

Technical Description

CRANE Nuclear offers to provide the services as described in this Technical Description subject to the pricing, terms and conditions delineated in the Commercial Description.

Valve Maintenance and Repair Training Course

Standard Class Size:	6 Students per Instructor
Maximum Class Size	8 Students per Instructor
Course Duration:	5 Days
Prerequisite:	None
Supplied Materials:	A training manual for each student
Suggested Training Aides:	Multiple valve assemblies, various specialty tools, assorted valve components, and one (1) EFCO portable in-line valve seat and wedge lapping/grinding machine.
Suggested Attendees:	Plant mechanics/machinists/pipefitters, mechanical foremen, QC personnel, engineering personnel, ISI personnel, MOV test group personnel, and operations personnel.

Course Description:

Regardless of whether the valve is driven by a motor, air, hydraulic or manually this course addresses how to maintain gate, globe and check valves and keep them in optimum working condition. This one week classroom instruction and hands-on laboratory course will teach students in the principals of operation, disassembly, inspection, adjustment, and reassembly of gate, globe and check vales. An overview is presented on the techniques of packing removal and installation, lapping of valve seats and wedges to facilitate fit up, blue check, and in-line machining of valve components, including the use of specialty tools.

Course Terminal Objectives:

Each student will be required to pass a written exam with a minimum score of 80% in order to successfully complete this course. Upon successful completion of this training course, the student will:

- Identify and explain the design and use of gate valves, globe valves and check valves.
- Perform disassembly, repair, adjustments, and reassembly of gate valves, globe valves and check valves.
- Perform required preventative maintenance and repair on gate valves, globe valves and check valves.

Enabling Objectives:

After the completion of this course, the student will:

- Take exact measurements of critical valve components using calipers, micrometers and torque wrenches.
- Identify valve markings and explain valve name plates, component identifications, valve match markings, inspection reports, and bridge wall markings.
- Perform the basic procedure for installing soft, hard, and pressure sealed gaskets.
- Perform blue checking a valve disc and seat and explain the results.
- Perform and discuss the basic procedures for lapping a valve seat.
- Perform and discuss unpacking and repacking a valve.
- Discuss the principles of operation and the applications and limitations of gate, globe, check, and pressure seal valves.
- Perform and discuss the disassembly, inspection, repair, adjustment and reassembly of gate, globe, check, and pressure seal valves.
- Explain the functions of valve machining equipment.

Course Benefits:

- Increased knowledge of valve design, construction, and function which in turn will improve workmanship, efficiency, and enhance the troubleshooting efforts.
- Improved maintenance practices which results in fewer maintenance related valve actuator failures, improved valve reliability and increased valve life.
- Decrease the number of errors made in valve disassembly/reassembly.