

INDUSTRIAL-STRENGTH CONSTRUCTION

Title: Hydro-testing piping systems Revision Date: N/A

TASK SAFETY PROCESS



TSP Number: P0006

006 Issue Date: 1/29/2014 Reviewed By: Doug Patton, Ron Beverly, Chad Smit, Brad Bechinske

The following are guidelines. Client or Project Specifics may superseded this document. Consult Project Manager with conflicts.

Task Step	Step Hazard	Hazard Mitigation	Picture
Barricade areas where necessary to perform test (Exclusion Zones)	-Leaking system once test has begun -Unauthorized personnel in test area	-Only trained and involved personnel in the barricaded areas -Use signage to identify hazards	
Identify and walkdown Hydro Boundaries prior to pressurizing system/package (Also share the piping to be tested with the whole crew so they know which piping will be under pressure)	-Slip, trip & fall hazards -Falling from heights -Possibility of working in Live Units (leaking valves/steam) -System improperly isolated	-THA-be specific when identifying slips, trips & falls (eyes on path & wear appropriate PPE) -100% fall protection required when working 6' or greater or when creating a fall hazard of 6' or greater (i.e. Leaning over handrails) -Know area alarms, including wind direction and notify Client Representative that hydro testing is being performed -Stop walkdown & isolate accordingly -Use signage to warn of the hazards.	
- Install testing pressure device (Manual or Mechanical pumping device which may include electric or pneumatic driven pump)	-Damaged equipment could leak or fail while under pressure -Improperly installed hoses and fittings could fail while under pressure -Electrocution -Hose /connection failure	 -Inspect all equipment prior to installation. Take all damaged equipment out of service. Hose PSI limits must be greater than test PSI. -Pressure gauges to be 30% (minimum) greater than the test pressure not to exceed 50% -Calibrate gauges as per site requirements -An Experienced /Competent person should inspect how the equipment is installed -Install GFCI at power source -Install safety pins, check all O-rings if Chicago fittings are used 	
-Fill the system with the fluid being used to perform the test	-Leaking/failure of joints, fittings or hoses	-Use hoses to fill and vent. Visually inspect to prevent leaking/spilling of testing media -Route to proper drainage or storage holding tank	
-Pressurize the System	-Leaking/failure of joints, fittings or hoses -Failure of testing devices- flying objects	-Pressurize the system slowly to be able to spot problems -Never leave H-T pump unattended -DO NOT ATTEMPT TO REPAIR ANY LEAKS WHILE PRESSURIZED -Stay away from flanged joints to prevent being hit by pressurized leaks- identify upgraded PPE requirements on THA -Keep unauthorized personnel away from pressure pumps, instruments, manifolds, etc.	
-De-Pressurize the system and confirm no stored energy	-Fittings could fail during the de-pressurization process -Energy could be stored in portions of the system	-Full face shield to be worn -Slowly release the system pressure -Use caution when opening drains incase pressure is trapped in different piping sections	



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-Drain the testing media	-System could drain	-Secure hoses at
from the piping system &	dynamically (unsecured hoses	drainage point & drain to
flushing of system may be	or rapid flow) due to static	client approved location
required by client when	head pressure associated	-Use hoses to drain the
draining	with elevation changes	system and open the
_		drain valves slowly

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