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Kokomo Gas & Fuel Co.

Midwest Natural Gas Corp.

Northern Indiana Fuel & Light Co.

Northern Indiana Public Service Co.

Ohio Valley Gas Corp.

Sycamore Gas Co.

Vectren Energy Delivery of Indiana, Inc.

THE VOICE FOR INDIANA ENERGY

Dept. Of Environmental Management
Commissioner's Office

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February 2, 2010

LSA Document #08-764 (Antidegradation)
MaryAnn Stevens
Rules Development Branch
Office of Legal Counsel
Indiana Department of Environmental Management
100 North Senate Ave.
MC 65-41
Indianapolis, Indiana 46204-2251

OFFICIAL COMMENT

**Re: Indiana Utility Group Comments to IDEM's Second Notice of
Comment to the Antidegradation Draft Rule**

Dear Ms. Stevens:

Enclosed, please find for filing the comments offered on behalf of the Indiana Utility Group regarding #08-764 Antidegradation Rule. If you have any questions or concerns regarding our comments, please do not hesitate to contact me.

Very truly yours,



Stan Pinegar
On behalf of the
Indiana Utility Group

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Re: Indiana Utility Group Comments to IDEM's Second Notice of Comment to the Antidegradation Draft Rule

Dear Ms. Stevens:

By this letter, we respectfully submit these comments for your consideration in response to Indiana Department of Environmental Management's Second Notice of Comment for the Development of New Rules and Amendments to the Rules Concerning Antidegradation Standards and Implementation Procedures ("rule").

These comments are offered on behalf of the Indiana Energy Association (IEA) and other partners to this effort collectively referred to as Indiana Utility Group ("IUG"). The IUG for purposes of this rulemaking includes the following companies:

Citizens Energy Group
Dominion State Line Energy
Duke Energy
Hoosier Energy REC, Inc.
Indiana-Kentucky Electric Corporation
Indiana Michigan Power
Indianapolis Power & Light Company
Northern Indiana Public Service Co.
Vectren Energy Delivery of Indiana, Inc.
Wabash Valley Power

The IEA is an association of the 13 Indiana investor-owned electric and gas utilities and one charitable public trust gas utility which represent over 97 percent of the baseload electricity generating capacity in the state which is impacted by these rules. The IEA members listed above and the aforementioned individual non-member companies, collectively referred to as the "Indiana Utility Group" or "IUG" operate approximately 21,374 MW of coal-fired capacity in Indiana and serve over 4,000,000 Indiana customers. The Indiana Utility Group is committed to working with IDEM to develop an appropriate water quality regulatory program that provides antidegradation implementation in an appropriate and effective manner.

This letter lays out our fundamental concerns with the legality of the antidegradation review process as defined in the draft rule and the critical deficiencies of the draft rule. Comments to the cost analysis will be filed in response to the January 29, 2010 announcement that IDEM will be developing a fiscal impact analysis for the antidegradation rule as found at IC 4-22-2-28. IDEM has requested submission of estimates on the fiscal impact of compliance with the antidegradation rule requirements. The Indiana Utility Group ("IUG") is currently in the process of compiling such information and comments and will be providing input to the agency in this regard.

These comments include a legal/regulatory analysis and a technical implementation analysis. The legal/regulatory analysis is set forth below in narrative form. The technical analysis focuses upon the insurmountable vagaries of the draft rule that render it impossible for a potentially regulated facility to model and plan for the regulatory goals Indiana would impose. The technical analysis was generated by ENVIRON as part of a joint effort among the members of the IUG and the Indiana Manufacturers Association. Environ is a highly respected consulting firm, which provides technical services for clients to effectively manage exposure and health risks related to the products and by-products of industry and technology. The company has extensive work experience in the area water regulation and permitting in Indiana and surrounding states. They have specific experience with antidegradation implementation.

In addition, these comments incorporate by reference the attached written comments by Bill Beranek, Indiana Environmental Institute, Inc. The observations of the Indiana Environmental Institute, Inc. succinctly outline four main issues that are unaddressed in the draft rule that create uncertainty as to whether it could be consistently implemented, as follows:

- The information and analysis required by IDEM for a complete socioeconomic review are not defined.

