

APPENDIX A: TECHNICAL SPECIFICATIONS/DETAILED SCOPE OF WORK

Revision Date 8/22/2019

1.0 General

1.1 Scope of Supply

Scope of supply shall include Two (2) 20" Class 600 Lb Triple Offset Butterfly Valves with Limitorque MX-20 Motor Operators.

The valves will be installed in the Brandy Branch Generating Station's (BBGS) Cold Reheat Piping for the purpose of isolation.

1.2 Performance and Design Requirements

1.2.1 Valves shall be designed for the BBGS Cold Reheat Steam conditions specified below:

Design Condition	Units
Design Pressure	550 psig
Differential Pressure	550 Psig
Design Temp	780 F

1.3 Codes and Standards

Work performed under these specifications shall be done in accordance with the following codes and standards. Unless otherwise specified, the applicable governing edition and addenda to be used for all references to codes or standards specified herein shall be interpreted to be the jurisdictionally approved edition and addenda. If a code or standard is not jurisdictionally mandated, then the current edition and addenda in effect at the date of this document shall apply. These references shall govern the work except where they conflict with the Owner's specifications. In case of conflict, the latter shall govern to the extent of such difference:

Work	In Accordance With
Valves (including ratings and tests) and associated equipment design	ASME B16.34
Valve face-to-face and end-to-end dimensions	ASME B16.10 or If Different show End to End Dimensions on Certified Drawing.
Sizing of valve bypasses and drains	MSS-SP-45
Body Casting	ASME B16.34
Personnel protection	OSHA - Occupational Safety and Health Administration

1.4 Materials

The following materials shall be used:

Component	Material
Valve Body	Carbon Steel A 216 WCB
Disc	A351 CF8M
Valve Trim Materials	
Stem	ASTM A479 XM19 (Nitronic 50)
Weld Surface on Seat (If Replaceable Seat in Body then Hardfacing Not Required.	Stellite Gr 21
Seal Ring	Graphite Laminated A240 UNS S31803

1.5 Approved Manufacturers of Components

For the equipment and components listed in this technical specification, the manufacturers listed below are approved manufacturers. Bidders may request to have a manufacturer that is not listed below added to this approved list of manufacturers prior to the bid due date. JEA will consider adding additional manufacturers submitted by suppliers on the basis of equipment design documentation, technical compliance, system interface compliance and installation base references provided by the Bidder. Acceptance of the additional manufacturers is at the Discretion of JEA and must be approved prior to the bid due date. Any Bid submitted with a manufacturer and type of valve that is not approved will be rejected:

- Adams MAK-16 Rotary Tight Butterfly Valve
- Crane FKX Series Triple Offset Butterfly Valve
- Score BD Serires Triple Offset Butterfly Valve
- Vanessa Triple Offset Butterfly Valves
- Weir Tricentric triple offset butterfly valves
- Masonelian Triple Offset Butterfly Valves

1.6 Test Requirements

The following testing shall be conducted in accordance with the specified source. This testing is to be considered part of the defined Scope of Work, and all associated costs are the responsibility of the Supplier. Supplier is responsible for all costs associated with correcting deficiencies and retesting in the Event of a test failure:

Tests	In Accordance With	Conducted By
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Valve Construction	ASME B16.34	Supplier
Visual Inspection	MSS-SP-55	Supplier
Hydrostatic Closure Test	MSS-SP-61	Supplier
Seat Leakage	Bi Directional Zero-leakage per API6D and API 598.	Supplier
Radiographic Examination	Article 15261.1.7.1 herein	Supplier or manufacturer

2.0 Products

2.1 General

This article covers design and construction requirements for the chromium alloy steel gate valves.

2.2 Service Conditions

Hydro test shall follow the guidelines of MSS SP-61.

A special shop hydrostatic closure test of not less than the specified hydrostatic test pressure shall be performed on both sides of the seat with the valve closed. The test pressure shall be applied successively on each side of the closed valve. Packing seal leakage and seat leakage shall be measured and recorded. Seat leakage shall not exceed the limits specified herein. The seat leakage test shall be in addition to the hydrostatic shell test performed on the body casting.

All valves shall be stamped with a 100° F rating that meets or exceeds the specified hydrostatic shell and closure test pressures. The 100° F rating shall also be consistent with the maximum seat test pressure.

Each completed valve and operator assembly shall be factory tested for operation five times from the fully open to fully closed position under no-flow conditions. The test shall demonstrate that the assembly is workable and shall, in the case of motor-operated valves, verify operating time, motor current and voltage, limit switch setting, and the direction of switch rotation.

The Owner may elect to witness any shop test, including the special shop hydrostatic testing and the assembled valve operating tests.

2.4 Valve Construction

Valves shall be 20-inch , Class 600 lb. Triple Offset Butterfly Valve

2.5 End Preparation

Valves shall be supplied with a Lug Body or Double Flanged body.

2.6 Flow Coefficient (CV)

The valve Flow coefficient CV shall be 6055 or higher.

2.7 Operators.

The new valve actuators shall be Limitorque MX-20 with the following Limitorque gear boxes and options:

- Limitorque WG-07-1SD-B Gearbox
- Weatherproof Enclosure
- Limitorque MX-20 Multi Turn Motor Actuator
- 460 VAC/3Ph/60H Main Power Supply
- WP Enclosure (NEMA 4, 4X, 6, IP67/68)
- Modulating Integral Controls
- “OA” Contacts (R1-R4)
- “APT” Analog Transmitter (4-20 mA Feedback)
- 24VDC & 115 VAC Internal Power Supply
- Non-Intrusive design
- Mechanical Reversing Motor Starters
- Position Seating
- Machined Drive nut.

2.8 Identification

Stainless steel tags shall be furnished. These tags shall be permanently attached to the valves using stainless steel screws, rivets, or tack welds. The minimum size of the tags shall be 1/2 inch by 3 inches.

Each accessory item furnished with the valve shall be provided with an identical identification tag. Shop drawings and all correspondence shall be identified by the Valve Number.

Description	JEA Equipment Tag No
BBGS HRSG Unit 2 Cold Reheat Isolation Valve	B52-444-VA-2402
BBGS HRSG Unit 3 Cold Reheat Isolation Valve	B53-444-VA-3402

2.9 Shop Coating

All internal surfaces shall be abrasive blast cleaned.

Interior surfaces which are subject to corrosion prior to placement of the valve in service shall be cleaned in accordance with SSPC-SP1-3 and protected with a suitable preservative.