2020 Rule 2 304(a) Justifications

Arkansas currently has narrative nutrient criteria in Arkansas Pollution Control & Ecology Commission Rule 2.510 for waterbodies across the state and numeric chlorophyll a criteria for one reservoir. In addition to adopting narrative and numeric criteria, Arkansas regulates the discharge of nutrients via monthly average discharge permit limits on all point source discharges into waters listed on Arkansas's impaired waterbodies list (303(d)) with phosphorus as the cause. Additionally, permitted dischargers in nutrient surplus watersheds as designated pursuant to Ark. Code Ann. § 15-20-1104 and subsequently designated nutrient surplus dischargers may get permit limits if the point source discharges are shown to provide a significant phosphorus contribution to waters within the nutrient surplus watersheds.

Arkansas Division of Environmental Quality (DEQ), in partnership with interested parties in Arkansas, implemented a Harmful Algal Bloom (HAB) Management Plan in December of 2019. Advisories are primarily based on visual conformation of a bloom out of an abundance of caution given the sporadic nature of cyanobacteria blooms and release of toxins, the difficulty of a timely response, the challenges posed by temporal and spatial dispersal of toxins, and the time and expense of testing. DEQ utilizes the Environmental Protection Agency's (EPA) recommended thresholds to monitor blooms throughout their duration and determine magnitude of threat to human health. This information is then used to make decisions on which lakes will be added to DEQ's routine lake monitoring program. For these reasons, issuing advisories as laid out in the HAB Management Plan is the best approach for addressing cyanobacteria blooms in the State of Arkansas.

Based upon EPA's Toxic Release Inventory (TRI), the following pollutants are not currently discharged in Arkansas waters via a NPDES permitted outfall: 1,1,2,2-Tetrachloroethane; 1,2,4,5-Tetrachlorobenzene; 1,3-Dichloropropene; 1,2-Diphenylhydrazine; 2-Chlorophenol; 2-Methyl-4,6-Dinitrophenol; 3,3'-Dichlorobenzidine; 3-Methyl-4-Chlorophenol; Acrolein; Aldrin; alpha-Endosulfan; alpha-Hexachlorocyclohexane (HCH); Benzidine; Benzo(b)fluoranthene; Benzo(k)fluoranthene; beta-Endosulfan; beta-Hexachlorocyclohexane (HCH); Bis(2-Chloroethyl) Ether; Bis(2-Chloro-1-methylethyl) Ether; Bis(2-Ethylhexyl) Phthalate; Bis(Chloromethyl) Ether; Bromoform; Chlordane; Chlorodibromomethane; Chlorophenoxy Herbicide (2,4,5-TP) [Silvex]; Chlorophenoxy Herbicide (2,4-D); Dibenzo(a, h)anthracene; Dichlorobromomethane; Dinitrophenols; Endosulfan Sulfate; Endrin; Endrin Aldehyde; Heptachlor; Heptachlor Epoxide; Hexachlorocyclopentadiene; gamma-Hexachlorocyclohexane (HCH) [Lindane]; Hexachlorocyclohexane (HCH) – Technical; Indeno(1,2,3-cd)pyrene; Isophorone; Methoxychlor; Methyl Bromide; Methylmercury; Nitrosodibutylamine; Nitrosodiethylamine; Nitrosopyrrolidine; N-Nitrosodimethylamine; N-Nitrosodi-n-Propylamine; N-Nitrosodiphenylamine; Nonylphenol; p,p'-Dichlorodiphenyltrichloroethane (DDT); p,p'-Dichlorodiphenyldichloroethane (DDD); p,p'-Dichlorodiphenyldichloroethylene (DDE); Pentachlorobenzene; Polychlorinated Biphenyls (PCBs); Toxaphene; Acrolein; Carbaryl; Tributyltin (TBT); and Diazinon. DEQ will continue to monitor EPA's TRI.