- The criteria to be used by IDEM to judge the activity related to the discharge accommodates important economic or social development in the area are not defined.
- The information and analysis required to be provided to IDEM for a substantive technical analysis of alternatives to the loading are not defined.
- The criteria to be used by IDEM to decide whether a proposed activity will meet the demonstration to allow for lowering of water quality are not defined in a manner to assure transparent, predictable and consistent decisions.

The IUG embraces the thoughts and observations of the Indiana Environmental Institute, Inc. as a practical critique of the problems that are inherent in this rule.

For many months, we have been expressing our concern about the draft rule, not only because of its uncertain economic cost, but also because it is flawed in several significant aspects. The IUG strongly urges a reasonable, practical and effective program that is conservative in its effect on agency budgetary limitations and the general fragile nature of the economy.

LEGAL/REGULATORY ANALYSIS

1. The Clean Water Act Delegates To States The Authority To Develop & Adopt A Statewide Anti-Degradation Policy That Effectively Protects Surface Waters In Indiana Without Harming Business & Industry.

The Clean Water Act requires Indiana and all other states to develop and adopt their own antidegradation policies and identify the methods for implementing such a policy.¹ Indiana's antidegradation policy must be submitted to the United States Environmental Protection Agency ("USEPA") for final approval.² U.S. EPA must approve each state's antidegradation policy to be sure it is consistent with the Clean Water Act ("CWA"), protects designated water uses, follows legal procedures for revising or adopting standards, is based upon appropriate technical and scientific data and analyses, and is consistent with other specialized requirements.³ The state should submit an antidegradation policy that meets these requirements in a more balanced manner than what is provided by the draft rule.

2. Indiana's Antidegradation Rule Violates State Rule-Making Standards.

¹ 40 CFR 131.12.

² 40 CFR 131.5 (b)

³ *Id.*

The Indiana code lays out a simple straight forward test that must be met when rules are adopted.⁴ Among other requirements a rule must: (1) minimize expenses to regulated entities required to comply with the rule, *to consumers of products and services of regulated entities affected by the rule* (emphasis added) and to taxpayers responsible for government services affected by the rule; (2) achieve the regulatory goal in the least restrictive manner; (3) avoid duplicating standards found in federal laws (e.g., the temperature variance program under the Clean Water Act §316(a)); (4) be written for ease of comprehension; and (5) have practicable enforcement. As will be demonstrated below, the draft rule fails to meet each of these important requirements.⁵

Our proposed amendments will work to revise the rule in manner that will minimize expenses to regulated entities while ensuring that business and industry will take measures resulting in compliance with the rule. These amendments result in a version of the draft rule that effectively protects the quality of surface water, while not creating a burden on business and industry that stifles economic development without achieving any discernable policy objective. Additionally, the IUG's proposed amendments provide greater clarity for the public allowing for a better understanding of the regulations in the draft rule, while establishing an antidegradation implementation program that is easy to predict and apply.

3. The Draft Rule Fails to Clearly Identify the Regulated Entities

As written, the draft rule fails to clearly identify the regulated entities, creating a problem for both IDEM and confusion for the regulated community and the public. The antidegradation rule may be invalidated for being unconstitutionally vague if ordinary people cannot understand the conduct it prohibits or if it authorizes or encourages arbitrary or discriminatory enforcement. *Brown v. State*, 868 N.E. 2d 464, 467 (Ind. 2007). As written, the rule fails to clearly define its targeted pollutants or sources and is therefore not understandable to the ordinary person and it encourages arbitrary or discriminatory enforcement.

This problem can be solved by looking at the following U.S. EPA approved Region V programs: Illinois, Michigan, Minnesota, Ohio, Wisconsin and the Great Lakes System, which all limit the antidegradation implementation to regulated point and nonpoint sources holding permits or enforceable authorization. IDEM should follow its example and create a definitive scope for the antidegradation rule. The IUG proposes the following suggested language revision:

⁴ See Ind. Code § 13-18-3-2(a), requiring compliance with I.C. § 4-22-2-19.5

⁵ *Id.*

327 IAC 2-1.3-1 Applicability of antidegradation standards and implementation procedures

Sec. 1. (a) The antidegradation standards established by this rule apply to all surface waters of the state.

