



## Antidegradation Frequently Asked Questions

### Degradation/No Degradation Scenarios

1. The facility has a limit of 10 but there is now a more stringent standard of 3. The facility has a compliance period where they justify a limit of 5 using site specific data.

Is this considered degradation? No, because the new limit of 3 was not effective.

2. A. The facility receives a new limit for a parameter that they've never had before. There is no increase or change to the waste stream. They will be going from no limit to a limit of 3.

Is this considered degradation? No, because there is no change or increase of pollutant in the waste stream.

- B. The facility receives a new limit for a parameter that they've never had before. There is no increase or change to the waste stream. They will be going from no limit to a limit of 3. They enter into a compliance period where they justify a limit of 4 using site specific data.

Is this considered degradation? No, because the new limit of 3 was not effective.

3. The facility increases a pollutant in their waste stream which in turn triggers the need for a new permit limit.

Is this considered degradation? Yes, because there is an increase in loading of the pollutant in their waste stream.

4. The facility increases a pollutant in their waste stream but it does not trigger the need for a new permit limit. This instance does trigger the need for a Treatment Agreement.

Is this considered degradation? If the pollutant of concern is a pollutant that the facility was designed for\* and the existing loading plus the increase of the pollutant is within the facility's design capacity then this is not considered degradation. If the pollutant of concern is a pollutant that the facility was not designed for or the existing loading plus the increase of the pollutant will exceed the facility's design loading then this would be considered degradation.

\*See FAQ # 6.

5. The facility increases the loading of a pollutant in their waste stream but the facility is designed and permitted to handle this additional capacity.

Is this considered degradation? No, because there is no construction, no permit limits change and no treatment agreement. In other words, the facility is operating within the design capacity of their plant.

6. The facility increases the loading of a pollutant in the waste stream but the facility is not designed\* or regulated for that pollutant increase.

Is this considered degradation? Yes, because either a construction permit is needed or a permit limit is needed.

\*Some pollutants that a plant is not **designed to remove** or regulated for at the time a construction permit is issued **are in fact implicit in the design**. As one example, total phosphorus is not currently regulated within Iowa and a

treatment plant would not necessarily have been designed to remove phosphorus or have an explicit design phosphorus load even though a total phosphorus loading was implied at the time of construction. In such cases, increases of phosphorus consistent with the implicit loading in design would not be considered degradation (e.g., increases of phosphorus attributable to normal population growth within the design population or an increase in industrial phosphorus loading where it is **clear** from the original design basis that anticipated industrial loads included a phosphorus component consistent with the increase that is being proposed).

7. The facility increases the loading of a pollutant for which there is no numerical standard. The facility is designed to handle this increase.

Is this considered degradation? No, because increased permit limits are not needed, there is no construction and no treatment agreement is needed. In other words, the facility is operating within the design capacity of their plant.

## Frequently Asked Questions

### 1. Is this policy going to force cities to install expensive treatment alternatives?

The implementation procedures provide limitations to the reach of the alternatives analysis. As discussed in the AIP, affordability of the least degrading alternative may be assessed at the applicant's discretion. This assessment 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.

### 2. When does this apply to CAFO's?

The antidegradation requirements only apply to permits for new or expanded discharges. An expanded discharge from a CAFO includes adding more animals or increasing the size of the feeding areas or the areas that contain manure. When requesting a new or expanded discharge from a CWA regulated CAFO, an applicant must submit an antidegradation analysis however the analysis of less degrading alternatives is not required because CAFO NPDES permits are already required by Chapter 567 IAC 65 to implement controls on their discharge. The control requirements in Chapter 567 IAC 65 are identical to the controls required in 40 CFR 401.31 which are listed as the "best practical control technology currently available". The one requirement is that applicants must submit information in order to demonstrate that the degradation will accommodate important economic and social development. In summary, the costs are expected to be minimal for livestock producers as the only requirement is to justify whether the activity accommodates important economic and social development.

### 3. Why aren't discharges from CAFOs considered as temporary and limited?

The department feels that federal CAFO rule addresses the alternatives portion of the Tier 2 review, but not the importance test. This is why the proposed rule has been modified to include those provisions for regulated CAFOs.

