Wastewater Operating Services
Engineering
9300 W. Jefferson, Suite 103
Detroit, Michigan 48209

January 16, 2018

Ms. Sonya T. Butler, Manager
Revolving Loan Section
Drinking Water and Municipal Assistance
Michigan Department of Environmental quality
P.O. Box 30241
Lansing, MI 48909-7741

Dear Ms. Butler:

Subject: Availability Waiver Request From Use of American Iron and Steel Requirement in PL 113-76, State Revolving Fund (SRF No. 5651-01), PC-797 Rouge River Outfall Disinfection Project

The Great Lakes Water Authority (GLWA) would like to apply for a project waiver pursuant to the "American Iron and Steel" requirements for the purchase and installation of butterfly valves for use in the Rouge River Outfall Disinfection Project located at their Water Resource Recovery Facility (WRRF) in Detroit, Michigan.

Per AIS requirements, SRF assistance recipients are required to use specific domestic iron and steel products that are produced in the United States; however, the recipients may receive a waiver if certain circumstances are met. For this project, we are requesting a waiver pursuant to condition number two, "Iron and steel products are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality".

This project requires that two (2) 18" butterfly valves be installed on the chlorine solution feed system for purposes of isolating sections of piping. It also requires that three (3) 6" butterfly valves be installed on the chlorine solution recirculation pumping system for the purpose of recirculation flow control. The installation of these butterfly valves is integral to completing the project to provide disinfection to the outfall of the GLWA- WRRF. This project is necessary in order to meet the conditions of the facility's NPDES permit application for discharge to the Rouge River and in order to bring the treatment provided at the GLWA WRRF in line with that provided at similar facilities. The project specifies the butterfly valves as follows:

> 18-in Butterfly valves for isolation service on the chlorine solution feed system shall be of the solid lug type body design with epoxy coated ductile iron body and internal PTFE liner, PTFE or PFA lined 316 stainless steel or ductile iron disc, and Alloy 20 (ASTM A351/A744 Grade CN7M UNS N08007) or 17-4PH stainless steel stem. Valve seat shall

be PTFE or PFA with Viton energizer, providing bi-directional shutoff. Bearings shall be PFA or PTFE interlocked with Hastelloy C or bronze.

a. All wetted components of valve shall be compatible with 0.35% chlorine solution.

b. Butterfly valves shall be as manufactured by Flowserve Durco BTV Model BTL481V13NWX (sizes as designated on the Drawings), Bray Series 23 Model, or approved equal.

c. Valves shall be located within manhole or similar structure to allow access to valve packing.

d. Valves shall be supplied with gear actuator, extension stem, and 2-inch operating nut for manual operation by means of a tee wrench. Ground level position indicator shall be supplied to identify valve position, direction and number of turns to open or close the valve.

e. Valves and gear box shall be capable of direct burial and exposure to groundwater.

f. Refer to Section 02640 for buried valve, stem extension, and valve box requirements.

g. Gear operator requirements are provided in Section 15100 Paragraph 2.02M.

6-in butterfly valves for modulating service for Sodium Hypochlorite Recirculation Pumping System:

Butterfly valves for manual throttling service on the sodium hypochlorite recirculation system shall be of the solid lug type body design with epoxy coated ductile iron (ASTM A395) body and internal PTFE liner, PTFE or PFA lined 316 stainless steel or ductile iron disc; DIPA one-piece A395 Ductile iron disc shall be electroless nickel plated and encapsulated with a minimum of 1/8-inch-thick PFA, and Alloy 20 (ASTM A351/A744 Grade CN7M UNS N08007) or 17-4PH stainless steel stem. Valve seat shall be PTFE or PFA with Viton energizer, providing bi-directional shutoff. Bearings shall be PFA or PTFE interlocked with Hastelloy C or bronze.

a. All wetted components of valve shall be compatible with 12-15% sodium hypochlorite.

b. Butterfly valves shall be as manufactured by Flowserve Durco BTV Model 6BTL481V132W, Bray Series 23 Model, or approved equal.

The specified manufacturers, Flowserve and Bray, have indicated that they cannot provide an AIS compliant valve. GLWA Contractor, CDM Smith contacted other valve manufacturers to determine if any could provide an AIS compliant valve that would meet the specified requirements for the valves. Other valve manufacturers contacted include Valmatic and Henry Pratt. These manufacturers indicated that they could provide AIS compliant butterfly valves, but that they could not provide a valve with a PTFE inner liner on the valve body and disc. This liner is necessary for the application in order to protect the valve components against degradation and corrosion in use with chlorine feed service and sodium hypochlorite recirculation service. Through all these research efforts we have determined that AIS complaint butterfly valves with PFTE inner liners cannot be found.

The construction team expects a lead time of approximately six months, including the shop drawing review process and manufacturing time. These valves must be on site and ready for installation during Spring 2018. Thus, the construction team needs to order the valves by early 2018 in order to meet the construction schedule; any manufacturer who is able to produce the valves domestically must also provide approved shop drawings, manufacture and ship the valves in order to meet the requirements of the construction schedule.

Based on this information, we are requesting that the originally specified Flowserve or Bray series butterfly valves be allowed for this project. If you have any questions or comments, please contact Philip Kora at (313) 297-5909 or Francine Duncan-Martin at (313) 964-9489 or by email: Philip.Kora@glwater.org and Francine.Duncan-Martin@glwater.org, respectively.

Thank you in advance for your consideration.

Sincerely,

Daniel A. Alford, P.E.
Director of Engineering & Maintenance

cc: Ms. Cindy Clendenon [clendenonc@michgan.gov]; Mr. Mark Conradi [conradim@michigan.gov]; Jonathan Wheatley, Francine Duncan-Martin, Philip Kora, Darrel Field

Attachment: AIS Waiver
(https://www.epa.gov/sites/production/files/2015-09/documents/ais-final-guidance-3-20-14.pdf)