(b) Except as provided under section 4 of this rule, the antidegradation implementation procedures established by this rule apply to a proposed new or increased loading of a pollutant of concern to a surface water of the state as regulated by the NPDES program for point sources and authorized BMPs for nonpoint sources and which results in a modification to the authorization for discharge because of an increased loading.

4. The Draft Rule Fails to Identify Regulated Pollutants of Concern and Water Quality Criteria

The draft rule fails to adequately identify regulated “pollutants of concern” and water quality criteria. This problem can be solved by looking at the following U.S. EPA approved Region V programs: Illinois, Michigan, Minnesota, Ohio, Wisconsin and the Great Lakes System, which all identify the regulated pollutants of concern and tie those to established water quality criteria. IDEM should not include the term “narrative statements” in the definition of “criterion” in 327 IAC 2-1.3-2(14). Narrative statements are generally subjective conditions (odor or color that produces a nuisance) that have not been explicitly defined and do not lend themselves to the pollutant by pollutant antidegradation analyses stated in the rules. IDEM must follow its example and clearly identify regulated pollutants of concern and water quality criteria. The IUG proposes the following suggested language revision:

(14) “Criterion” or “Criteria” means a definite numerical value promulgated by the board to maintain or enhance water quality to provide for and fully protect designated uses of the surface waters of the state. (Also, eliminate all references to “value” in the rule as it is undefined. In each instance the term “value” is matched with the term “criteria” or “criterion”. The term “value” is incorporated into the definition of “criterion” or “criteria” and its use is unnecessary and creates the question as to what the term is referring to if used in addition to “criteria” or “criterion.”)

(43) “Pollutant of concern” means a pollutant that is regulated as a water quality standard, a water quality- based effluent limit, a technology-based effluent limit, a regulated BCC, a regulated toxic substance or regulated within a BMP. Reasonably expected to be present in:

- (A) a discharge based on the source and nature of the discharge; and
- (B) the receiving water in sufficient amounts to have a potentially detrimental affect on the designated or existing uses of the receiving water.

(60) "Toxic substances" means substances specifically regulated by the agency that are or may become harmful to:

- (A) aquatic life;
- (B) humans;
- (C) other animals;
- (D) plants; or
- (E) food chains;

when present in sufficient concentrations or combinations. The term includes those substances identified as toxic under Section 307(a)(1) of the CWA.

5. Best available demonstrated control technology or (BADCT) must be a reasonable standard.

The draft rule fails to provide a reasonable standard for best available demonstrated control technology or ("BADCT"). This problem can be solved by looking at the following U.S. EPA approved Region V programs: Illinois, Michigan, Minnesota, Ohio, Wisconsin and the Great Lakes System, which all indicate that all programs identify the need to apply technology that is reasonably available, currently available, or cost effective. IDEM must follow their example and provide a reasonable BADCT standard. The IUG proposes the following suggested language revision:

327 IAC 2-1.3-3(b)(2)(B) The highest statutory and regulatory requirements applicable to the permitted facility for all new and existing point sources which have been adequately demonstrated and which are reasonable available to the discharger are applied.

The same changes need to be reflected in 327 IAC 2-1.3-3(c)(2)(B) and (3)(B).

Also, an actual listing within the rule as to what constitutes BADCT is not recommended since such technologies will change with time, rendering the rule readily outdated.

6. Justification for the Determination that Air Pollution Control Equipment impacts on Water Quality should meet the important social factors test.

Air pollution control equipment, designed to meet state and federal air regulatory requirements, that impacts water quality should be deemed to meet the important social factors test. In order to accomplish this objective, the IUG suggests that IDEM remove from the exemptions language the provision found at 327 IAC 2-1.3-4(b)(4)(C) as the regulated community is not seeking an exemption from antidegradation review of the water quality impacts assessment related to the installation of air pollution control equipment.

