Selenium/Recommended Aquatic Life Ambient Water Quality Criteria: U.S. Environmental Protection Agency Releases Update

Arkansas Environmental, Energy, and Water Law Blog

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The United States Environmental Protection Agency ("EPA") announced in a July 13th Federal Register Notice the release of a final updated Clean Water Act Recommended National Chronic Aquatic Life Criterion for selenium in freshwater. See 81 Fed. Reg. 45285.

EPA states that the final criterion supersedes the agency's 1999 Clean Water Act Section 304(a) Recommended National Acute and Chronic Aquatic Criteria for selenium.

Water Quality Criteria ("WQC") are ambient water quality conditions that are deemed protective uses as established for a waterbody. States are required to adopt WQC protective of the designated uses. The WQC must specify the maximum concentration of pollutants that may be present in the water without impairing its suitability for certain uses.

The WQC represent a judgment as to which levels, concentrations, or conditions support a designated use. An indication of the importance of the WQC is the Clean Water Act's requirement that EPA periodically issue new or revised WQC. EPA's WQC are frequently used by the states in establishing or revising their water quality standards. However, states are free to adopt or develop their own WQC if they are scientifically defensible.

The 2016 Recommended Criterion for selenium is stated by EPA to reflect the latest scientific information. The agency believes that selenium toxicity to aquatic life is primarily based on organisms consuming selenium-contaminated food rather than direct exposure to selenium dissolved in water.

EPA recommends that the criterion adopt a multi-media criterion into their water quality standards. It further notes that the criterion has four elements, and the agency recommends that states include all four elements in their standards.

EPA also states:

Because adverse reproductive effects are most closely linked to selenium concentrations in fish tissue, the 2016 chronic criterion is based primarily on concentrations in fish egg-ovary tissues and is translated into whole body, muscle, and water column concentrations for lakes/reservoirs and rivers/streams to create the four elements of the chronic criterion (two fish tissue and two water column). EPA recommends that when implementing the criterion, the fish tissue elements take precedence over the water column elements, except in certain circumstances.

A copy of the Federal Register Notice, which includes a comparison of the final 2016 selenium criterion to 1999 criteria, can be downloaded here.