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Site Specific Regulatory Approaches and NPDES: Shon Simpson (GBMc & Associates) Arkansas Environmental Federation Convention Presentation

Arkansas Environmental, Energy, and Water Law Blog

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Mr. Shon Simpson undertook a presentation at the Arkansas Environmental Federation Convention titled *Site Specific Regulatory Approaches & NPDES ("Presentation")*.

Mr. Simpson is a Senior Project Manager with GBMc & Associates.

Mr. Simpson's presentation addressed a number of issues associated with complying with Clean Water Act National Pollution Discharge Elimination System ("NPDES") permit limits. In particular, he addressed scenarios in which a permit limit cannot be attained.

In addressing the issue of meeting permit limits, Mr. Simpson noted the scenario in which a "new" limit cannot be met with the existing treatment systems. Options identified included:

- Upgrade wastewater treatment plant
- Alternative discharge location (pipeline)
- Source reduction
- Land application
- Site specific "regulatory" change

Regulatory approaches for the scenario could include:

- Critical Flow
- CORMIX Modeling
- Water Effects Ratio
- Section 2.306 Study
- Use Attainability Analysis (UAA)
- TMDL Revision
- Selenium Fish Tissue Analysis

Each of these approaches was addressed.

The discussion first addressed the need to address critical (upstream) flow and its role in NPDES permit calculations (referencing allowable dilution). Caveats referencing book values are noted and the value of an increase in the 7Q10 was identified.

The discussion involving CORMIX modeling noted its potential use with larger streams/rivers and its application to:

- Temperature limits
- Dilution for WET
- Dilution for any water quality based effluent limits where mixing zones are applicable

Water effects ratio (“WER”) were identified as useful when developing site specific criteria for metals. Also referenced were United States Environmental Protection Agency (“EPA”) Guidance and a streamlined procedure for copper that was issued in 2002. Reported ranges for WERs were also specified.

The Arkansas Pollution Control and Ecology Regulation 2.306 study provision was addressed and it was noted:

...provides a procedure to establish less stringent criteria without affecting fishable/swimmable uses.

The provision was also deemed a potential option for removal of a non-fishable/swimmable use that is a non-existing use (e.g. Domestic Water Supply, Industrial Water Supply).

Mr. Simpson noted that it is most commonly used for removal of a non-existing Domestic Water Supply and modification of minerals criteria. He also referenced the minimum informational requirements needed for such a study and opined that they have been difficult to conduct and obtain approval in the “past several years.”

The utilization of a Use Attainability Analysis was noted as a possibility to remove, or to assign a use sub-category of a use with less restrictive criteria to, fishable/swimmable uses. A state may designate a use, or remove a use, that is not an existing use if justified through a use attainability analysis. Specific study requirements are found at 40 C.F.R. 131.10.

The TMDL revision discussion concluded that it may be possible in certain circumstances to modify a TMDL if there was new data or changed circumstances. Situations in which this might be accomplished (citing EPA) included:

- Changes to the basis used for deriving the TMDLs loading capacity
- Re-allocation between LAs and WLAs
- Changes in applicable water quality standards

Finally, Mr. Simpson noted the “newly finalized” EPA selenium criteria guidelines. The criteria guidelines were deemed final in 2016 and contain fish tissue criteria and actual measurement of the selenium in fish as the preferred permitting approach. He cited as the “least preferred permitting approach” end-of-pipe limits. Further, if the new criteria is adopted as a standard then he stated it should be possible to use the direct tissue measurement approach.

[A copy of the slides can be downloaded here.](#)

[A link to the GBMc website is below.](#)