Replacement Spool Fabrication:

Parts listings for the replacement spools are provided for planning purposes. Replacement spools will be fabricated locally at ETF, side by side with the old spools, to ensure fitment. Tolerances between the old and new tanks preclude creation of dimensioned drawings. Pipe lengths are approximate.

1. Nozzle “A” spool #1 (50% NaOH inlet flange to AOV-65C-030):
   a. Two (2) each 1” WN (weld neck) CL150 ASTM A182 F304/304L flanges per ASME B16.5.
   b. One (1) 1” NPS Schedule 40 LR (long radius) elbow ASTM A403 GR WP304 per ASME B16.9
   c. 2’ Length of 1” NPS Sch 40 pipe ASTM A312 TP304/304L

2. Nozzle “A’” spool #2 (from to AOV-65C-030 to flanged reducing spool):
   a. Two (2) each 1” WN (weld neck) CL150 ASTM A182 F304/304L flanges per ASME B16.5.
   b. One (1) 1” NPS Schedule 40 LR (long radius) elbow ASTM A403 GR WP304 per ASME B16.9.

3. Nozzle “B” spool (pump recirculation flange):
   a. One (1) each 1” WN CL150 ASTM A182 F304/304L flange per ASME B16.5.
   b. One (1) each ¾” WN CL150 ASTM A182 F304/304L flange per ASME B16.5.
   c. Two (2) ¾” NPS Schedule 40 LR (long radius) elbow ASTM A403 GR WP304 per ASME B16.9.
   d. One ¾” Schedule 40 Reducer ASTM A403 GR WP304 per ASME B16.9.
   e. 1’ Length of ¾” NPS Sch 40 pipe ASTM A312 TP304/304L.
   f. 2’ Length of 1” NPS Sch 40 pipe ASTM A312 TP304/304L.

4. Nozzle “C” spool (Verification Tank):
   a. One (1) each 1-½” WN (weld neck) CL150 ASTM A182 F304/304L flange per ASME B16.5.
   b. 1’ Length of 1-½” NPS Sch 40 pipe ASTM A312 TP304/304L.
   c. AOV-65C-051 (Worcester valve model 1.5B4466UBW4V36R0) is a three-piece valve with butt welded connections. Reinstallation of the valve will require either 1.) replacement of the existing FF flange on the existing pipe spool for a RF flange, or ii.) purchase of a replacement valve for use in part or in whole at the Installers’ option.

5. Nozzle “E” spool (4% NaOH outlet flange):
   a. Two (2) each 1-½” WN (weld neck) CL150 ASTM A182 F304/304L flanges per ASME B16.5.
   b. One (1) 1-½” NPS Schedule 40 LR (long radius) elbow ASTM A403 GR WP304 per ASME B16.9.

6. Nozzle “F” spool (LIT flange):
   a. Two (2) each 3” WN (weld neck) CL150 ASTM A182 F304/304L flanges per ASME B16.5.
   b. One (1) 3” NPS Schedule 40 LR (long radius) elbow ASTM A403 GR WP304 per ASME B16.9.

7. Nozzle “H” spool (Temperature probe flange):
   a. One (1) each 1” RF CL150 ASTM A182 F304/304L 12” long thermowell.
   b. New replacement RTD Temperature sensor: Rosemount 214CRTSMB1S4E0120WAXA.
   c. New replacement RTD Temperature transmitter: Rosemount 644HANAJ6XA.

8. Nozzle “J” spool (LP Connection for LIT-65C-211):
   a. 1” Flanged Camlote Ball Valve, part number 1-3011-1-T1-ST1-SL1-LDS (65C-356).

9. Spools to meet pipe class 153S requirements. Weld requirements per ASME 31.3-2016, Normal Fluid Service requirements.

10. Individually hydrotest spool assemblies prior to installation. Use hydrostatic test requirements listed in ASME B31.3, Section 345.4; Test Pressure = 180 psig.