



October 5, 2016

California Environmental Protection Agency
State Water Resources Control Board
Division of Financial Assistance
Attn: Crysten Cole
P.O. Box 944212
Sacramento, CA 94244-2120

U.S. Environmental Protection Agency
State of California Clean Water State Revolving Fund
American Iron and Steel Provisions – Product Availability Waiver Request

RE: City of Vista, Vista/Carlsbad Interceptor and Agua Hedionda Pump Station
Replacement Project;
SRF Project # C-06-7847-110; Agreement No. 13-843-550
AIS Product Availability Waiver Request for Pressure and Vacuum Relief Valve

Dear Ms. Cole,

The City of Vista is requesting an Availability Waiver from the American Iron and Steel requirements for a Pressure and Vacuum Relief Valve on the Agua Hedionda Sewer Lift Station and Force Main (AHLS) project, currently under construction in Carlsbad, CA. The project includes one (1) 8-inch Pressure and Vacuum Relief Valve located at a high point of the sewer interceptor force main, specified in the design drawings as an "8-inch Pressure & Vacuum Relief Valve. Varec 2011B or Equal. 316 Stainless Steel. Pressure Set 8-inches, Vacuum Set 2-inches" (Varec valve). See Attachment 1 for the valve location and detail, and Attachment 2 for the Varec valve cut sheet.

The project team has been unable to find an AIS-compliant valve suitable for this application, as the AHLS application is unusual. The following describes the details of the AHLS application, and why the Varec valve is required. The force main highpoint has a 24-inch riser to the maximum hydraulic grade line (HGL) and a 10-inch breather pipe from just above the maximum HGL into an adjacent sewer manhole. There's no air valve on the force main; the force main highpoint breathes freely into the manhole. The manhole that supplies/receives air to/from the force main has a secondary 8-inch breather pipe from the manhole riser to the above-grade Varec valve. The Varec valve body will never see a water surface. The purpose of the valve is to remain closed for odor control under normal operating conditions. In unusually high-flow events where the force main is exhausting or filling with air rapidly and there is a high water level in the sewer, the Varec valve responds to a mild pressure increase

or vacuum by opening and rapidly exhausts or supplies air through the manhole to the force main.

Although the Varec 2011B 316 stainless steel valve specified on the drawings is assembled in Texas, it is not AIS compliant because the castings are made in China. An aluminum version of the valve that would have avoided AIS requirements is available, but the AHLS application requires stainless steel material because the project is on the Pacific Coast and the above-grade valve is exposed to corrosive sea air. Conventional Combination Air Release Valves (CARVs), which are available in smaller, AIS-compliant models, have been evaluated as a substitute, but have been deemed unsuitable for this application. There are two reasons why conventional CARVs cannot substitute the specified Varec valve:

1. Conventional CARVs shut with a float that only closes when a water level rises into the valve body. In this application, the purpose of the valve is to keep a vent pipe on a gravity sewer (not the force main) normally closed for odor control. The valve will never see a water surface. The Varec valve has a pair of balanced lead weights that keeps it closed below an operator-adjustable setpoint.
2. The orifice in a conventional CARV is too small to effectively vent/vacuum break the gravity sewer system in response to the force main discharging or drawing air from the sewer. The gravity sewer isn't a perfectly sealed system – the system already naturally vents through manhole lids, etc. A conventional CARV valve would not appreciably improve the vent characteristics of the sewer (i.e. you don't need a vent valve to fill a sewer). The Varec valve opens a large enough orifice at low-enough differential pressure to effectively change the ventilation characteristics of the sewer, while remaining sealed shut below the sensitive, operator-adjustable set pressure. The Varec valve uses lead weights (in lieu of a CARV float) to accomplish this. This valve passes one to two orders-of-magnitude more air at low pressure than conventional CARVs.

The City of Vista is requesting an Availability Waiver for the 8-inch Varec 2011B, 316 Stainless Steel valve. The cost for this valve is \$12,000, and has a delivery timeline of 5 months. The Varec valve would be supplied by Varec Biogas, located at 9803 Mula Rd, Stafford TX 77477.

The EPA can grant a waiver from the AIS requirement if the “iron and steel products are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality”. The AHLS project team - the General Contractor (Pulice), the Contractor's valve supplier (Ferguson Waterworks), the Construction Manager (Arcadis), and the Engineer of Record (Brown and Caldwell) - have all searched for an acceptable domestic, AIS-compliant substitute to the specified Varec valve for this application and determined that one is not available. In addition, the project owners referred the General Contractor to another supplier, Golden Sun Marketing, a supplier for the wastewater industry. See Attachment 3, RFI-097, which documents the team's unsuccessful efforts to find an AIS-compliant substitute. On this AHLS project, all other instances of non-AIS compliant

submittals have been able to be successfully resolved by finding an AIS-compliant alternative.

Sincerely,



Patrick Johnson,

City Manager, City of Vista

CC: Greg Mayer, City Engineer, City of Vista
Tony White, Construction Manager, City of Vista
Elmer Alex, Principal Engineer - Sewer, City of Vista

Attachments:

- 1 - Valve location and detail drawing sheets
- 2 - Varec valve cutsheet
- 3 - RFI-097
- 4 - Project Schedule

NOTE: The referenced attachments with project diagrams, schedules, and supplier correspondence are in formats that do not meet the Federal accessibility requirements for publication on the Agency's website. Hence, these exhibits have been omitted from this waiver publication. They are available upon request by emailing SRF_AIS@epa.gov.