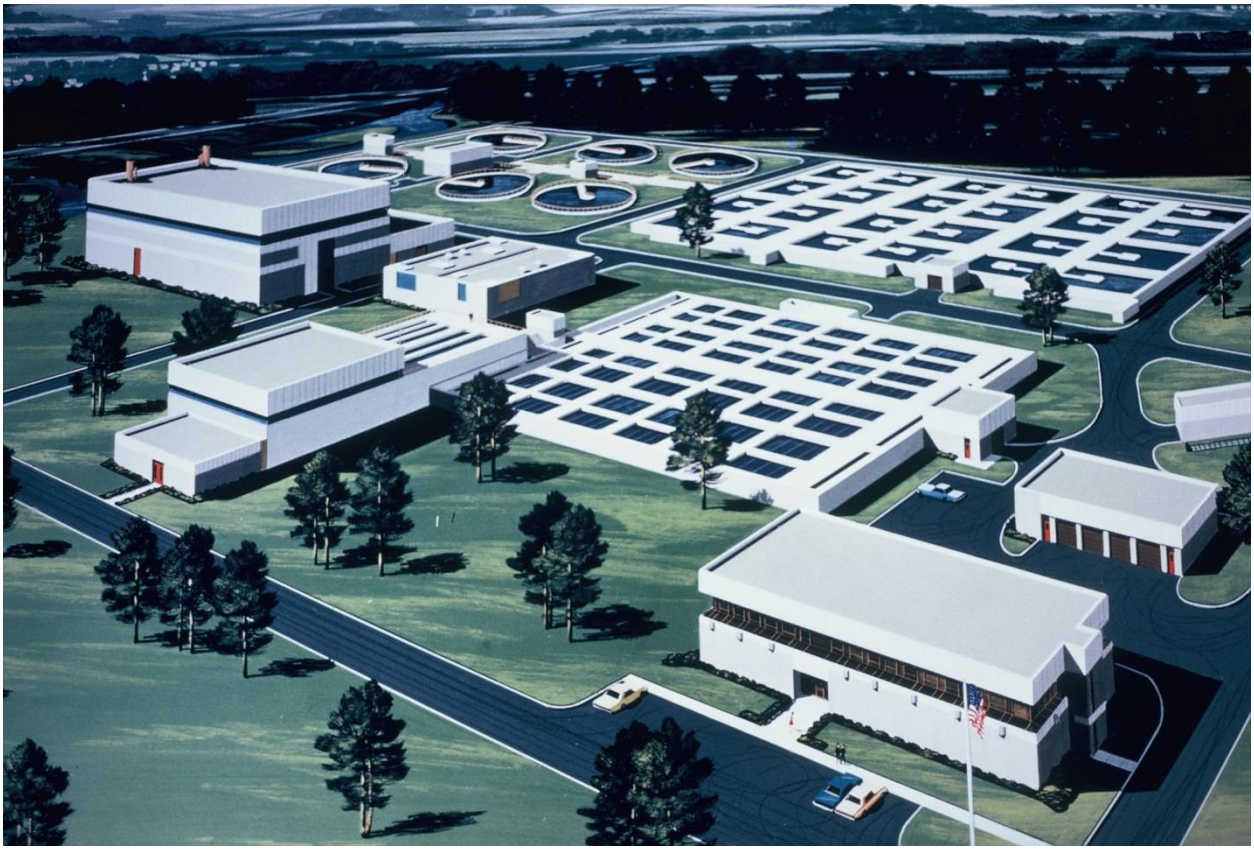

Albany County Water Purification District (District)

Mercury Minimization Program Policy

Final Version: Updated 6/13/2017

Adopted February 28, 2017

Mercury Minimization Program Goals

The goal of the Mercury Minimization Program (MMP) is to identify, document, and monitor the loading of Mercury to the District's North Plant and South Plant from the eight member community collection systems, in an effort to make reasonable progress towards achieving the Water Quality Based Effluent Limit (WQBEL), through cost-effective measures. The MMP will quantify and track over time the concentration of total mercury, include a control strategy for reducing mercury discharges via-cost effective measures, which may include more stringent control of tributary waste streams. An annual report will be generated and submitted to the eight member communities.

The current WQBEL for total mercury is 0.7 ng/L. The New York State Department of Environmental Conservation (NYSDEC) has acknowledged that the WQBEL of 0.7 ng/L is presently unachievable. Therefore, the NYSDEC is in the process of issuing SPDES permits to wastewater treatment plants and combined sewer systems with the requirement of a MMP in order to be eligible for the Multiple Discharge Variance (MDV) and an alternate total mercury effluent concentration. For domestic wastewater treatment plants of the District's size, the MDV establishes an alternate effluent limitation for total mercury of 50 ng/L.