Based on interpretation of recent case law, the department cannot categorize discharges from livestock farms as temporary and limited due to the fact that these facilities are permanently in place with the potential to discharge repeatedly. However, the department acknowledges that the likelihood of discharge is limited to the 25-year, 24-hour rain event. The question that remains is whether or not there is a significant impact to water quality when these discharges do occur. The low expected frequency of the discharges and the fact that they can only occur during very significant precipitation events supports the assumption that impacts will be low, but the department cannot make this determination until we have received or obtained actual data proving the impacts are limited. Until this occurs, the department cannot declare these discharges as temporary and limited.

#### **4. How does the term "community" and "importance" apply for regulated CAFOs?**

As discussed in the AIP in section 3.3, the affected community is considered as the community in the geographical area in which the waters are located. The affected community includes those living near the site of the proposed project as well as those in the community that is expected to directly or indirectly benefit from the project. The department recognizes the social and economic importance of small family farming operations even if it provides income to only person.

#### **5. What constituents of nitrogen should be sampled for antidegradation purposes?**

No sampling is required solely for the purposes of antidegradation. However, in certain instances sampling may be utilized to support an alternatives analysis where effluent characteristics are unknown or for determinations of existing water quality (See Section 2.3 of the AIP). Total nitrogen and all of its component species (ammonia, organic nitrogen, nitrate and nitrite) are pollutants of concern.

#### **6. Why are we using mass loading instead of concentration to determine degradation?**

Using a mass loading and concentration approach provides several benefits. Mass loading is especially important for bioaccumulative pollutants such as mercury that could cause potential for human health concerns. Additionally, the AIP was crafted to avoid implementation issues other states have experienced, including legal challenges. 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 state. Using mass loading removes the need for legally contentious de-minimus exemptions, prevents costly implementation of determination of existing water quality, and prevents the need for the state to keep detailed records of how and when assimilative capacity was utilized in every discharge situation. However, the department recognizes the conservative nature in which degradation is identified thus requiring alternatives analyses (i.e., a new loading of a pollutant of concern triggers Tier 2 review). As a result, it is expected the nature of the degradation be discussed in any alternatives analyses so the department and public are fully aware of what exactly is being proposed and its potential effects on water quality. The nature of the degradation may have an impact on public interest in any regulated activity that may result in degradation.

#### **7. What happens when discharge points are changed?**

If the outfall location were to change to an area that had not been previously discharged to by that outfall, then it can be considered a new source of degradation thus requiring a Tier 2 review. One example of this situation is switching the outfall location from one stream to entirely different stream. If the current outfall location were to move to a location downstream of the current outfall location, then the arrangement may not be considered degradation for some conservative POCs that are not chronically or acutely toxic in concentrations that would be discharged (e.g. nitrate) as the stream segment in question has been receiving this discharge previously. However, for other POCs with acute and/or chronic toxicity localized degradation will occur if the discharge point is moved to a larger downstream segment. In essence, movement of the discharge point constitutes a "new discharge" for these POCs.

#### **8. What are pollutants of concern?**

The proposed antidegradation protections apply to new or expanded discharges of any "Pollutant of Concern". 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.

All pollutants with a numeric water quality criterion are pollutants of concern. It is important to understand that the entire point of Tier 2 antidegradation is to maintain existing water quality in water bodies in which the numeric water quality standard is already being met. Therefore, the existence of a numeric standard is only relevant to

identify the pollutant, not to set any maximum limit for purposes of antidegradation review. For pollutants that do not have a current numeric standard, the Department would have the burden to prove that such pollutant will negatively affect the beneficial uses of the receiving water.

To the extent a pollutant without an existing numeric standard will affect a beneficial use; the Clean Water Act requires the state's antidegradation policy to address the pollutant. One comment stated "At some ratio of concentrations and stream conditions, nutrients may occur at a level which may affect a beneficial use." Yet Iowa does not have current numeric standards for nutrients. Therefore, the acknowledgement that nutrients can impact uses is also an acknowledgement that the state cannot maintain and protect the level of water quality necessary to protect existing uses if the antidegradation policy categorically excludes pollutants without numeric standards. A determination that a pollutant, such as nutrients, is a pollutant of concern results in a review of less degrading options to new or increased discharges of this pollutant. It does not necessarily result in additional pollution controls for the pollutant. This determination is made only after a review of the available alternatives.

