**Administrative Rules**

**Jobs Impact Statement**

1. **BACKGROUND INFORMATION**

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| Agency: | **Environmental Protection Commission / Iowa Department of Natural Resources (Department)** |
| IAC Citation: | **567 IAC 61.3(3)** |
| Agency Contact: | **Connie Dou,** [**Connie.dou@dnr.iowa.gov**](mailto:Connie.dou@dnr.iowa.gov)**, (515)725-8400** |
| Statutory Authority: | **455B.173(2)** |

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| Objective: | The purpose of this proposed rule is to create additional flexibility for wastewater dischargers in complying with copper water quality criteria. Copper is found in most municipal wastewater discharges due to the corrosion of copper plumbing. Removing copper from wastewater discharges is difficult and expensive. The proposed rule will amend Iowa’s water quality standards to allow for the optional use of the Biotic Ligand Model (BLM) to determine copper water quality criteria. The proposed rule will also allow the optional use of the Water-Effect Ratio (WER) to adjust the existing copper water quality criteria. The addition of these two options has the potential to significantly reduce costs for some National Pollutant Discharge Elimination System (NPDES) permit holders who are unable to comply with the existing copper criteria. Of the 297 facilities in Iowa that are subject to the existing criteria, the Department estimates that 21-22 are unable to comply. Of the 21-22 facilities unable to comply with the existing criteria, the Department estimates that 7-10 would be able to comply with the copper BLM or WER-based criteria proposed in this rulemaking. These 7-10 facilities could experience a significant cost savings by avoiding the need to install copper removal technology in order to comply with the existing criteria.  The accumulation of copper at the biotic ligand (i.e., the gill of a fish or other similar site for aquatic organisms) above a critical threshold concentration leads to toxicity. But the amount of copper that will actually accumulate at the gill depends in large part on the water chemistry of the particular waterbody. The BLM accounts for several water chemistry parameters to predict the concentration of copper that would actually result in toxicity to an organism in a given waterbody. U.S. EPA has developed a BLM-based approach for calculating water quality criteria for copper. The Department seeks to adopt by reference the U.S. EPA document, “Aquatic Life Ambient Freshwater Quality Criteria - Copper 2007 Revision (EPA-822-R-07-001), February 2007”. Having the option to use the copper BLM will create additional flexibility for those wastewater dischargers that are unable to comply with the existing criteria and may result in more appropriate and affordable copper permit limits for some of these facilities.  Allowing the optional use of the WER method will also create flexibility for wastewater dischargers. The WER method allows permittees to take into account the difference between the toxicity of a metal as measured in laboratory water versus the toxicity of the metal as measured in ambient water at a particular discharge site. The WER method allows facilities to calculate a ratio between the two measured toxicity levels and use it to adjust the existing copper criteria in 567 IAC 61.3(3), Table 1. Permittees wishing to use this option will be required to conduct a WER study approved by the Department. WER studies must be conducted in accordance with the U.S. EPA documents “Interim Guidance on Determination and Use of Water-Effect Ratios for Metals (EPA-823-B-94-001), February 22, 1994”, or upon approval by the Department, “Streamlined Water-Effect Ratio Procedure for Discharges of Copper (EPA-822-R-01-005), March 2001”, which the Department seeks to adopt by reference. Having the option to use the WER method will create flexibility for those wastewater dischargers that are unable to comply with the existing criteria and may result in more appropriate and affordable copper permit limits for some of these facilities.  The proposed changes will give NPDES permit holders the ability to use the WER to adjust the existing copper criteria, or the ability to use the BLM to generate copper criteria that reflect the unique water chemistry of the receiving waterbody. The proposed changes create flexibility for those NPDES permit holders facing expensive infrastructure upgrades in order to comply with the existing standard. For those permittees, conducting a BLM or WER study may be a much more cost-effective method to achieve compliance. Permittees that do not have compliance problems may continue using the existing copper criteria and will not need to complete BLM or WER studies. |
| Summary: | The proposed rule revisions include the following:  To amend 61.3(3), Table 1, to add the optional use of the copper BLM based upon the U.S. EPA document, “Aquatic Life Ambient Freshwater Quality Criteria - Copper 2007 Revision (EPA-822-R-07-001), February 2007” and to add the optional use of the WER to adjust the existing copper criteria based upon an approved WER study conducted in accordance with the U.S. EPA documents “Interim Guidance on Determination and Use of Water-Effect Ratios for Metals (EPA-823-B-94-001), February 22, 1994”, or upon approval by the Department, “Streamlined Water-Effect Ratio Procedure for Discharges of Copper (EPA-822-R-01-005), March 2001”. |

**JOB IMPACT ANALYSIS**

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| *Fill in this box if impact meets these criteria:* | | |
|  |  | No Job Impact on private sector jobs and employment opportunities in the State. |
| *(If you make this determination, you must include the following statement in the preamble to the rule: “After analysis and review of this rulemaking, no impact on jobs has been found.”)*    Explanation: | | |