This MMP conforms to the requirements of the MDV specified in the NYSDEC policy DOW 1.3.10 and is in compliance with NDPES permits issued to its four member communities that operate combined sewer systems. Furthermore, this MMP is designed consistent with the recommendations and data presented in the NYSDEC Mercury Work Group Recommendations to Meet the Mercury Challenge (MWG; December 2006) as well as the Northeast Regional Mercury Total Maximum Daily Load (TMDL; October 24th, 2007).

Background

According to the NYSDEC DOW 1.3.10, the MDV is issued as "*human caused conditions or sources of mercury prevent the attainment of the water quality standard and cannot be remedied, i.e., mercury is ubiquitous in New York waters at levels above the water quality standard and compliance with a Water Quality Based Effluent Limit ("WQBEL") for mercury cannot be achieved with demonstrated treatment technologies*". The ACSD is aware that the majority of the mercury present in ambient waters is "*a result of atmospheric deposition*" (DOW 1.3.10), and according to the United States Environmental Protection Agency (EPA) approved TMDL, 98% of the contemporary mercury load to surface waters in the region is a result of atmospheric deposition. The ACSD agrees that "*Logically, the TMDL focuses primarily on reductions of anthropogenic mercury emissions as a means of reducing atmospheric deposition of mercury and thereby improving water quality.*" (DOW 1.3.10). The EPA approved TMDL further states that a 98% reduction in the atmospheric load of mercury to surface waters is required to meet the WQBEL (TMDL).

The District recognizes and concurs that the MDV and MMP are designed to continue to reduce the contribution of mercury to the receiving waters, despite the inability to achieve the water quality standards of 0.7 ng/L. However, according to the TMDL, "*all significant decreases in mercury loading to the region will come from reductions in atmospheric deposition*". Furthermore, the allocated anthropogenic load is unachievable according to the TMDL, as the so called "Natural Load" is above the waste load allocation, resulting in a negative allocation for anthropogenic sources. Although wastewater discharges (both domestic and industrial) account for a relatively small fraction of mercury loading to surface waters (TMDL), the ACSD remains committed to reducing loading of any pollutants, including mercury, to the environment through the ACSD's EPA approved Pretreatment Program. Additionally, ACSD concurs that no publicly owned treatment works (POTW) should require a treatment upgrade to achieve the 50 ng/L permit limit, and that this value be met through more stringent control of industrial users. This MMP was developed within the context of the information discussed in this background section, to ensure a cost effective manner of reducing the discharge of mercury.

Definitions

Background Mercury Source: mercury that is present in wastewater as a result of source water (public or surface water) and/or atmospheric sources, and not as a result of the on-site process.

Categorical Industrial User: shall mean any industrial user or user subject to any regulation containing pollutant discharge limits promulgated by EPA in accordance with Sections 307 (b) and (c) of the Act (33 U.S.C 1317) which apply to a specific category of users and which appear in 40 CFR Chapter 1, Subchapter N, Parts 405-471.

Concentration of Concern: 50 ng/L of total mercury.

Evaluation of Cost Effective Mercury Reduction Measures: For purposes of this MMP, cost effectiveness will be determined by the District on the basis of a feasibility and cost-effectiveness study of available mercury reduction alternatives, including without limitation treatment, management practices, materials substitution and other pollution prevention measures, to be performed by affected Industrial Users. The District may, in its discretion, require such Users to include in such study an assessment of cost-effectiveness consistent with Section 12 of EPA-821-R-14-006 for purposes of comparison.

Existing Permitted Industrial User: An existing industrial user is defined as an industrial user that held and has maintained to present day a valid permit to discharge to the District on or prior to October 31st, 2015, when DOW 1.3.10 was issued.

Industrial User or User: shall mean a source of indirect discharge.

Indirect Discharge: shall mean the discharge or the introduction of nondomestic pollutants from any source regulated under section 307 (b), (c), or (d) of the Act, (33 U.S.C. 1317), into the POTW (including but not limited to holding tank waste discharged into the system).

Industrial Wastewater Permit: shall mean a permit to deposit or discharge process wastewater into any sanitary sewer tributary or hauled to the District.