Instead the regulated community is seeking a determination, by rule, of only one portion of the antidegradation demonstration which concerns economic and social importance. The regulated community is not seeking avoidance of the water quality analysis required under the antidegradation program.

The determination by rule language suggested by the IUG is provided as follows:

327 IAC 2-1.3-6

(c) In determining whether a proposed discharge is necessary to accommodate important economic or social development in the area in which the waters are located under antidegradation standards and implementation procedures, the commissioner:

- (1) must give substantial weight to any applicable determinations by governmental entities; and
- (2) may rely on consideration of any one (1) or a combination of the factors listed in subsection (b)(15), and
- (3) must consider as important economic and social development any new or increased loading necessary to accomplish a reduction of a regulated air pollutant in which all reasonable methods for minimizing or preventing the new or increased loading have been taken.

7. The definition of “Toxic Substances” should be clarified

As written, the definition of “Toxic Substances” is unconstitutionally vague and it is not possible to ascertain which substances are “toxic substances”. To clarify this point the IUG suggests the following language:

- (60) “Toxic substances” for the purposes of antidegradation implementation means substances specifically regulated by the agency that are or may become harmful to:
- (A) aquatic life;
 - (B) humans;
 - (C) other animals;
 - (D) plants; or

(E) food chains;
when present in sufficient concentrations or combinations.
The term includes those substances identified as toxic
under Section 307(a)(1) of the CWA.

8. Indiana's "De Minimis" Test Should Be Similar To Wisconsin's Test That Was Approved By U.S. EPA.

On this issue, the draft rule fails to accomplish its regulatory objective in the least restrictive manner. U.S. EPA's policy reasoning for allowing certain increases to be considered de minimis is to reduce the administrative citations and penalties associated with activities that do not negatively impact the environment.⁶ The de minimis policy allows state environmental regulatory agencies to focus their oversight efforts on activities resulting in harm to the environment.⁷ As a part of U.S. EPA's de minimis policy, the agency has delegated the authority to the state to determine what is de minimis.⁸

The de minimis model Indiana should consider replicating the one used in Wisconsin. Wisconsin's test provides that degradation is considered significant and beyond a de minimis level from a new or increased discharge if it results in an expected level greater than one-third of the assimilative capacity for any indicator parameter other than dissolved oxygen. This test accounts for all new or increased discharges and any changes in assimilative capacity over time. The Wisconsin de minimis test is easily understood by regulators, the regulated community, and the public. Also, it achieves the policy objective in a manner that minimizes expenses to regulated entities in their efforts to comply with the rule.

The draft rule de minimis test is significantly more complicated, convoluted and burdensome than the Wisconsin rule's de minimis test. The IUG would support amending the draft rule's de minimis test to mirror the Wisconsin test approved by the U.S. EPA.

9. The Draft Rule's Antidegradation Demonstration Requirement For Exemptions Is Excessively Burdensome & Beyond What Is Necessary To Achieve The Regulatory Objective.

The draft rule's demonstration is unnecessarily burdensome and onerous. Antidegradation exemption demonstrations are generally designed to determine whether an action proposed by the discharger that will result in a significant

⁶ Water Quality Guidance for the Great Lakes System: Supplementary Information Document (SID), EPA 1995 ("Guidance"), p. 183

⁷ Memorandum regarding Tier 2 Antidegradation Reviews and Significant Thresholds, Ephraim S. King, Director Office of Science and Technology, EPA, (August 10, 2005) (hereafter the "King Memo") p.2

⁸ Water Quality Guidance for the Great Lakes System: Supplementary Information Document (SID), EPA 1995 ("Guidance"), p. 183

lowering of water quality is both necessary and will support important social and economic development.

The antidegradation demonstration application section for exemptions requires an exhaustive amount of extremely detailed information. Once that information is submitted, the commissioner must determine whether the application for the exemption is complete. When the application is deemed complete, the commissioner shall determine whether to approve or deny the request. The rule should include some efficiencies for exemptions based upon the thorough preliminary determination that the exemption fits within the antidegradation goals, as opposed to during the exemption applicability process after the rule is finalized.