#### **9. Are nutrients as a pollutant of concern?**

Nutrients will be considered a pollutant of concern for any new or expanding discharge where nutrients are a common pollutant, such as a municipal wastewater treatment plant. This means applicants will be required to review treatment alternatives for nutrient removal consistent with the provisions in the AIP. This review does not necessarily mean wastewater treatment facilities will be forced to install nutrient removal equipment. If the alternatives are not practicable, economically efficient, or affordable as defined in the AIP, then that would preclude the use of these alternatives. It should also be noted there are not active requirements for nutrient removal from technology based limits or water quality based limits at this time.

#### **10. How far downstream does an antidegradation review need to consider?**

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

#### **11. How do the economic efficiency analysis and affordability analysis work together?**

The 115% threshold is used to determine economic efficiency 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.

Also, the AIP states "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... 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"

## 12. What's a regulated activity?

The regulated activities identified in the draft AIP are the only known activities where antidegradation can apply. The department is not aware of any other activity that specifies that Iowa's water quality standards are applicable. If in the future new activities are identified, then the department will amend the AIP to reflect the change.

## 13. Please clarify how Iowa's antidegradation policy will be implemented for facilities that apply for a permit prior to the effective date of the proposed implementation procedures.

The notice of intended action states "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."" This language was included to address the situation where projects are rushed forward in an effort to avoid having to comply with the new procedures once effective in state rules.

Between now and when the rules become final; the NPDES section is actively implementing the current antidegradation policy in rule. The current policy is based on a water body by water body approach and as is being actively implemented at this time. New or expanded discharges to these waters are not being authorized.

It is not appropriate to apply new water quality restrictions or rules, when they haven't been legally adopted as identified in Administrative Procedures Act and approved by the EPA. While some regulated activities may be allowed degrade waters that are not specifically identified in the current antidegradation policy, this does not "give away" all that antidegradation is intended to protect. Under the new rules that use a conservative approach to identifying degradation, it is likely that these activities from the same sources will need to proceed through a Tier 2 review in the future to accommodate any additional degradation. For example, a new industrial contributor to a municipal wastewater treatment plant may be approved today, but any proposed increase in production that results in degradation for that industrial contributor or a proposed expansion by the municipality after the effective date of rules, will be subject to the new procedures. Also, it is critical to understand that the final rules are currently planned to be presented to the EPC at their December meeting potentially making the rule effective on February 17, 2010. This a relatively short period of time that issue may be applicable.

## 14. 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."

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.

**15. Please clarify the exemption allowing “temporary and limited” degradation.**

Answer: 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.

**16. Please clarify how the Department will implement its antidegradation policy for activities that require NPDES storm water permits.**

MS4 permits by their very nature are different than a typical municipal wastewater treatment facility NPDES permit and require a different approach. Adaptive management is a systematic process for continually improving management policies and practices by learning from the outcomes of implemented storm water control practices. Today’s MS4 permits currently require cities to make evaluations for post-construction runoff controls. The MS4 permits reissued in the future will begin to specify the exact requirements that must be met. Since Cities are charged with managing and implementing the provisions in these permits, similar to larger cities with pretreatment programs, much of responsibility for implementation of antidegradation provisions will then belong to the Cities.

Future permits for MS4 facilities will incorporate provisions that will require antidegradation review for applicable storm water discharges to ensure non-degrading or less-degrading alternatives are appropriately considered consistent with the AIP. This could include low impact development design, ensuring post-construction groundwater recharge levels be equivalent or better than pre-construction groundwater recharge levels, or other BMPs. Each permit reissuance will review and update BMPs to consider new and innovative storm water management practices that may become available.

**17. What is the new source policy?**

Answer: Antidegradation provisions apply to regulated activities that may degrade water quality in Iowa. Tier 2 reviews 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.