EPA's TRI states that the following pollutants are not currently discharged into AR waters; however, some NPDES reporting and limit requirements exist for these pollutants: 1,1,1-Trichloroethane; 1,1,2-Trichloroethane; 1,2,4-Trichlorobenzene; 1,2-Dichloropropane; 1,3-Dichlorobenzene; 1,4-Dichlorobenzene; 2,4-Dinitrotoluene; Acrylonitrile; Anthracene; Benzo(a)pyrene; Carbon Tetrachloride; Chlorobenzene; Chloroform; Cyanide; Dieldrin; Hexachlorobenzene; Hexachloroethane; Methylene Chloride; Nitrobenzene; Pentachlorophenol; Tetrachloroethylene; Trichloroethylene; Vinyl Chloride; and Aluminum. DEQ will continue to monitor and review the results for these pollutants.

Minimal amounts of the following pollutants are discharged into Arkansas waters: Benzene; Phenol; Ethylbenzene; and Toluene. DEQ will investigate if EPA's new criteria are appropriate for Arkansas during a future triennial review.

The studies used by EPA to develop criteria for the following pollutants were noted as having either inadequate data for study confidence level determination or a low confidence level: 1,2-Dichlorobenzene; 2,4,5-Trichlorophenol; 2,4-Dichlorophenol; 2,4-Dimethylphenol; 2,4-Dinitrophenol; Acenaphthene; Antimony; Butylbenzyl Phthalate; Diethyl Phthalate; Di-n-Butyl Phthalate; Fluoranthene; Fluorene; Pyrene;Trans-1,2-Dichloroethylene; 1,1-Dichloroethylene; 1,2-Dichloroethane; 2-Chloronaphthalene; Benzo(a)anthracene; Chrysene; Dimethyl Phthalate; Hexachlorobutadiene; Thallium; and 2,4,6-Trichlorophenol. As one or more of these pollutants are currently discharged into Arkansas waters, DEQ will continue to monitor EPA's criteria studies and re-evaluate when there is better scientific understanding.

DEQ currently has criteria for cadmium based on EPA's 1984 criteria document. DEQ evaluates each discharging facility for reasonable potential and when reasonable potential exists, the facility is given NPDES permit limits for cadmium. DEQ will evaluate EPA's 2016 criteria document during a future triennial review and, if appropriate, develop and propose criteria for Arkansas.

DEQ currently has criteria for selenium based on EPA's 1987 criteria. DEQ evaluates each discharging facility for reasonable potential and when reasonable potential exists, the facility is given NPDES permit limits for selenium. EPA has not released the final implementation documents for selenium. Therefore, DEQ will wait on adopting the 2016 criteria until there is a better understanding of the criteria, the implementation methods, and how the new 2016 criteria will impact Arkansas.

DEQ currently has criteria for copper based on EPA's 1984 criteria. DEQ evaluates each discharging facility for reasonable potential and when reasonable potential exists, the facility is given limits for copper. EPA's 2007 criteria use the Biotic Ligand Model that relies heavily on pH and Dissolved Organic Carbon (DOC) values. DEQ has limited DOC data from only one of Arkansas' six (6) ecoregion in Arkansas. EPA's level 4 ecoregion DOC values are significantly

lower than DEQ's data. DEQ will wait on adopting the 2007 criteria until DEQ has a better understanding of the discrepancy between EPA's and DEQ's DOC data and developed additional statewide DOC data.

DEQ currently has criteria for 2,3,7,8-TCDD (Dioxin). DEQ's current criteria, which is based on EPA's 1986 criteria, are below the detection limit per EPA Method 613. Likewise EPA's 2002 criteria are also below the detection limit as set forth in EPA Method 613. Therefore, DEQ will investigate if adopting the 2002 criteria will be appropriate for Arkansas during a future triennial review.

DEQ currently has criteria for ammonia based on EPA's 1999 criteria. Facilities discharging domestic wastewater or industrial facilities known to discharge ammonia are given limits. The limit is set at a value protective of both the dissolved oxygen (DO) criteria and the ammonia toxicity criteria of the receiving stream. Additionally, whole effluent toxicity (WET) testing remains a reasonable approach for assessing toxicity from ammonia. DEQ will investigate if EPA's new criteria are appropriate for Arkansas during a future triennial review.