10. CWA 316(a) Variances are Not Subject to Antidegradation Review by Law

The draft rule must, as a matter of law, recognize that CWA§316(a) takes precedence over antidegradation review. IDEM's Response to Comment document posted in the *Indiana Register* on December 16, 2009, DIN: 20091216-IR-327080764SNA, incorrectly states that "The 316(a) variance does not include a review of alternatives that would eliminate or reduce the need or the effluent limits that exceed the WQBELs for temperature." IDEM is directed to the language of The *Water Quality Standards Handbook: Second Edition, Chapter 4* which provides as follows:

The requirement for potential water quality impairment associated with thermal discharges contained in section 131.12(a)(4) of the regulation is intended to coordinate the requirements and procedures of the antidegradation policy with those established in the Act for setting thermal discharge limitations. Regulations implementing section 316 may be found at 40 CFR 124.66. **The statutory scheme and legislative history indicate that limitations developed under section 316 take precedence over other requirements of the Act.**

TECHNICAL ANALYSIS

The following analysis, conducted by ENVIRON for the IUG and IMA, is designed to demonstrate the difficulties that are inherent in the draft antidegradation rule as the result of failure to clearly define the scope of the rule. By taking examples and working through those as if the draft rule were law, these examples demonstrate the tangible obstacles that render this draft rule unimplementable and therefore unlawful. As will be further supplemented in later comments concerning the extreme economic burdens of this rule, the IUG urges fiscal responsibility and concerns for economic development to be

assessed to assure a comprehensive environmental strategy in the best interests of Indiana. The IUG urges revision of this rule to make it more reasonable.

ISSUE #1 - Determination of Bright Line for Agency Antidegradation Actions

EXAMPLE A - Industrial facility permitted as a direct discharge to waterbody

DELIBERATE ACTION: Installation of Wet Air Pollution (WAP) Control Device

The current permit has limits for:

- A) parameters used to assure effective wastewater treatment (via WWTP) for that type of industry (e.g., USEPA BAT effluent limits). The parameters do not have corresponding water quality criteria as they are 'surrogate' parameters (i.e., BOD, COD), not specific chemicals
- B) pH to assure protection of designated use of receiving water
- C) a metal to assure protection of designated use of receiving water
- D) whole effluent toxicity to assure protection of designated use of receiving water
- E) temperature based on 316(a) = alternate temperature effluent limits

The current permit has monitoring requirements for:

- A) flow
- B) chloride

The current permit and effluent quality are such that the designated aquatic, human health, and wildlife use are protected.

The WAP Control Device will increase flow to WWTP resulting in an increase in discharge flow.

QUESTION: Will the deliberate action of installing a WAP control device, thereby increasing effluent flow, trigger an antidegradation review/demonstration?

After installation of the WAP control device, all current technology-based permit limits will still be met and the WWTP is designed to handle the additional incremental flow. The BAT parameters will remain the same existing effluent concentration, however, the corresponding existing effluent mass will increase. To assure attainment of WQBELs for the metal and WET, the facility is installing a wastewater (source) pre-treatment unit, therefore, the mass of metal will not go up. The remaining parameter of concern is chloride which will result in an increase in existing concentration and mass.

ANSWER: The need for an antidegradation review/demonstration depends on the agency definition of the bright line for the de minimis calculation. Antidegradation can be triggered if the bright line is existing effluent mass, but not triggered if the bright line is the permit limit (WQBEL) expressed as mass.

This is demonstrated numerically as follows:

Assume the following for a High Quality Water:

Upstream River Flow	5	MGD
Upstream (Background) Concentration	25	mg/L
Chronic Water Quality Criterion	230	mg/L
Effluent Limit (mo. avg - no mixing zone)	162	mg/L

CASE 1: BRIGHT LINE IS EXISTING EFFLUENT QUALITY

Facility Existing Conditions before WAP

Effluent Flow	1	MGD
Effluent Concentration = Existing	110	mg/L
Effluent Load	917	lb/d

