316(b) - Lessons Learned

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Energy & Environmental Committee Meetings

June 7, 2016

316(b) Existing Facilities Rule

- Published in August 2014 and Effective October 2014
- Affects point sources with design intake capacity > 2 million gallons per day (MGD)
  - > 25% water use exclusive to cooling
  - Withdrawal from Water of the United States
- Facilities with actual use >125 MGD subject to additional set of requirements and studies
- Rule is implemented by the NPDES Director as part of the NPDES permitting process (e.g., 40 CFR 122.21(r) – submittals tied to application for renewal, and 40 CFR 125 – criteria and standards)

Some General Notes

- The history of the rule is like a Russian novel
  - 44 years in the making; several law suits and rule remands
  - EPA has developed the rule(s) under court order
  - The latest rule-making lead to major disagreements within the Federal government
  - The approaches to best technology available (BTA) has changed dramatically
- Steam electric generators have lots of experience; other industries generally have less
- EPA is unsure of how many facilities are affected
  - Some facilities are very surprised and may still be unaware – e.g., building chillers

Definition and Calculation of Intake Flow is Very Important

- Thresholds for inclusion expressed in two ways:
  - Design intake flow (DIF) – the capacity of the intake - inclusion in the rule if DIF > 2 MGD
  - Actual intake flow (AIF) – the average of the last three (or 5) years' intake – applicability of costly entrainment studies
- Regardless of flow, if > 25% of flow is for cooling only – rule does not apply
- Important to understand the opportunities to change facility operation to affect these numbers
  - Common example: facility changes operation so that AIF < 125 MGD by the time the renewal is submitted

Schedule is Important and Maybe Changeable

- Some plants will have several years of study and should ensure that they have enough time
- If the NPDES permit expires after 7/14/18, the next application **must** include 316(b) materials
  - Some states have issued renewed permits since the rule so that the next renewal application may be 2019 or after
- NPDES permits that expire before 7/14/18 may seek an alternative schedule

The Rule Treats Entrainment and Impingement Separately

- The rule and its preamble are clear that the entrainment BTA should be determined prior to the impingement BTA in order to avoid a double retrofit
  - This is often missed by regulators who are looking to make simultaneous decisions
  - The sequence of application, BTA decisions, and retrofits should be considered
- The approaches to the two BTA are very different:
  - Entrainment: site-specific based on several decision criteria available to the Director
  - Impingement: much more prescriptive based on one of a number of technology options

Entrainment BTA - E BTA

- Site-specific decision necessary regardless of status relative to 125 MGD
  - EPA is emphasizing to the states that an E BTA determination must be in the permit and must reference the relevant factors even when AIF < 125 MGD
    - EPA has suggested to dischargers that the application include information supporting E BTA to support Fact Sheet development
- AIF > 125 MGD the stakes are much higher
  - Studies are far more complicated, lengthy, and costly
  - Applicant must consider three separate alternatives to reduce entrainment including feasibility, costs, and benefits
  - Studies are subject to peer review

Impingement BTA - I BTA

- EPA intended that these provisions should force action – a relatively small number of options are available and “opt-outs” are available in very limited cases
  - Therefore, the I BTA provisions may be a bigger challenge for smaller facilities, particularly if they have multiple, scattered intakes
  - Some of the options are “provisional” based on biological performance testing – increased risk and cost
- The process and schedule for evaluating, proposing, installing, and testing is very confused in the rule
  - There is a rational approach and States/EPA have agreed with it

Federally-listed Species is a Wild Card

- Regardless of intake flow and cooling technology, the rule gives National Marine Fisheries Service and US Fish and Wildlife Service (the Services) input to the process
  - Director must share both the application (and draft permit) with the Services for comment
  - Applicant must document presence of listed species for review by Services
  - The Services have claimed a major role in their review of the rule
  - Informally, EPA is pushing for early communication
- The process is playing out very differently in different places based on:
  - The nature of species in the area
  - The approach of the individuals at the Services

E BTA Process for AIF > 125 MGD

- Relatively sophisticated, controversial, and ill-defined methods
  - Two years of entrainment characterization data
  - Engineering, operation, and social costs of retrofits
  - Monetization of social benefits for each type of retrofit
  - Few agencies have this expertise
- Peer review is required but is also ill-defined
  - EPA has indicated that the effort should be straight-forward but States (and EPA) have required substantial effort
  - The process has been challenging and costly
  - Agencies appear to value the potential input but are unsure of how to move it forward

The Director has Broad Latitude but…

- The agencies are looking to EPA for guidance and sign-off on decisions
  - EPA is actively providing clarifications and has consistent coordination calls
  - Agencies often do not have key expertise
  - There are a lot of moving parts to the rule
- The agency staffs are very busy – often with the same new rules that we are
- Therefore, the agencies have been slow to make key decisions:
  - Approval of the peer reviewers; when and how to coordinate with the Services; review of work plans
- The application materials should be clear and concise. They should map directly to the requirements of the rule.

Questions and Discussion