WELLHEADS, FLOWLINES & GAS LIFT INJECTION SYSTEMS

The Wellheads, Flowlines and Gas Lift Injection Systems are designed to facilitate production from the reservoir to the platform’s process systems. New completions, re-completions and changes in flow characteristics may cause frequent changes in the design and status of these systems. Thus, all personnel responsible for performing procedures listed in this Operating Procedures Section should be familiar with the following information, which is frequently updated in the platform’s monitoring, testing and permit documents.

- Flowing Wells
- Shut-In Tubing Pressures (SITP)
- Flowing Tubing Pressures (FTP)
- Flowline segments on each well
- Gas Lift status of each well
- Operating ranges for each well
- Type of production for each well
- System each well flows to
- Maximum working pressure of all components
- Type of SCSSV (self-equalizing or not)
A. PRE-STARTUP PROCEDURE

NOTICE: Refer to Preliminary Considerations inSECTION 3, PART Abefore beginning any start-up procedures.

1. Open the SCSSV (Surface Controlled Sub-surface Safety Valve)
   a. Verify that the applicable control signal for the well is present at the gauge on the Master Control Panel
   b. Verify that the manual wing valves and/or chokes are closed before opening SCSSV
   c. Ensure the SCSSV block valve on wellhead tree is open
   d. Verify that the SCSSV control panel supply is at correct pressure
   e. Verify adequate level in the SCSSV control panel hydraulic reservoir
   f. Pull the “Pull to Reset SCSSV” relay on the Well Control Panel
   g. Turn well SCSSV shutdown selector valve to the “In Service” position
   a. Verify that the hydraulic pump comes on and pressurizes the hydraulic manifold

WARNING: SCSSV pressure should not exceed the wellhead tree MAWP.

2. Open manual Master Valve on the tree (if necessary)

3. Open the Well head SSV/SDV
   a. Verify that no safety devices are bypassed beyond those that must be bypassed for start-up (flag device as appropriate only the SSV/SDV on the flowline that will be utilized for flow
   b. Open only the SSV/SDV on the flowline that will be utilized for flow
      • Pull the “Pull to Reset” relay to open well SSV
   c. Monitor and reset any bypassed safety devices as they come in-service

WARNING: Any operating parameter that is monitored by a safety device must be continuously monitored at all times while the safety device(s) are in bypass. The bypassed safety devices (indicators) must be flagged while in bypass and reset as they come in-service. REFER TO: Section 3 Part A for further details on bypassed devices.
4. Check the SITP to determine if the SCSSV is open or closed
   a. If necessary, use a high-pressure pump (source) to apply pressure from the surface to equalize the SCSSV

   **NOTE: Personnel should become familiar with the type of down-hole safety valve installed in each well: SCSSV is self-equalizing or requires pressure to be applied from the surface to equalize or SSCSV (storm choke) is installed.**

5. Verify that all SCSSV control panel valves are put back in their normal operating positions
B. START-UP PROCEDURES

1. Open an individual well for flow
   a. Close the adjustable choke on the well flowline that will be used for flow, and then open the manual wing valve (Verify that the choke is zero’ed)
   b. Open the choke to pressurize the system
   c. Increase choke size in small increments until desired flow rate or desired Flowing Tubing Pressure (FTP) is reached. Monitor FTP to verify SCSSV is open
   d. Monitor pressures throughout the system
   e. Verify well is selected to shutdown with the correct Header
   f. Place the PSHL for the well flowline in-service when devices clear

2. Complete individual well start-up
   a. Verify production on the individual well has been increased to its normal operating range

3. Multiple well start-up
   a. Open additional wells to flow using the above outlined individual well procedures until full production is achieved

4. Immediately begin using Normal Operating Procedures to continue monitoring system
   REFER TO: SECTION 5, PART A
C. SHUT-DOWN PROCEDURES

WARNING: These procedures apply when either a single well is to be shut-down or wells for a single separation system will be shut-down. If the wells to be shut-in will result in a platform shut-in, refer to Section 4 for the proper procedures.

NOTICE: Refer to Preliminary Considerations in SECTION 4, PART A before beginning any shut-down procedures.

1. Place flowline safety devices in bypass on the Well Control Panel

2. Close manual wing valve

3. Push the “PULL TO RESET SCSSV” SCSSV relay on the Well Control Panel

4. Turn well SCSSV shutdown selector valve to the “PILOT” position

5. Isolate each wellhead and flowline as necessary
   a. Push the “PULL TO RESET” relay to close well SSV
   b. Close the adjustable choke
   c. Close the manual master valve
   d. Bleed SCSSV control pressure at SCSSV panel
   e. Close the flowline header valves and flag them “out of service”

6. Depressurize each wellhead and flowline as necessary
   a. Slowly open a needle valve to bleed pressure to atmosphere and/or drain liquids into proper container between closed wellhead valves

WARNING: Use appropriate fluid collection when draining components.

NOTICE: If shut-down was performed as preparation for maintenance work, or if the cause of the shutdown requires corrective action/repair, continue with Lock Out/Tag Out (LO/TO) Procedures

REFER TO: Fieldwood Safe Work Practices for LO/TO (Section D Chapter 5)
(can be found on the Fieldwood SEMS Portal)