Facility Proposed Conditions after WAP

Effluent Flow with 0.5 mg increase	1.5	MGD
Effluent Concentration = Projected	155	mg/L
Effluent Load	1,939	lb/d

Antidegradation Deminimis Evaluation

Total Loading Capacity (TLC) Background	11,509	lb/d
Effluent Prior to Increase	1,043	lb/d
Baseline Unused Loading Capacity (ULC)	917	lb/d
	9,549	lb/d
Loading Increase	1,022	lb/d
Percentage of Baseline ULC	10.7	%
Remaining ULC after Increase	8,528	lb/d
Percentage of Baseline ULC	89	%

Test 1: Loading Increase < 10% ULC?	Fail
Test 2: Remain ULC > 75% of Baseline ULC?	Pass

In Case 1, the bright line is an existing effluent mass of 917 lb/day (110 mg/L at 1 MGD). Addition of the WAP Control Device causes the effluent concentration to increase to 155 mg/L with a corresponding increase in flow of 0.5 MGD. This results in a projected effluent mass of 1,939 lb/day (155 mg/L at 1.5 MGD) representing an increase of 1,022 lb/day. Since this loading increase is greater than 10% of the unused loading capacity, the discharge does not meet the de minimis exemption and an antidegradation review/demonstration is needed despite the fact that the chloride WQBEL (162 mg/l) is still met.

As an extension of this case, if the projected effluent concentration after WAP installation was greater than 162 mg/L (say 170 mg/L instead of the 155 mg/L shown above), then additional engineering controls would be necessary to reduce chloride concentration to the lesser of the WQBEL or the level where the de minimis increase is less than 10% of the unused loading capacity. In other words, the de minimis exemption could drive the level of engineering control as opposed to the water quality use protections that are expressed as the applicable WQBEL.

CASE 2: BRIGHT LINE IS EFFLUENT LIMIT

**Facility Existing Conditions
before WAP**

Effluent Flow	1	MGD
Effluent Concentration = Limit	162	mg/L
Effluent Load	1,351	lb/d

**Facility Proposed
Conditions after WAP**

Effluent Flow with 0.5 mg increase	1.5	MGD
Effluent Concentration = Limit	162	mg/L
Effluent Load	2,027	lb/d

**Antidegradation Deminimis
Evaluation**

Total Loading Capacity (TLC)	11,509	lb/d
Background	1,043	lb/d
Effluent Prior to Increase	1,351	lb/d
Baseline Unused Loading Capacity (ULC)	9,116	lb/d
Loading Increase	676	lb/d
Percentage of Baseline ULC	7.4	%
Remaining ULC after Increase	8,440	lb/d
Percentage of Baseline ULC	93	%
Test 1: Loading Increase < 10% ULC?	Pass	
Test 2: Remain ULC > 75% of Baseline ULC?	Pass	

In Case 2, the bright line effluent concentration prior to the WAP installation is set the maximum allowed level, that is, the WQBEL of 162 mg/L with a corresponding mass of 1,351 lb/day (162 mg/L at 1 MGD). After WAP installation, the effluent concentration does not increase beyond the 162 mg/L WQBEL; only the 0.5 MGD flow increase results in an increase of effluent mass to 2,027 lb/day (162 mg/L at 1.5 MGD). The increased load of 676 lb/day is less than 10% of the unused loading capacity, hence, the discharge meets the

de minimis exemption and no antidegradation review/demonstration is necessary.

EXAMPLE B - Industrial facility permitted as a direct discharge to water body

DELIBERATE ACTION: Installation of Cooling Towers to meet requirements of 316(b)

This deliberate action will result in a significant decrease of effluent flow, a decrease in temperature, and an increase in the mass of some metals, hardness, chloride, sulfate, TDS, and TSS.

