

TITLE 327 WATER POLLUTION CONTROL BOARD

LSA Document #14-58

SUMMARY/RESPONSE TO COMMENTS FROM THE THIRD COMMENT PERIOD

The Indiana Department of Environmental Management (IDEM) requested public comment from April 21, 2021, through May 12, 2021, on IDEM's proposed rule language. IDEM received comments from the following parties:

Indianapolis Power and Light Company doing business as AES Indiana (AES)
Indiana Manufacturers Association (IMA)

Following is a summary of the comments received regarding the proposed rule and the draft selenium implementation guidance and IDEM's responses thereto:

Proposed Rule Comments

Comment: The term “steady state” appears in the footnotes to the new selenium tables (6-1a, 6-1b, and 8-1a) at 327 IAC 2-1-6(a)(4) and 327 IAC 2-1.5-8(b)(3)(B). According to the definition of “steady-state” at 327 IAC 2-1-9(50) and 327 IAC 2-1.5-2(83), the term has the following meaning: “Steady-state” means an equilibrium condition has been achieved in the body burden of a substance in an organism. Steady-state is assumed when the rate of loss of a substance matches its rate of uptake.” However, according to U.S. EPA’s guidance from the fact sheet, https://www.epa.gov/sites/production/files/2016-06/documents/se_2016_fact_sheet_final.pdf, it is stated that, “Water column values are the applicable criterion element in the absence of fish tissue measurements, such as waters where fish have been extirpated or where physical habitat and/or flow regime cannot sustain fish populations, or in waters with new discharges of selenium where steady state has not been achieved between water and fish tissue at the site.” EPA refers, in this and other documents, to a situation that is not steady state as having “new or increased inputs” of selenium. It is recommended that the term “steady-state” used in the selenium tables of 327 IAC 2-1-6 and 327 IAC 2-1.5-8 be consistent with U.S. EPA’s terminology and guidance. (AES)

Response: IDEM includes the following in a footnote to each of the selenium tables referenced above: “Fish tissue elements are expressed as steady-state: the aquatic system should not be experiencing new or increasing inputs of selenium.” As indicated in these comments, this is consistent with the definition in Indiana’s rules and U.S. EPA’s 2016 selenium criterion document and fact sheet.

Comment: 327 IAC 2-1-6(a)(4)(C)(i) and 327 IAC 2-1.5-8(b)(3)(C)(i) regarding modifications to the selenium water column criterion element should be removed from the rule in their entirety. The standard site-specific provisions already existing in rule, along with relevant guidance, should be used for selenium site-specific requests. IDEM’s guidance for selenium modifications of the selenium water column criterion should be dynamic to allow for modifications in the future as more data and implementation scenario results become available. Including specific methods in the final rule will not allow for additional methods or method revisions to be considered unless formal rulemaking occurs, which is a very lengthy process. In addition, the final U.S. EPA Selenium Water Quality Criteria revision rule did not include the site-specific standard mechanisms in the criteria action, but, instead, left it as an issue for guidance. The request to remove the rule requirement for modifications to the selenium water column criterion element and address requests for selenium site-specific modifications through guidance is consistent with EPA’s approach. (AES)

Response: U.S. EPA's National Recommended Water Quality Criterion for selenium, published in “Aquatic Life Ambient Water Quality Criterion for Selenium – Freshwater 2016”

includes two acceptable methods for deriving site-specific criterion water column criterion elements in Appendix K, including a method appropriate for fishless waters. IDEM does not agree that it is appropriate or advisable to remove the Appendix K methods from the rules. Currently, these are the only two methods that U.S. EPA has approved for determining a site-specific water column criterion element for selenium. State rule standards require clear, specific criteria by which proposed alternative methods could be evaluated by IDEM on a consistent basis. In the future, if U.S. EPA develops and approves additional methods, IDEM will consider adopting them into rule.

