Antidegradation: Federal Requirements and Possible Updates to Utah's Rule

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- EPA perspective on antidegradation
- Suggested updates to Utah's antideg rule
- Cumulative degradation

Antidegradation

The federal WQS regulation requires States & approved Tribes to establish an antidegradation policy that:

- ✓ protects existing uses - Tier 1
- ✓ protects levels of water quality better than "fishable/swimmable" - Tier 2
- ✓ establishes a process to protect waters that are outstanding national resources - Tier 3

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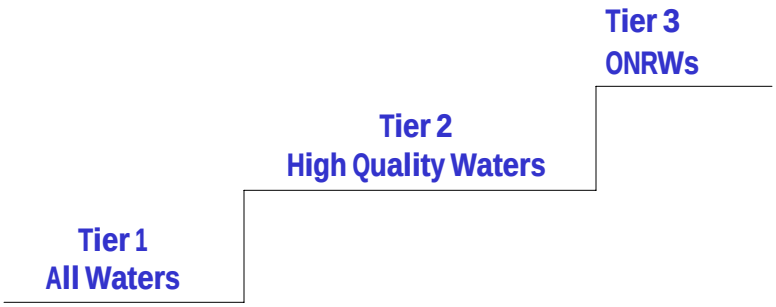
Antidegradation: 3 Tiers



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High Quality Waters (Tier 2)

Two Ways to identify high quality waters:

1) "Waterbody-by-Waterbody"
- Consider chemical, physical, biological and/or aesthetic qualities – weight of evidence
- Findings may be adopted (designational approach)

2) "Parameter-by-Parameter"
- Consider each parameter separately (is there assimilative capacity?)

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Significant Degradation

August 10, 2005 HQs Policy Memo

- Tier 2 may be applied where lowering of water quality will be significant
- State discretion on what constitutes a significant lowering of water quality
- Most appropriate way to define significance is in terms of assimilative capacity (ambient water quality)
- Consideration of cumulative degradation is recommended

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Utah's Antidegradation Rule

- Approved by EPA Region 8 – October 17, 2005
- However, based on:
  - Staff experience with implementation,
  - Public comments, and
  - Further review
- There appear to be opportunities to clarify and strengthen the rule

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Suggested Updates to Utah's Rule

- Consider re-organizing the offamps
  - One set of criteria for identifying segments to be offramped
  - One set of criteria for identifying parameters to be offramped
- Consider combining offramps 4, 8, and 9
  - All pertain to parameters with no available assimilative capacity
  - Would streamline and clarify the rule

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Suggested Updates to Utah's Rule (continued)

- Consider updating offramp 6 and 7
  - Look at 3A, 3B, 3C, and 3D segments individually
  - No automatic offramp for Class 3C and 3D
  - Data driven decision-making
  - E.g., where chemical and biological data support conclusion that segment is not high quality (multiple lines of evidence)
- Consider updating offramp 10
  - Focus on existing discharges and how proposed changes would affect water quality
  - Consider cumulative degradation
  - Retain discretion to consider loading where appropriate

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Suggested Updates to Utah's Rule
(continued)

- Consider clarifying that existing use protection is a part of both Level I and Level II reviews
- Consider clarifying review procedure for:
  - Great Salt Lake
  - Parameters without numeric standards
- Consider developing a standard review worksheet or form
  - Useful for documenting supporting info

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Cumulative Degradation
Examples

New Mexico (approved):

- Antidegradation review required when the proposed degradation, taken together with all other approved changes, uses more than 10% of the assimilative capacity (cumulatively), once the baseline water quality is established

Colorado (approved):

- For pollutants that are not bioaccumulative, degradation is not significant if activity will consume less than 15% (cumulatively) of the baseline assimilative capacity

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Cumulative Degradation
Examples

Montana (approved):

- For toxic parameters, the change is not significant if the resulting concentration outside of the mixing zone does not exceed 15% of the lowest applicable standard

Missouri (proposed):

- Degradation "minimal" if reduction of assimilative capacity as a result of the new or proposed loading is less than 10 percent, and the loss of assimilative capacity as a result of cumulative degradation is less than 20 percent

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Cumulative Degradation
Examples

Maryland:

- Alternatives analyses are completed as part of all antidegradation reviews (no offramp); however, the social and economic justification is required only if assimilative capacity cumulatively reduced by more than 25%

Wisconsin (approved):

- Degradation significant if proposed new/increased discharge, along with all other new/increased discharges after March 1, 1989 results in an expected level greater than one-third of the assimilative capacity for any parameter other than dissolved oxygen

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Cumulative Degradation

Summary of Examples

When is Tier 2 Review Not Required?

- NM: if cumulative deg is < 10% of baseline assim. capacity
- CO: if cumulative deg is < 15% of baseline assim. capacity
- MT: if resulting conc. < 15% of lowest applicable standard
- MO: if cumulative deg is < 20% of baseline assim. capacity
- MD: no offramps from alternatives analysis; but socio-economic review not required if cumulative deg is < 25% of assim. capacity
- WI: if cumulative deg is < 33% of baseline assim. capacity

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EPA Suggestion – Offramp 10

"With the exception of parameters not amenable to this approach (e.g., dissolved oxygen), and parameters where any loading increase is considered by the Division to pose a threat to designated uses (e.g., nutrients in lakes/reservoirs threatened by eutrophication problems), individual parameters shall be excluded from Level II review if the proposed increase in authorized loading from an existing facility would be less than 50%, provided that the proposed reduction in assimilative capacity as a result of the facility-specific proposal (after mixing) would be less than 5%, and the reduction of assimilative capacity on a cumulative basis as a result of all sources (after mixing) would be less than 20%."

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