- TSS is subject to technology-based effluent limits (as mass) and the installation of cooling towers will not cause a change to the TSS limit which can be attained.
- Copper mass will not increase, although the copper concentration will cycle up (copper concentration levels remain less than corresponding WQBEL)
- Zinc mass will go up due to use of corrosion inhibitors; concentration must be controlled at WQBEL (would need limit)
- Chloride mass will not increase, although chloride concentration will cycle up (chloride concentration levels remain less than corresponding WQBEL)
- Sulfate mass and concentration will both go up due to pH control using H₂SO₄ (sulfate concentration levels remain less than corresponding WQBEL)
- TDS and hardness have no water quality criteria

Since typical effluent concentrations prior to cooling tower installation are well below WQBELs, it is critical that the bright line be established at the new permit limit or modified (increased) permit limit as opposed to the existing effluent concentration since several of the parameters will increase concentration due to cooling tower cycle up and water treatment processes. If the corresponding mass increase exceeds de minimis levels, then an antidegradation review/demonstration would be necessary. Conversely, to avoid such demonstration, de minimis restrictions could control the level of treatment and/or cooling tower operations as opposed to WQBELS.

SUMMARY:

The bright line for evaluation of the antidegradation de minimis exemption should be established as applicable permit limits as opposed to existing effluent concentration/mass prior to a deliberate action since:

- Existing effluent concentrations can penalize good performers. For example, a discharger with a permit limit of 20 ppb and existing effluent quality of 19 ppb would be less likely to be subject to antidegradation review/demonstration than if it was discharging at 5 ppb due to the de minimis restriction of 10%
- For existing effluent quality, it is difficult to develop an across-the-board / applicable-to-all statistical methodology for calculating monthly averages and daily maximums. For example, batch and campaign facilities all can have highly variable mass and concentration over a month and year, and production on-demand facilities can have highly variable mass and concentration over a couple of years.
- For zero flow streams, the bright line is critical. Otherwise any increase in existing effluent quality would trigger a full-blown antidegradation demonstration as the total loading capacity would be “equivalent” to the effluent load. Further, it is unclear by what mechanism and/or administrative process the antidegradation demonstration would be processed given that a permit modification may not be needed or required.
- The bright line would make it clear to all parties what type of deliberate action and resulting increase would have to go through antidegradation review.
- The bright line allows facilities to approach projects from the beginning knowing what to evaluate for technologies and what engineering controls need to achieve.

ISSUE #2 - Vague Definition of “Pollutant of Concern”

The draft antidegradation rule specifies the definition of “pollutant of concern” as:

"Pollutant of concern" means a pollutant that is reasonably expected to be present in:

- (A) a discharge based on the source and nature of the discharge; and**
- (B) the receiving water in sufficient amounts to have a potentially detrimental effect on the designated or existing uses of the receiving water.**

As a historical reference, pollutants of concerns have been more specifically defined (i.e., tabular list of parameters from the Federal GLI regulations, parameters with corresponding water quality criteria from previous Indiana

rulemaking, etc.). For the antidegradation rule, it is again necessary to focus the definition over what is given above since:

- There is a technical dilemma on how to calculate total loading capacity when there is no water quality criterion or other maximum allowable level.
- There is question on how to determine a “potentially detrimental effect” if there is no analytical process (i.e., a criterion) to link an effect to a chemical. For example, if one defines a “potentially detrimental effect” as excessive algal blooms, there is no tie between cause and effect relative to antidegradation because a specific chemical/parameter has not been defined. Certain metrics (such as IBI scores) may also reflect “potentially detrimental effects”, however, these values cannot serve as the basis for further antidegradation evaluation.

ISSUE #3 – Determination of Total Loading Capacity for Various Receiving Water Flow Regimes

The draft antidegradation rule specifies the definition of “total loading capacity” (TLC) as:

"Total loading capacity" expressed as a mass loading rate for the water body in the area where the water quality is proposed to be lowered means the product of the applicable water quality criterion multiplied by the:
(A) sum of the existing effluent flow, the proposed new or increased effluent flow, and the stream design flow used in the calculation of the WQBELs; or
(B) alternate mixing zone volume approved for a discharge.

The draft regulation needs clarity on the procedures to calculate the TLC for both rivers and lakes. A single parameter can have several “applicable water quality criteria” based upon designated use (i.e., acute aquatic life, chronic aquatic life, human health wildlife). For WQBEL calculation several types of stream design flows are utilized based on the type of water quality criteria (i.e., 7Q10, 30Q10, Q50). The question for de minimis evaluation is: which criterion and which flow are appropriate for a receiving stream or lake? Further, what happens when an alternate mixing zone has been implemented in a stream or lake?

