicability of the rule. The antidegradation standards established by the rule apply to all surface waters of the state, and the antidegradation implementation procedures established by the rule apply to a proposed new or increased loading of a regulated pollutant to a surface water of the state that will result from a deliberate action including a change in process or operation that adds additional regulated pollutants or creates an increase in loading of a regulated pollutant already being discharged.

The entire first meeting of the antidegradation subgroup (a group of stakeholders selected by the larger antidegradation stakeholder workgroup) was spent discussing the issue of applicability. During this discussion, the option of requiring antidegradation review only when a new NPDES permit is required was considered—further analysis determined that such a restriction would not meet the requirements of the Clean Water Act.

b. De minimis: The concept of de minimis is that there is some small amount of added pollutant load that is considered too small to need an antidegradation demonstration to prove it meets the

necessary test of social and economic benefit. EPA accepts the application of a de minimis if properly defined and implemented, and the proposed rule incorporates this concept.

c. Unused/available loading capacity, and how much of it shall be required to remain after inclusion of a new or increased loading of a regulated pollutant. Alternatives discussed included whether the calculation of a water body's unused/available loading capacity would be a cumulative calculation from the time of the first additional loading of a regulated pollutant after the effective date of the rule, or start anew with each additional loading. Based upon recent federal court decisions, consideration of cumulative loading is included in the proposed rule.

d. Pollutants of concern or regulated pollutants, to include only those with numeric criterion or others with narrative standards. Based upon public comments received, the rule applies only to regulated pollutants.

e. Exemptions and how much information is to be required in the antidegradation demonstration to justify the discharger being eligible for a stated exemption. Based upon U.S. EPA objections to the concept of "exemptions," we have reworked the proposed rule so that certain activities are "deemed to meet" some or all of the antidegradation requirements.

2. Alternatives defined by statute. Is the rule consistent with the specific statutory requirement and clearly within the agency's statutory discretion?

Yes. The CWA requires states to adopt antidegradation standards and implementation procedures, but leaves the specifics up to the states. This rule is Indiana's specific measure to meet those federal requirements statewide. IC 13-18-3-2 requires that Indiana's antidegradation rule to include a de minimis and to allow a discharger to choose either to conduct a water quality improvement project, or to deposit funds, not to exceed \$500,000, as compensation for new or increased discharges into an Outstanding State Resource Water (OSRW) that are determined to be socially or economically beneficial in the area of the discharge.

3. The feasibility of market-oriented approaches, including a determination whether the market could eventually remedy the alleged harm the rule is intended to regulate, rather than direct controls;

The regulation does allow people to avoid the regulation by choosing not to increase the discharge of a regulated pollutant and, in the case of Outstanding State Resource Waters, to pay for someone else (including the State) to take actions to offset the proposed new discharge. Entirely substituting a market approach for the proposed regulation is simply not an option under federal statute and regulations. The CWA and corresponding federal regulations require Indiana to adopt antidegradation provisions that protect waters of the state that meet or exceed Indiana water quality standards. The Indiana Legislature has required the use of a partial market based approach for antidegradation by establishing IC 13-18-3-2 and IC 13-18-3-14 to create a fund where an applicant may pay a fee in lieu of completing a water quality improvement project required to mitigate new or increased discharges subject to antidegradation requirements in Outstanding State Resource Waters.

4. Measures to improve the availability of information, as an alternative to regulation;

By requiring consideration of alternatives for activities subject to the antidegradation process, the rule does encourage applicants to avoid the process. However, the Clean Water Act makes substituting information for an antidegradation regulation legally impossible.

5. If applicable, various enforcement methods, such as inspections, periodic reporting, and non-compliance penalties;

These measures are not applicable to the antidegradation rule. There is nothing to enforce, inspect, report, or assess penalties on prior to there being a determination on an antidegradation demonstration. The antidegradation rule will apply to discharges that will occur in the future.

6. Performance standards rather than design standards. Performance standards express requirements in terms of desired outcomes. Design standards express requirements in terms of the specific means that must be satisfied without choice or discretion;

Performance standards, and not design standards, are the basis of the proposed antidegradation rule. The rule is essentially a set of desired outcomes – the preservation of existing water quality. Performance standards are the core of the requirements of the antidegradation rule.

7. Different requirements for different sized regulated entities. A variation of benefits and costs may exist depending on the mix of entities being regulated;

The antidegradation rule does not contain different requirements based directly on the size of a regulated entity but rather on the size and type of proposed discharge and whether it is eligible for reduced antidegradation demonstration requirements. One of the reduced requirements is the concept of de minimis, the idea that the proposed new or increased loading of a regulated pollutant is sufficiently small to not need an antidegradation demonstration. In that regard, size (or more accurately, quantity) of the entity's proposed new or increased loading of a regulated pollutant is a differentiating factor, not the size of the regulated entity. A small sized regulated entity may be more likely to qualify for a de minimis exemption from the requirements of the rule.

