OQ Task Name

Task XX.X – Perform Flange Bolting

1.0 Task Description

This task includes connection of flanges applying the appropriate bolting sequence and torquing specifications. This task includes gasket and lubrication selection to obtain a leak-free connection and inspection of the connection. This task begins with the identification of the installation location and end with the completion of appropriate documentation.

The performance of this covered task may require the performance of other covered tasks such as:

- Install Bonds (Reference Task 9.1)
- Perform Shutdown of a Liquid Pipeline (Field) (Reference Task 63.2)
- Perform Shutdown of a Liquid Pipeline (Control Center) (Reference Task 43.2)

This task does not include but may lead to the performance of other covered tasks such as:

- Perform Start-up of a Liquid Pipeline (Field) (Reference Task 63.1)
- Perform Start-up of a Liquid Pipeline (Control Center) (Reference Task 43.1)
- Monitor Pressures, Flows, Communications, and Line Integrity and Maintain Them Within Allowable Limits on a Liquid Pipeline System (Field) (Reference Task 63.3)

2.0 Knowledge Component

An individual performing this task must have knowledge of:

- Lockout/tagout (LOTO) procedures
- Bonding
- Torquing equipment
- Flange class ratings

Abnormal operating conditions (AOC) associated with the performance of this task include:

AOC Recognition	AOC Reaction
Pitting on the flange faces	Notify appropriate personnel
Flange misalignment due to design flaw	Replace the flawed component
Signs of a leak	Notify appropriate personnel

3.0 Skill Component

To demonstrate proficiency of this task, an individual must perform the following steps:

Step	Action	Explanation
1	Identify the location for flange installation.	This step ensures that work is being completed in the correct location and in accordance with the Operator's design plan.
2	Inspect flange bolting equipment and materials.	This step ensures that the proper tools, material, and equipment are serviceable and calibrated. Inspect materials for proper sizing, damage or corrosion, gasket type, bolt and nut length and diameter, and flange assembly (rating and size).
3	Clean the flange faces, nuts, gaskets, studs, and bolts, as necessary.	Rust, debris, or other contaminants must be removed from the flange, gasket, and threads on nuts and bolts with a wire brush or other approved cleaning method. Ensure studs are lubricated per company procedure.
4	Align the flange faces.	Insert lineup pins to align the flanges, if needed.
5	Place two bolts in the bottom part of the flange and install an approved gasket.	If installing an insulating kit, make sure all stud bolt insulating sleeves and flange insulator washers are in place. Follow the manufacturer's specifications that are provided with the insulating kit.
6	Install remaining bolts and hand tighten the nuts.	
7	Bolt up the flange and tighten accordingly to attain specified torque.	Verify the proper flange tightening sequence and procedure according to the Operator's procedure. Pay close attention to angularity and offset to ensure that the flange faces are parallel (same gap around entire flange). Bolts or stud bolts shall extend completely through the nuts.
8	Visually inspect the completed flange.	Inspect the alignment and insulating gasket, ensuring there are no gaps.
9	Make notifications per the Operator procedures.	
10	Document all required information per Operator procedure.	