Key Location: shall be defined as a location within the collection system including but not limited to a specific manhole, tributary sewer connection, or user discharge point, identified by the District, to identify Potential Significant Mercury Sources. Any location identified by the District as a Key Location may be moved to a different location by the District based upon sampling and/or best

professional judgement, in order to identify Potentially Significant Mercury Sources.

New Industrial Users: An industrial user who did not hold a valid permit to discharge to the District on or prior to October 31st, 2015.

Permitted Industrial User: An industrial user, categorical industrial user, or user that has been issued an Industrial Wastewater Permit by the District's EPA approved Pretreatment Program.

Process Discharge/ Process Wastewater: Waste and/or water that is generated by and/or comes in contact with any raw material, product, by-product, or waste during any production, industrial, or commercial process.

Potential Significant Mercury Source: shall mean an industrial user or user identified by the District who may reasonably be expected to have total mercury contained in their discharge as a result of their process prior to pretreatment and/or discharge. Mercury that may be contained due to background mercury sources only will not result in the classification as a Potential Significant Mercury Source.

Properly Treated Dental Facility: Dental facilities that are in compliance with 6 NYCRR 374.4. Properly Treated Dental Facilities are not considered Potential Significant Mercury Sources.

Periodic Monitoring

Influent/Effluent: The District will conduct sampling for total mercury semi-annually for the influent and effluent of both the North and South treatment plant. Monitoring of the effluent will be performed using EPA Method 1631, while monitoring of the influent will be performed using an EPA approved total mercury test method which results in a value above the selected test method detection limit.

Permitted Industrial Users: The District will conduct and/or require the permitted industry to conduct sampling for total mercury, if the permit includes a mercury limit. Sampling for permitted industrial users will be conducted in accordance with the monitoring requirements of the MMP elements in the respective ACSD SPDES permits. Testing will be performed using an EPA approved total mercury test method which results in a value above the selected test method detection limit.

Potential Significant Mercury Sources: The District will conduct and/or require the Potential Significant Mercury Source to conduct sampling for total mercury on a frequency determined by the District, at a minimum of semi-annual. Potential Significant Mercury Sources will be identified under the authority directed by the procedures established in 40 CFR 403.8 (f) and Local Law F, 2008,

Key Locations: The District will conduct sampling for total mercury on a semi-annual basis at key locations. If a Concentration of Concern is detected, follow-up sampling shall be conducted at one or more location(s) upstream in the collection system that the District determines are suitable location(s) from which to identify the source of the Concentration of Concern. Follow-up sampling shall continue until the source of the concentration of concern is identified or until two consecutive follow-up samples from such follow-up sample location fail to detect a Concentration of Concern, whichever occurs first.

All sampling locations will be identified on a collection system map provided in Attachment B as updated in the annual report. Key locations will be identified in each community until such time it has been determined through sampling that concentrations qualify for and are approved by DEC for the reduction or cessation of monitoring under the terms of the Multi-Discharger Variance.

Equipment and Materials: The 8 member communities shall conduct the review and reporting on equipment and materials owned or controlled by each community

in a manner consist with the terms of Section 2(B) (iv) of the CSO communities' NPDES permits.

Control Strategy

All Users: All Users whose discharge is found to exceed the Concentration of Concern shall perform an Evaluation of Cost-Effective Mercury Reduction Measures and shall provide the same to the ACSD to support the District's determination of additional cost-effective mercury control measures, if any, to be implemented by such User.

No User shall discharge mercury at a rate or concentration sufficient to cause or contribute to Interference or Pass Through, as those terms are defined at 40 CFR 403.3(k) and (p), respectively.

All Permitted Industrial Users: All Permitted Industrial Users shall be required to evaluate all sources of mercury within the facility that may contribute mercury to the effluent, including but not limited to product ingredients and equipment, to determine if removal and/or replacement is required.

Existing Permitted Industrial Users: The District will continue to implement the EPA approved Pretreatment Program with respect to mercury discharge. Each existing Permitted Industrial User continues to be evaluated for all potential pollutants, including mercury. Any existing permitted industrial user with a mercury limit will not be modified to become less stringent. No Existing Permitted Industrial User shall ever increase the use of process water, or in any other way attempt to dilute a Discharge as a partial or complete substitute for adequate treatment to achieve compliance with any such Pretreatment Standard or Requirement.

