Hot Topic: Clean Water Act Section 316(b) - Planning for the Final Rule

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Presentation Outline

• Review of the Proposed Rule
• Implementation Schedule
• “Gossip” on Potential Changes
• Thoughts on Compliance Approaches
Section 316(b) of the Clean Water Act

• “Any standard established pursuant to section 301 or section 306 of this Act and applicable to a point source shall require that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact.”

• Forty Years Later, the Meaning and Implementation of this Section is Still Very Controversial
  – New Facilities Rule (a.k.a. Phase I) promulgated in 2001
  – “Existing Facilities Rule” was proposed in Spring 2011 and final rule is expected in July 2012

• Proposed Thresholds for Inclusion:
  – > 2 MGD with 25% dedicated to cooling water
  – NPDES Permit and withdrawal from Water of the US
Observations on the Proposed Rule

• Closed Cycle Cooling is **NOT** BTA Nationally
  – Closed cycle cooling not generally available
  – Proposed rule and preamble defend that position
  – Some of the data and findings can be used on a site-specific basis

• Required Impingement Control Measures are Relatively Cheap
  – Achieving Required Performance will be Difficult

• EPA Bet on the Performance of Fine Mesh Panels in 2004 (for Entrainment); This Time it is Ristroph/Fletcher-type Travelling Screen Modifications (for Impingement)
  – Rate of survival is key question

• Entrainment Mortality Controls Determined by Best Professional Judgment (BPJ)
  – Costly studies required for facilities > 125 MGD
  – Entrainment *Mortality* is relevant metric: EPA recognizes the challenges of excluding/returning ichthyoplankton alive as well as monitoring for EM
Observations on the Proposed Rule - 2

• Cost/Benefit Ratio for IM controls is ~ 20/1 – Very poor precedent for site-specific BPJ determinations of BTA

• Preamble and Rule were Written by Committee – Themes and Specifics are Not all Consistent or Correct

• Proposed 40 CFR is Highly Prescriptive – EPA Indicates that It’s Proposal was Not Limited to the Language of 40 CFR

• The Timing of Implementation has Inconsistencies That Need to Be Reconciled as Part of AEP’s Strategy
  • Plan for (and demonstrate?) IM retrofit long before implementation
  • IM considered separate from entrainment
The Proposed Existing Facilities Rule

**Impingement**

- Does the facility operate travelling Screens?
  - No
    - Is the facility on a ocean or tidal waters?
      - No
        - Conduct Monthly IM Monitoring 125.96(a)(2)
      - Yes
        - Demonstrate Design or Actual Velocity <0.5 fps 125.94(b)(2)(i)
        - Achieve IM of <12% annual avg <31% monthly 125.94(b)(1)(i)
          - Monitoring frequency undefined
        - Operate/maintain so less than 15% occluded by debris 125.94(b)(2)(iii)
          - Conduct Monthly IM Monitoring 125.96(a)(2)
        - Ensure a means for impingable fish to escape or be returned 125.94(b)(2)(vi)

- Yes
  - Install "Ristroph" Modifications 125.94(b)(1)(iii)(B); 125.94(b)(2)(v)(B)
  - Is the intake velocity <0.5 fps?
    - No
      - Conduct Monthly IM Monitoring 125.96(a)(2)
    - Yes
      - Demonstrate Design or Actual Velocity <0.5 fps 125.94(b)(2)(i)
      - Achieve IM of <12% annual avg <31% monthly 125.94(b)(1)(i)
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**Entrainment**

- Is the Cooling System Closed Cycle?
  - No
    - Reports under 122.21(r)(9), (10), (11), (12) Not Required
  - Yes
    - Compliant with BTA for Entrainment 125.94(d)(1)

- Is Actual Intake Flow > 125 MGD?
  - No
    - Reports under 122.21(r)(9), (10), (11), (12) Not Required
  - Yes
    - Addition Studies Required Under 122.21(r)(ii)(B)
      - 122.21(r): (9) - Entrainment Characterization Study
        - (10) - Comprehensive Technical Feasibility and Cost Evaluation Study
          - (11) - Benefits Valuation Study
            - (12) - Non-Water Quality and Other Environmental Impacts Study
              - All four require peer review. ECS requires plan approval.
    - Director Establishes BTA on a Case-by-Case Basis 125.94(c)
Plan for What?

• The Proposed Rule has Some Serious Flaws
  – e.g., the quantitative impingement mortality (IM) performance goals, redundant requirements

• The Final Rule will Differ from the Proposed Rule, Perhaps in Very Substantial Ways
  – Previous rules have changed dramatically
  – EPA has acknowledged problems

• Potential to Include Thermal Issues in the Evaluation
Schedule will be a Challenge

- Rule Issued in July 2012; Rumors of Delay but EPA has Maintained they will not Need it
- Rule Becomes Effective 60 Days Post Publication
- Several Reports, with Strategic Implications, are Due 6 Months Post Effective Date
- Industry, Agency, and “Peer” Resources will be Limited and Very Busy During Key Periods
- As Proposed Implementation Requires Careful Planning and Compromises on Schedule
## Preliminary Implementation Schedule – “Phase II” Plants

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* Two stages of peer review may be productive.

x Deadline in Proposed Rule
AECOM Speculation on the Final Rule

- Entrainment BTA Based on BPJ will Be Maintained for High Flow Facilities
- Ristroph Retrofit and Intake Velocity < 0.5 fps will be Maintained as BTA; Redundancies will be Reduced
- Other Compliance Approaches (Including Measures that Reduce Impingement Rates) will be Allowed
- IM Performance Requirements may be Eliminated but Monitoring may be Required at the Discretion of the NPDES Director
- Schedule will Remain Substantially the Same
Recommendations for Preparing for the Final Rule

• Continue to Engage the USEPA on the Rulemaking

• Perform a Preliminary Assessment of Alternatives for Rule Compliance

• Develop a Strategy for Peer Review

• Consider the Status of the Thermal Discharge

• Develop a Schedule for Rule Implementation
  – There are important inconsistencies

• Have Discussions with the NPDES Permitting Agencies
Discussion and Questions

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