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| *Fill in this box if impact meets either of these criteria:* | | |
|  | **X** | Positive Job Impact on private sector jobs and employment opportunities in the State. |
|  |  | Negative Job Impact on private sector jobs and employment opportunities in the State. |
| Description and quantification of the nature of the impact the proposed rule will have on private sector jobs and employment opportunities:  A detailed fiscal impact analysis was conducted for potentially impacted point source discharge facilities. The proposed rule change could potentially result in a total cost savings for 7-10 facilities ranging from $113 million to $215 million. This savings is achieved by using the WER or copper BLM-based criteria instead of the existing copper criteria, and thereby avoiding facility upgrades that would be needed to comply with the existing criteria.  The cost savings analysis involved several steps. First, the Department estimated the cost of installing copper removal technology at a wastewater treatment plant. This is the cost a facility could potentially save by using the copper BLM or WER-based criteria instead of the existing copper criteria. The Department then reviewed available monitoring data to estimate the number of facilities that likely cannot comply with the existing criteria, but likely could comply with copper BLM or WER-based criteria. This number was then multiplied by the savings expected to be achieved by avoiding the installation of copper removal technology. The final estimate is that 7-10 facilities across the state could achieve a combined savings ranging from $113 million to $215 million by using copper BLM or WER-based criteria instead of the existing criteria. This cost savings is conservative due to the fact that monitoring data used in the analysis was obtained from ambient monitoring stations. These stations are mostly located on large rivers. Small, effluent dominated streams often have higher dissolved organic carbon levels that could result in even less stringent copper criteria when using the BLM or WER approach. As a result, the actual cost savings could be greater than the totals presented above.  It should be noted that the projected copper BLM or WER-based criteria used in this analysis were based on the average values of statewide ambient monitoring data. The copper BLM or WER-based criteria for any particular facility will depend on the site-specific data collected by that facility, but such data is not available to the Department at this time. The methodology described above represents the Department’s best estimate of the statewide fiscal impact of this rulemaking. The detailed fiscal impact analysis for this rulemaking is available upon request.  The cost savings associated with this rulemaking will have a positive impact on jobs. Avoiding wastewater treatment infrastructure upgrades at industrial facilities is expected to have a positive impact on jobs because industries can put the savings toward investment in their company, including job growth. Similarly, businesses and industries that discharge to municipal wastewater treatment plants will benefit from lower utility rates if the municipal wastewater treatment plant can avoid infrastructure upgrades as a result of this rulemaking. That savings on utility rates for businesses and industries can be put toward investment in their companies to create jobs. | | |
| Categories of jobs and employment opportunities that are affected by the proposed rule:  The following industries may have copper in their wastewater discharge: power plants, battery manufacturers, landfills, pharmaceutical manufacturers, and industries that produce metals-related products (machinery manufacturers, foundries, etc.) If industries can avoid installing expensive copper removal technology by using BLM or WER-based criteria, those savings can be invested in their businesses and may lead to job growth. Municipal wastewater treatment plants also have copper in their wastewater discharge due to corrosion of copper plumbing. When municipalities can avoid the installation of copper removal technology, utility rates can be kept low for businesses and industries that use the municipal wastewater treatment plant. Low utility rates help to attract new businesses and allow existing businesses to put their saved utility costs toward investment and job growth. | | |
| Number of jobs or potential job opportunities:  The number of jobs or potential job opportunities will be determined by site-specific factors in each of the affected communities and industries. | | |
| Regions of the state affected:  All regions of the state. | | |
| Additional costs to the employer per employee due to the proposed rule: (if not possible to determine, write “Not Possible to Determine.”)  It is not possible to determine costs on a per employee basis for this rulemaking. | | |

1. **COST-BENEFIT ANALYSIS**

The Agency has taken steps to minimize the adverse impact on jobs and the development of new employment opportunities before proposing a rule. See the following Cost-Benefit Analysis:

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| Compared to the existing copper criteria, use of the copper BLM or WER requires greater collection of sampling data by permittees. However, use of the copper BLM or WER may result in significant cost savings for those facilities that would otherwise be required to add expensive treatment technologies to remove copper. Department staff worked closely with stakeholders to minimize sampling collection costs required for use of the BLM. No other less intrusive or less expensive method exists for incorporating the copper BLM or WER. The methodologies in the proposed rule are protective of Iowa’s surface waters and provide flexibility to facilities to achieve compliance affordably. The proposed rule change could potentially result in a combined savings of $113 million to $215 million for the 7-10 permit holders that could come into compliance by using the copper BLM or WER. |

1. **FISCAL IMPACT**

The proposed rule change could potentially result in a combined cost savings for 7-10 facilities ranging from $113 million to $215 million. This savings is achieved by using the copper BLM or WER approach instead of the existing copper criteria, and thereby avoiding facility upgrades that would be needed to meet the more stringent copper permit limits.

The cost savings analysis involved several steps. First, the Department estimated the cost of installing copper removal technology at a wastewater treatment plant. This is the cost a facility could potentially save by using the copper BLM or WER instead of the existing copper criteria. The Department then reviewed available monitoring data to estimate the number of facilities that likely cannot comply with the existing criteria, but likely could comply with copper BLM or WER-based criteria. This number was then multiplied by the savings expected to be achieved by avoiding the installation of copper removal technology. The final estimate is that 7-10 facilities across the state could achieve a savings totaling $113 million to $215 million by using copper BLM or WER-based criteria instead of the existing criteria. This cost savings is conservative due to the fact that monitoring data used in the analysis was obtained from ambient monitoring stations. These stations are mostly located on large rivers. Small, effluent dominated streams often have higher dissolved organic carbon levels that could result in even less stringent copper criteria when using the BLM or WER approach. As a result, the actual cost savings could be greater than the totals presented above.

It should be noted that the projected copper BLM or WER-based criteria used in this analysis were based on the average values of statewide ambient monitoring data. The copper BLM or WER-based criteria for any particular facility will depend on the site-specific data collected by that facility, but such data is not available to the Department at this time. The methodology described above represents the Department’s best estimate of the statewide fiscal impact of this rulemaking. The detailed fiscal impact analysis for this rulemaking is available upon request.

1. **PREAMBLE**

The information collected and included in this Jobs Impact Statement must be included in the preamble of the proposed rule, written in paragraph form. For rules that have no impact on jobs (see the first box in number 2 above), the following statement must be included in the preamble: “After analysis and review of this rulemaking, no impact on jobs has been found.”