Protecting the Aquatic Environment
Water Quality Standards
Triennial Review – August 2007

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Water Quality Standards
The Foundation of Protection

- **Antidegradation Policy** – Requires Minimal Decreases in Water Quality
  - Category I [No Discharge Allowed]
  - Category II [Discharge only at Background]
  - Level I and Level II Evaluations
- **Beneficial Use** – Classifications of Levels of Protection
  - 1C Domestic Purposes
    - Protected for use as a raw water source for domestic water systems.
  - 3A Cold Water Fishery
- **Numeric Criteria** – Numbers that Define the Beneficial Uses
  - 50 ug/l Selenium – 1C
  - 4.6 ug/l Selenium Chronic – 3A
- **Narrative Criteria** - Narrative that Defines the Beneficial Uses
  - “become offensive”
  - “undesirable physiological responses”
Rule R317-2.
Standards of Quality for Waters of the State

- Antidegradation Policy
  - Maintenance of Water Quality
  - High Quality Waters – Category I
  - High Quality Waters – Category II
  - Other waters

- Activities subject to antidegradation review
  - 401 – FERC [Dams, pipelines]
  - 401 – UPDES Permits [WWTP, Industrial Discharges]
  - 404 – Corps of Engineers [Wetlands]
  - As determined by Executive Secretary of WQB
Antidegradation Policy:
Category 1: UPDES Permits not Allowed

  
  12.1 High Quality Waters - Category 1.
  
  In addition to assigned use classes, the following surface waters of the State are hereby designated as High Quality Waters - Category 1:
  
  a. All surface waters geographically located within the outer boundaries of U.S. National Forests whether on public or private lands with the following exceptions:
  
  All High Quality Waters - Category 2 as listed in R317-2-12.2.
  
  Weber River, a tributary to the Great Salt Lake, in the Weber River Drainage from Uintah to Mountain Green.
  
  b. Other surface waters, which may include segments within U.S. National Forests as follows:
  
  1. Colorado River Drainage
  
  Calf Creek and tributaries, from confluence with Escalante River to headwaters.
  
  Sand Creek and tributaries, from confluence with Escalante River to headwaters.
  
  Mamie Creek and tributaries, from confluence with Escalante River to headwaters.
  
  Deer Creek and tributaries, from confluence with Boulder Creek to headwaters (Garfield County).
  
  Indian Creek and tributaries, through Newspaper Rock State Park to headwaters.
Rule R317-2.
Standards of Quality for Waters of the State

- High Quality Waters - Category I
  - U.S. Forests (within the outer boundaries)
  - Other designated waters

- High Quality Waters - Category II
  - Discharge at background
    - Electric Lake
    - Deer Creek (4800 ft. upstream from forest boundary)
    - 80th percentile

- [Other waters (silent)].
Rule R317-2. Standards of Quality for Waters of the State

• Levels of Antidegradation Review
  – Level I
    • Mathematical Determinations (Off-ramps)
      – 11 Categories
        » e.g., ... for discharge permit renewals, if the increase in project loading over the prior permit is less than 20%
  – Level II
    • 8 Requirements in the Review
    • You may not be allowed to “pollute up to the standard”

\[ d_o = \frac{h_o \cdot f + h_s \cdot f}{h_s} \]

Where:
- \( d_o \) = distance from object to lens
- \( h_o \) = height of object
- \( f \) = focal length
- \( h_s \) = height of image sensor
Issues: Antidegradation

• Level I procedures allow “pollution creep” from permit renewal to renewal
• Confusion between a Level I and Level II review.
• Excluding all but 3A and 3B waters is arbitrary and improper
• Too many off-ramps
• Parameter by Parameter Basis
Understanding the Level I Antidegradation Review

- Excel Spreadsheet Example
  - Mayfield, Utah
  - Other Examples
The Antidegradation Level II Review Process - 3.4.c

- Affected Agencies and the Public will be notified.
- Meetings with stakeholder may be held.
- UPDES permits: Public notification will follow the normal public notice requirements of the permit issuance requirements.
The Antidegradation Level II Review Process - 3.4.c

1. All statutory and regulatory requirements will be met?
2. Are there less degrading alternatives?
   • 3.4.c.2 – Review List
4. Information from applicant: Economic and Social Importance
5. Mitigation Plans to receive approval.
6. Water Quality Standards can not be violated.
The Antidegradation Level II Review Process - 3.4.c

7. Existing Uses will be Maintained
8. Where existing use is higher than designated use, apply rules of existing use until rules are changed.

   a. More stringent effluent requirements
   b. Additional monitoring
Issues: TDS Criteria

• Should the current two level TDS standard be maintained:
  – 1,200 mg/l for irrigated crops
  – 2,000 mg/l for stock-watering
• Rule is confusing in that there are two standards for the same classification (Class 4 Agriculture)
• Removing the 2,000 mg/l could affect de-icing our highways
• The maximum not to exceed value should not be eliminated, but strengthened.