New Industrial Users: Any New Industrial User that, as determined by the District, is reasonably expected to discharge mercury as a result of the industrial process shall be issued a discharge permit to address mercury discharges. A total discharge concentration of 20 ng/l for New Industrial Users is the goal which is consistent with the level the NYSDEC identified as below the expected contribution of natural deposition (DOW 1.3.10). Achievement of the permitted total mercury limit through dilution with any other waste stream (including internal) is prohibited, consistent with 40 CFR 403.6 (d).

Hauled Wastes: The ACSD will continue to evaluate the acceptability of municipal sludge, septic waste, portable toilet waste, and grease trap waste, consistent with the provisions of TOGS 1.3.8. The District will not sample hauled waste from domestic sources including septic systems, portable toilet waste, and grease traps for mercury. Domestic hauled waste is not sampled for mercury as there is no reasonable expectation for mercury to be included from any

source other than uncontrollable background mercury. Any other hauled waste including but not limited to commercial and industrial, will continue to be evaluated by the District for the need to limit mercury based on sampling and/or best professional judgement. For hauled wastes where it is determined that mercury is present due to background sources only, controls will not be required. Discharge of hauled wastes directly into the collection system shall be prohibited.

Dental Facilities: Properly Treated Dental Facilities are not considered a Potential Significant Mercury Source by the District, as they are regulated by New York State Law 6 NYCRR Part 374-4, requiring the installation of a dental amalgam separator. 6 NYCRR Part 374-4 requires all dental facilities to provide a one-time report for compliance with 6 NYCRR Part 374-4. Additionally, 6 NYCRR Part 374-4 requires dental facilities to provide a similar one-time report for the installation of new dental amalgam separators. The one-time report is required by 6 NYCRR Part 374-4 to be submitted to the sewage treatment works or sewer authority that the wastewater discharge is tributary to, if applicable. All new and existing dental facilities will continue to be identified and informed of the requirements of New York State Law 6 NYCRR Part 374-4. The ACSD will continue to require all dental facilities to certify for initial compliance with 6 NYCRR Part 374-4, and provide an update for newly installed dental amalgam separators, as required by 6 NYCRR Part 374-4. Periodic inspection may be conducted for a subset of dental facilities where the ACSD deems appropriate, as is consistent with the ACSD EPA approved Pretreatment Program. The District will continue to maintain an outreach program that may include but not limited to requirements listed on the District website, inspections, and surveys.

Local Limits: The District may revise local limits for total mercury in accordance with the Districts EPA approved pretreatment program, if effluent total mercury exceeds the 50 ng/L limit set by the MDV.

Landfill Leachate: Leachate from landfills not permitted by NYSDEC as a hazardous waste land disposal facility (active or inactive), are not considered a Potential Significant Mercury Source. Any mercury contained in a landfill not permitted by the NYSDEC as a hazardous waste land disposal facility is assumed to be contained due to background and/or uncontrollable sources of mercury. Any landfill leachate from a facility permitted by NYSDEC as a hazardous waste land disposal facility (active or inactive), will not be issued a monthly average or instantaneous total mercury permit limit greater than 20 ng/L. Achievement of the permitted total mercury limit through dilution with any other waste stream (including internal) is prohibited, consistent with 40 CFR 403.6 (d).

Annual Reporting

An annual report will be submitted to the eight member communities summarizing: (a) all MMP results for the previous six (6) month period; (b) a list of known and potential mercury sources; (c) all actions taken under the MMP for the previous six (6) month period; (d) and a plan for the MMP for the upcoming six (6) month period.

Appendix A

In circumstances where Section 12 of EPA-821-R-14-006 is employed for purposes of comparison, the following shall be the steps used in that analysis:

- Determine cost to implement a given component of the MMP
- Convert the cost to 1981 dollars by multiplying present day cost by 0.44
- Determine, or use best professional judgement, to estimate the pounds of mercury removed by a given program component
- Calculate the Incremental Pound-Equivalent by multiplying the pounds of mercury estimated to be removed by the Toxic Weight Factor for mercury, which is 117.12.
- Divide the 1981 cost to implement by the Incremental Pound-Equivalents Removed to determine the 1981 cost-effectiveness.
- Compare the calculated 1981 cost-effectiveness to the 1981 benchmark range of $1/lb. to $380/lb., which is the range of the 25 most recently promulgated or revised categorical pretreatment standards.
- Any given component that does not meet the 1981 benchmark cost-effectiveness range of $1/lb. to $380/lb., will not be considered cost-effective. Any component identified as not cost-effective, will be required to develop an alternative control strategy to meet the requirements of this MMP. If any user is unable to meet the requirements of the MMP, discharge of mercury containing process waste tributary to the District will be prohibited.