NAVSEA
STANDARD ITEM

***FY-21 CH-2***

ITEM NO: 009-47
DATE: ***06 MAR 2020***
CATEGORY: II

1. SCOPE:

1.1 Title: Gate Valve; repair

2. REFERENCES:

2.1 S9086-CJ-STM-010/CH-075, Fasteners

2.2 S9253-AD-MMM-010, Maintenance Manual for Valves, Traps, and Orifices (Non-Nuclear), User's Guide and General Information

2.3 S9086-RJ-STM-010/CH-504, Pressure, Temperature and Other Mechanical and Electromechanical Measuring Instruments

2.4 S9086-RK-STM-010/CH-505, Piping Systems

3. REQUIREMENTS:

3.1 Matchmark each valve part.

3.2 Disassemble, clean internal and external surfaces free of foreign matter (including paint), and inspect each part for defects.

3.2.1 The removal of body-bound studs only to determine the condition of threads is not required.

(I) or (V) “TORQUE TEST” (See 4.3)

3.2.2 Torque test each body-bound stud in accordance with Section 075-8.6.3.2(d) of 2.1.

3.3 Repair valve as follows:

3.3.1 Straighten stem to within 0.002-inch total indicator reading. Polish stem to a 32 Root-Mean-Square finish in way of packing surface and remove raised edges and foreign matter.

3.3.2 Chase and tap each exposed threaded area.

3.3.3 Dress and true each gasket mating surface.

3.3.4 Machine, grind, or lap and spot-in gate to seats (including backseat) to obtain a 360-degree continuous contact.

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3.3.4.1 Inspect contact using blueing method.

3.3.4.2 Transfer line must not exceed 3/16-inch in width and must appear within the lower 75 percent of the gate seating surface.

(I)(G) "VERIFY LEVEL I PARTS AND CLEANLINESS"

3.4 Assemble each valve installing new each packing, each gasket and each fastener for those removed in 3.2 in accordance with the manufacturer's specifications.

3.4.1 Pack feedwater, condensate, and steam valves with valve stem packing conforming to MIL-P-24503/24583 combination in accordance with Chapter 6 of 2.2.

3.4.2 Pack valves of systems other than feedwater, condensate, or steam with valve stem packing conforming to MIL-P-24396, Type B.

3.5 Hydrostatically test valve as follows:

3.5.1 Hydrostatic test equipment must have the following capabilities:

3.5.1.1 Manual overpressure protection release valve.

3.5.1.2 Self-actuated and resetting relief valve with a set point no greater than 100 PSIG above the test pressure or 10 percent above the test pressure, whichever is less.

3.5.1.3 Master and backup test gauges with gauge range and graduation in accordance with Table 504-6-1 of 2.3. The backup gauge must be cross-checked to the master hydrostatic test gauge up to the maximum test pressure just prior to start of testing. Master and backup gauges must track within 2 percent of each other.

3.5.1.4 Protection equipment must be accessible and test gauges must be located where clearly visible and readable to pump operator and inspector.

(V)(G) or (I)(G) “SEAT TIGHTNESS” (See 4.4)

3.5.2 Test for seat tightness alternately on each side of gate for double seated valves, and on outboard side only on single-seated valves, with the opposite side open for inspection.

3.5.2.1 Do not exceed the handwheel closing force specified in Table 505-11-2 of 2.4.

3.5.2.2 Test must be continued for a minimum of 3 minutes if there is no evidence of leakage, or in the event of visible leakage, until accurate determination of leakage can be made. Maximum allowable leakage: 10 cubic centimeters (cc) per hour, per inch of nominal pipe size; 10 cc maximum per hour for valve sizes less than 1-1/2 inches.

4. NOTES:

4.1 The test pressures of 3.5.2 will be specified in Work Item.

4.2 Repair of valve operating gear will be specified in Work Item.

4.3 The paragraph referencing this note is considered an (I) if the valve is Level I. If the valve is not Level I, the paragraph is considered a (V).

4.4 The paragraph referencing this note is considered an (I)(G) if the valve is Level I. If the valve is not Level I, the paragraph is considered a (V)(G).

4.5 Test medium will be specified in Work Item.