**18. Is intergovernmental coordination/notification with Federal agencies necessary?**

Yes, intergovernmental coordination is a required part of any state's antidegradation policy and implementation procedures as specified in 40 CFR 131.12.

**19. Is Tier 2 review required for non-discharging facilities?**

Antidegradation applies to regulated activities as defined in the AIP. Non-degrading alternatives are not required to undergo a Tier 2 review.

**20. Can an existing industry expand if the industry will be improving the water quality by not increasing the effluent and not affecting the ambient conditions in the water body (i.e. increases the load, dilutes the pollutants in the water, decreases/maintains effluent levels and overall improves the water quality)?**

Assuming a typical Tier 2 review, yes. If the increased loading is a pollutant of concern, then a Tier 2 review will be required, but this will not prevent an existing industry from expanding.

**21. Can a new industry locate its facility on an Outstanding Iowa Water if it improves the water quality, without affecting existing levels, but has no other “perceived” value? If an industry meets all criteria, and the public is opposed, will the facility be prevented from using that water as its main source?**

Yes, this is possible. There is the ability to justify that a new source 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. Improving water quality can be viewed as an enhancement depending on the specifics of the situation

**22. Will facilities affected by UAAs have to perform tier 2 reviews?**

Yes and no, depending site-specific nature of the upgrades facilities are looking to employ. It is clearly recognized that facilities affected by UAAs will need to meet more stringent permit limits thereby improving the water quality of their effluent and the receiving stream. In this sense, facilities affected by UAAs may not trigger the need for a tier 2 review. However, if the facility is increasing the design capacity of the facility beyond what it is currently designed treat, then the increased design capacity will trigger the tier 2 review as there is the potential to degrade in the future.

**23. If a new limit is provided for nutrients, etc. What is the anticipated start point from which to judge antidegradation?**

Antidegradation is not intended to establish limits for pollutants of concern for which there are no numerical criteria. Where nutrients are identified as a pollutant of concern a Tier 2 review will be needed requiring an examination of treatment alternatives.

**24. Specific example: If the permit limit is 25 lbs/day and the treatment level achieves 15 lbs/day, will the 25lbs/day be allowed in the future?**

If you are currently permitted at 25 lbs/day and you treat at 15 lbs/day, then the 25 lbs/day permit limit is allowable in the future without requiring a Tier 2 review.

**25. Does IDNR intend to require an individual permit (and associated antidegradation review) if cumulative degradation resulting from multiple general permit discharges within a watershed, degradation from a single discharge over time, or other individual circumstances warrant a full antidegradation review? How does DNR intend to make decisions regarding whether to require an individual permit?**

Decisions will be made on a case by case basis considering the facts of the situation. The department will also utilize GIS mapping technologies to help identify areas that have high concentrations of activities regulated through general permits.

**26. How will the Department consider antidegradation requirements, including alternatives analysis and socioeconomic considerations, at the time of general permit issuance or renewal?**

The antidegradation analysis for general permits will consider the question... “Is degradation necessary to support important social and economic development?” Best management practices will also be reevaluated every 5 years with reissuance with the general permit.

**27. How will the Department ensure that the continued or repeated use of general permits will not lead to cumulative degradation of water quality?**

Best management practices will be reevaluated every 5 years with reissuance with the general permit. The department will also utilize GIS mapping technologies to help identify areas that have high concentrations of activities regulated through general permits.

**28. How does the new antidegradation policy apply to facilities with intermittent discharges such as controlled discharge lagoons? How do you determine if this is an “expanded” discharge or not?**

A determination of whether or not a proposed discharge is “expanded” will depend upon the existing design flows and loadings in comparison to those proposed. Only influent flow rates are used as a basis of design. A mechanical plant or aerated lagoon uses the 30-day average wet weather flow as the basis of design while the CDL uses the 180-day average wet weather flow. Both types of facilities also utilize the 30-day average dry weather flow.

For antidegradation purposes projects involving evaluation of both continuous and controlled discharge alternatives will require establishment of both the 30-day and 180-day average wet weather design flows. The department will compare the proposed ADW and the applicable AWW flow with the existing basis of design.