Comment: The rule should list waters where IDEM knows fishes of the Order Acipenseriformes are present instead of requiring applicants to request site-specific approval of the absence of these fishes. The modification request process will require approval of IDEM, U.S. EPA, and U.S. Fish and Wildlife Service, which will add time and cost to getting approval of Acipenseriformes absent waters. (IMA)

Response: It is IDEM's opinion that stakeholders will have more flexibility if they are given the opportunity to demonstrate, on a case-by-case basis, that the Acipenseriformes-absent site-specific criterion is appropriate for their individual site.

IDEM's preliminary determination for classifying waters with Acipenseriformes, for the purpose of developing a performance-based site-specific criterion (SSC) for those waters where they do not occur, included the major rivers and streams where mature Acipenseriformes occur, plus the EPA-required application of a buffer at the Hydrologic Unit Code (HUC) 8 scale to protect the water quality of upstream areas where Acipenseriformes spawn, and downstream water quality. A performance-based approach requires such conservatism because if approved by IDEM, the SSC applies without further U.S. EPA approval. U.S. EPA approved a performance-based sturgeon-absent SSC for the state of Idaho that used species distribution information with the application of a buffer at the HUC 8 scale. For Idaho, there were large areas of the state where the SSC could be used. However, in Indiana, given the widespread distribution of sturgeon and paddlefish species, implementing a performance-based approach for the distribution would have restricted the use of the SSC to a limited number of Downstate waters.

IDEM prepared a map that shows the distribution of Acipenseriformes (Sturgeon and Paddlefish) waters with a buffer at the HUC 8 watershed scale. The map is available on IDEM's web site under the heading of "Active Projects" at: <https://www.in.gov/idem/cleanwater/2329.htm>.

IDEM disagrees that applying for an Acipenseriformes-absent determination is necessarily a lengthy process. Once IDEM makes a determination that Acipenseriformes are absent, IDEM will provide a minimum 30-day comment period. U.S. EPA has committed to approving WQS within 90 days. Once U.S. EPA has approved a site-specific Acipenseriformes-absent determination, IDEM can immediately apply the site-specific criterion. IDEM will not need to wait until the SSC is adopted into rule before implementing the SSC in a NPDES permit

Comments on IDEM's "DRAFT Guidance for the Collection of Fish Tissue and/or Water Column Data for Implementation of Indiana's Selenium Chronic Aquatic Life Criteria" and IDEM Response

Comment: IDEM's draft guidance for implementation of the selenium aquatic life criteria regarding use of fish tissue concentrations to conduct a reasonable potential to exceed determination (page 2) states, "(1) sources of selenium must have been present and are not expected to increase; (2) the population of fish sampled has been exposed to the existing levels of selenium and the system is determined to be in steady state;". It would be helpful to have explanations of the meaning of "are not expected to increase" and "steady state". (IMA)

Response: IDEM thanks you for your comment and will consider adding clarifying language for these terms when we revise the draft implementation guidance.

Comment: IDEM's draft Indiana Selenium Implementation Guidance needs to include the information that an applicant should provide to IDEM in an application for a site-specific determination that fishes of the Order Acipenseriformes do not occur at the site. IDEM's general preliminary determination for classification of waters with Acipenseriformes may include a majority of waters outside of the Great Lakes System where Acipenseriformes are not expected to be found but may serve as habitat or spawning areas or contribute to downstream water quality. The presence of suitable habitat alone is not sufficient for determination of Acipenseriformes waters. IDEM should review the applications for determination of Acipenseriformes waters on a site-specific, case by case basis based on actual data of the site considering multiple factors and not solely habitat. Many factors other than the mere presence of suitable habitat are integral in determining if waterbodies can sustain populations of Acipenseriformes. Even if a waterbody meets the numerous biological, chemical, and physical factors to support Acipenseriformes, this does not mean that fish of this order would thrive in that particular waterbody. Furthermore, U.S. EPA's final selenium criteria document, Appendix K (pages K-12 and K-13), states as follows: "Some aquatic systems do not contain resident fish. Fish may be absent from a waterbody because of intermittent or persistent low flows, physical impediments such as waterfalls or impoundments, lack of adequate habitat for feeding and/or spawning, or intolerable aquatic conditions related to pH, turbidity, temperature, salinity, total dissolved solids, chemical contaminants, or pathogens. These conditions could be due to natural or anthropogenic causes. Some streams may be naturally intermittent or ephemeral, or they might exhibit low or intermittent flows because of impoundments or water draw-down for agricultural irrigation, industrial uses, drinking water supply, or other uses. When fish are absent from a waterbody, consideration of sampling the most sensitive fish species inhabiting nearby, most proximate downstream waters may be useful in order to understand selenium bioaccumulation potential in such systems." (AES)

