In-Service Welding Guide

Items needed for in-service welding:

- Weld Inspection kit (Weld Shop)
- Heat Sink probe (Weld Shop)
- Rose Bud torch (Contractor Provided)
- Stopwatch

Gather information to verify carbon equivalency and attach to in-service data sheet

Complete	N/A	
○	◉	Consult with Project Engineer on MTR for specific joint of in service pipe to be welded, if you cannot find MTR, contact Team Industrial to schedule optical emissions spectrometer testing (OES). Ensure that OES test is performed on specific joint to be welded to. Complete separate OES reports if multiple joints are affected. Give at least 3 days notice for coordination. Contact Glen Utley/Tiffany Wilkerson for specific purchase order number to be used for invoicing.
○	◉	**Have NDE contractor perform OES on test sample (located in weld inspection kit) prior to OES on in-service pipe to verify calibration. This will be a separate report from the pipe OES. Send this information in with in-service data sheet.**
○	○	**OES test shall be performed on a section of pipe that will be retired and removed. Contact Sam Utley 801-201-4470 if this is not possible.**
○	○	Collect all pipe/fitting MTRs being welded to in service pipe from Don Cook (You will need to provide serial/heat numbers to gather this information).

After carbon equivalent is determined:

Complete	N/A	
○	○	Gather pipeline material information for in-service data sheet (FL#, pipe size, wall thickness and grade).
○	○	Obtain operational information from Weston Williams at 801-324-3591. *Note: use Adam Del Toro (801-324-3847) as back up.*
○	○	Fill out Pipeline Material Information and Pipeline Operation Information sections on in-service data sheet and attach collected carbon equivalent information from in service pipe, fittings, and test sample. Email to Joe Fox (801-324-3975) and CC Darcy Francis (801-324-3480) to determine in-service weld procedure and burn through risk. *Note: use Darren Krumm (801-324-3617) as back up for Joe Fox.*

On day of welding:

Complete	N/A	
○	○	Perform Heat Sink capacity to verify flow rate within the hour of welding on fitting (reference attached procedure on HP construction and maint. website).
○	○	Verify line pressure with Gas Control within the hour of welding.
○	○	Following SP 3-15-05, perform Ultrasonic Inspection of area to be welded to verify wall thickness and ensure pipe is not laminated.
○	○	Follow determined in-service weld procedure. Have welder perform run-out-ratio on scrap pipe prior to in-service welding to ensure they are welding within range.
○	○	If temper bead procedure is utilized, weld sacrificial half-sole onto segment of pipe to be retired for further testing. Contact Sam Utley (801-324-3490) with any questions.
○	○	Return temper bead sample to Joe Fox for crack-susceptibility testing.