Typically (and as shown in the chloride example in Issue #1 above), the TLC has been determined as the product of a chronic criterion and 7Q10 river flow (using appropriate conversion factors). This approach is suitable for streams with appreciable flow, that is, a 7Q10 greater than zero. However, when the 7Q10 flow becomes very large relative to the effluent flow, effluent limitations become driven by acute criteria, primarily the final acute value (FAV) which is met at end of pipe when there is no mixing zone. There is a concern that in this situation, the total loading capacity might be determined as the FAV times the effluent flow and that effectively no de minimis exemption would exist. Also,

for a large river, if the discharge has applied an alternate mixing zone, the total loading capacity may be determined as the chronic criterion times the effluent flow times the mixing zone. In this case, the total loading capacity in a stream with an alternate mixing zone may be significantly less than the total loading capacity derived from the full stream design flow thereby reducing the potential for a de minimis exemption.

Similarly, for zero flow streams, the TLC may be determined from the chronic criterion times the effluent flow, again effectively negating the de minimis exemption. This situation is analogous to a lake discharge (which has no stream design flow). Additional total loading capacity for lake would only exist if an alternate mixing zone is applied.

All of the above scenarios promote the need to clarify IDEM's procedures for calculating total loading capacity to streams of various design flow where the type of criteria controlling permit limits can vary. A summary of conceptual proposed procedures is as follows:

Scenario #1:

Stream flow = large
Effluent flow = large
Controlling criteria = chronic
Mixing Zone = No
Possible IDEM interpretation of TLC = 7Q10 x chronic criterion
Proposed interpretation of TLC = 7Q10 x chronic criterion

Scenario #2

Stream Flow = large
Effluent flow = small
Controlling criteria = acute
Mixing Zone = No
Possible IDEM interpretation of TLC = Effluent flow x FAV (no de minimis exemption)
Proposed interpretation = 7Q10 x chronic criterion

Scenario #3

Stream Flow = large
Effluent flow = small
Mixing Zone = Yes
Possible IDEM interpretation of TLC = Effluent flow x chronic criterion x MZ
Proposed interpretation = 7Q10 x chronic criterion

Scenario #4

Stream flow = zero
Effluent flow = large or small
Mixing Zone = No
Possible IDEM interpretation of TLC = Effluent flow x chronic criterion (no de minimis exemption)
Proposed interpretation of TLC = Effluent flow x chronic criterion (no de minimis exemption)

Scenario #5

Receiving water body = lake
Effluent flow = large or small
Mixing Zone = No
Possible IDEM interpretation of TLC = Effluent flow x chronic criterion (no de minimis exemption)
Proposed interpretation of TLC = Effluent flow x chronic criterion (no de minimis exemption)

Scenario #6

Receiving water body = lake
Effluent flow = large or small
Mixing Zone = Yes

Possible IDEM interpretation of TLC = Effluent flow x chronic criterion x MZ
Proposed interpretation of TLC = Effluent flow x chronic criterion x MZ

In sum, the TLC should be based on the chronic criterion times the full stream design flow unless the discharge is to a zero flow stream or to a lake.

In conclusion, the proposed rule includes a number of vagaries and inefficiencies as enumerated above that all lead to an ill fated path of unnecessary expenditure of money, energy and resources in the form of litigation and misguided efforts at implementation. We urge a more reasoned rulemaking. The IUG is prepared to work closely with the agency to move Indiana in the direction of promulgating and implementing an antidegradation policy that is in the best interests of the state and supported by the Clean Water Act and relevant federal and state law.

Thank you for the opportunity to provide these comments. If you have any questions or concerns regarding our comments, please do not hesitate to contact me.

Very truly yours,

A handwritten signature in black ink that reads "Stan Pinegar". The signature is written in a cursive, flowing style.

Stan Pinegar, President
Indiana Energy Association
On behalf of the Indiana Utility Group
(IUG)

Enclosure