Response: IDEM thanks you for your comment on the draft implementation guidance. IDEM agrees that application guidance for a site-specific determination that fishes of the Order Acipenseriformes do not occur at the site would be a useful tool for stakeholders but believes this information should be included in a separate document or an alternate format. IDEM developed the referenced draft selenium implementation guidance "Guidance for the Collection of Fish Tissue and/or Water Column Data for Implementation of Indiana's Selenium Chronic Aquatic Life Criteria" for a specific purpose, which is to provide appropriate and acceptable methods for the collection of selenium fish tissue and water column data in support of IDEM's updated aquatic life chronic water quality criterion for selenium.

Since Indiana's SSC is not performance-based, there is more flexibility to evaluate site-specific factors that determine if Acipenseriformes occur at a site. A permittee will have the option to refute that Acipenseriformes are present by consulting available resources and references or presenting site-specific information, or both, and including this information in an application for a site-specific determination. As noted, there are additional factors, beyond habitat. Some of these include the presence of dams or other hydrological modifications, discharges to certain headwaters, ephemeral streams or agricultural ditches, background water quality conditions that are not conducive for the occurrence of these species, and the potential for a facility's discharge to influence surface water quality where Acipenseriformes occur or spawn.

IDEM has compiled sources of information that will be useful for this demonstration. These include species distribution maps, references for Indiana sturgeon and paddlefish that describe behavior and distribution during life stages, and a link to a map showing the location of dams in Indiana.

Comment: IDEM's draft guidance for implementation of the selenium aquatic life criteria regarding major changes to water column selenium concentrations that occur for new discharges

having a requirement for a minimum duration of 12 months before fish tissue may be sampled to assess bioaccumulation in the resident fish population (page 3). The draft guidance needs to clarify what is meant by “any major change to water column selenium concentrations”. If there was a 50% decrease in water concentrations of a discharger’s selenium, would fish tissue be impacted? (IMA)

Response: IDEM thanks you for your comment on the draft implementation guidance. There are multiple reasons that a facility’s discharge could cause a change in a selenium water column concentration that could adversely impact aquatic biota, and it takes time for fish tissue to come into equilibrium with such changes. These include, for example, an increase in the volume of selenium loading in the effluent, a permanent decrease in flow in the receiving stream due to a hydrologic modification, a new or modified manufacturing process, or a change in the way stormwater is managed at a facility. Whether these or other modifications result in an increase or decrease of selenium in the water column must be determined on a site-specific basis. IDEM’s guidance document acknowledges these factors, stating (p. 3): “Generally, when any major changes to water column selenium concentrations occur and for new discharges, IDEM will require a minimum duration of 12 months before fish tissue may be sampled to assess bioaccumulation in the resident fish population. IDEM will consider site-specific factors that could shorten or lengthen this estimated time frame.”

Comment: IDEM’s draft guidance for implementation of the selenium aquatic life criteria regarding the collection of fish (page 6) describes the need to collect fish from the sub-reach closest to the outfall for a reasonable potential to exceed determination and an allowance for collecting from the next downstream sub-reach for a site-specific BAF if fish tissue samples are not collected in the first sub-reach. It is understandable that collecting fish closet to the outfall is highly desirable for determining reasonable potential, but it is not understandable that sampling data for a BAF factor that includes samples in a next downstream sub-reach cannot be used for determining reasonable potential. IDEM should consider some flexibility for determining reasonable potential in these situations? (IMA)

Response: IDEM thanks you for your comment on the draft implementation guidance. IDEM will consider flexibility for determining reasonable potential in certain situations, such as what is described by the commenter, when IDEM considers revisions to the draft guidance and during implementation.