8. Establish a baseline. Consider how the world would look without the proposed rule. Issues to consider when forming a baseline include evolution of the market, changes in external factors affecting expected costs and benefits, existing rules by the agency and other government entities, and the degree of compliance by regulated entities with other rules.

Without the antidegradation rule Indiana would continue to be in violation of the Clean Water Act's requirement to have antidegradation standards and implementation procedures for the entire state, and each permit that we issue will continue to be vulnerable to being overturned by the courts. There is generally no financial value to a discharger to clean up the receiving water except to meet regulatory requirements, so market forces are not likely to achieve the statutorily required preservation of our environment.

9. Different compliance dates;

The antidegradation rule does not contain specific compliance dates because the rule will apply to a regulated entity only when the entity proposes a new or increased discharge that is subject to the rule.

10. Redundancy. Does the proposed rule duplicate standards already found in state or federal law?

The antidegradation rule is not duplicative of state or federal law.

D. \$500, 000 Fiscal Impact

Does the rule have a total estimated impact greater than \$500,000 on all regulated persons? Describe the data used and assumptions made in making that determination.

1. Yes, all estimates of the cost of the proposed rule exceed \$500,000. Based upon the 80 applications received in 2009 that might be subject to the regulation, a \$100 per hour consulting cost and an estimate of 160 hours per application (from the Iowa fiscal analysis), IDEM estimates an annual cost of \$1,280,000. The Indiana Manufacturers Association has commissioned an analysis with somewhat different assumptions that estimates annual costs between \$3,034,200 and \$9,920,000.

2. Indiana Antidegradation Fiscal Impact Analysis table (attachment)

In 2009, Indiana issued 55 new permits; at least 31 of these permits (26 general permits, 2 hydrostatic testing, and 3 ground water remediation) would not be required to undergo individual antidegradation review, so up to 24 new permits may need to meet the new regulation. IDEM also processed 89 permit modifications, at least 35 of these modifications (29 general permits, 5 permit transfers, and 1 name change), would not be required to undergo individual antidegradation review, so up to 54 permit modifications may need to meet the new regulations. Based upon this analysis of new and modified permits, up to $54+24 = 78$ permits may be subject to the new antidegradation procedures in the proposed rule. This number of permits is rounded to 80 in the calculations described above.

The state of Iowa's Fiscal Impact Statement prepared in 2008 for its antidegradation rulemaking determined that, based on an annual low number of 104 and a high of 164 permit actions, the overall range of annual costs to the regulated sector created by the rule would be \$428,875 to \$2,628,100, plus an additional \$75,363 to \$115,978 cost to the state's environmental department for an expected necessary one additional experienced environmental engineer. Iowa's costs impact to the regulated sector includes municipal construction projects, new or expanded discharges, most of which under Indiana's antidegradation rule would be exempt from having to do an antidegradation demonstration if the reason for the project is to provide sewage treatment to an expanded population or to meet requirements under the municipality's long term control plan, which are the usual reason for municipal construction projects.

Iowa developed its costs based on an engineering consultancy fee of \$100 per hour multiplied by an assigned number of hours established for high or low cost scenario situations and then figured the high and low range of the rule's fiscal impact by multiplying by the number of permit actions (104 or 164). Iowa used a fee of \$25 for public notice costs for both the high and low cost scenarios. Iowa's fiscal impact statement was determined based on assumptions made from the state's experience with "consulting engineers, department engineers, and other states' cost estimates." The fiscal impact statement includes the following statement: "Some situations may not require detailed analyses and result in less cost while others will require much more analysis and public involvement and result in higher costs. At this time, there is no way to accurately determine which projects will or will not require more analysis and which projects may or may not be controversial."

Indiana has the same dilemma of having only assumptions on which to base a fiscal analysis; however, the Iowa fiscal impact statement is presented to show how widely it differs from the cost analysis provided by regulated entities who supplied their anticipated costs under Indiana's rule.

E. Sources used in determining costs and benefits, including studies to support the policy rationale and types and quantifications of the costs and benefits.

1. Request for fiscal impact information e-mail sent to antidegradation stakeholders on January 29, 2010.
2. Fiscal impact information letters received:
 - Environmental Coalition (submitted by the Environmental Law & Policy Center)
 - Indiana Energy Association (regulated entity)
 - Indiana Manufacturer's Association (regulated entity)
3. Iowa's Fiscal Impact Statement, October 27, 2008