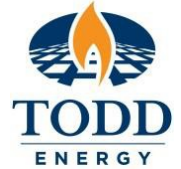


PTW Safety Checklist No. 59



MAKING AND BRAKING FLANGES AND BLEEDING DOWN VESSELS CONTAINING HAZARDOUS FLUIDS TO DRAINS OR ATMOSPHERE

Other Checklists that may be relevant:		<u>25</u>
Permit Number:		Date:
Rev 2.1	Issue Date: 26/03/2018	Authorised By: PSM

PRIOR TO COMMENCING TASK:

- | | | Y | N | N/A |
|----|--|--------------------------|--------------------------|--------------------------|
| 1 | You have read and understood the hazards and engineering controls as described in the MSDS Sheet for the hazardous fluid being worked with? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2 | Work party familiar with Work Instruction TE-6900-NPL652159 (Flange Bolt Torqueing Procedure) and have referred to the appropriate section relevant to workscope. | <input type="checkbox"/> | | |
| 3 | Ensure all isolation spades, spec blinds / blank flanges, stud bolts, plugs and caps are of the same class / rating as the pipework they are being fitted to. | <input type="checkbox"/> | | |
| 4 | If flanges are to be broken, a competent operations representative shall be in attendance during initial breaking into process equipment, pipework or valves.
Name: _____ | <input type="checkbox"/> | | |
| 5 | All stud bolts, nuts and lubricating compounds are of the correct size and composition. | <input type="checkbox"/> | | |
| 6 | The correct torque method and values are known for tensioning flanges. | <input type="checkbox"/> | | |
| 7 | Individual(s) breaking a flange are to satisfy themselves that the equipment is proven to be isolated and depressurized. | <input type="checkbox"/> | | |
| 8 | Is this system one that may contain Mercury contamination? (Refer to Mercury Register – KPS). If the answer is yes, refer to Standard Operating Procedure STA-01.43 and PTW Checklist 25 . | <input type="checkbox"/> | <input type="checkbox"/> | |
| 9 | Is the system one that may contain Pyrophoric Iron? If the answer is Yes, refer to Standard Operating Procedure STA-01.09 . | <input type="checkbox"/> | | <input type="checkbox"/> |
| 10 | Flanges requiring Cathodic Protection Flange Insulation Kits (FIKs) are identified and the specific torque settings are known. | <input type="checkbox"/> | | <input type="checkbox"/> |
| 11 | When breaking flanges on underground lines that use sacrificial anodes or impressed current systems, such as blowdown and cross country lines, the flanges are bridged before breaking. | <input type="checkbox"/> | | <input type="checkbox"/> |

- | | | Y | N | N/A |
|----|--|--------------------------|--------------------------|--------------------------|
| 12 | For both isolation and reinstatement phases, new gaskets are to be fitted in all cases. | <input type="checkbox"/> | | <input type="checkbox"/> |
| 13 | Confirm that there is sufficient mechanical support for all flange breaks. | <input type="checkbox"/> | | <input type="checkbox"/> |
| 14 | Prior to the use of lifting lugs on manway flange closures, hatches or motors, visual checks have been carried out by a competent person to ensure the lug dimensions are as per designed specification. | <input type="checkbox"/> | <input type="checkbox"/> | |

When draining / depressuring vessels or pipework to drains or atmosphere:

- | | | | | |
|----|--|--------------------------|--------------------------|--------------------------|
| 15 | An estimation / calculation has been made to verify the receiving system is capable of handling expected quantities? | <input type="checkbox"/> | | |
| 16 | All depressurizing, draining and pressuring shall be carried out within plant design criteria for temperature and pressure? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 17 | Confirm the gas / air cap in the vessel will receive adequate make up when draining commences. | <input type="checkbox"/> | | <input type="checkbox"/> |
| 18 | Ensure the makeup gas in vessels containing hydrocarbon is inert and not oxygen or a contaminant. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 19 | If waste is to be removed from site, discuss disposal route with PI. Reference Waste Management Procedure (PRD-ACT03-005). | <input type="checkbox"/> | | <input type="checkbox"/> |
| 20 | Connect earth lead to plant earth. Record results of continuity test on permit (<10Ω). | <input type="checkbox"/> | | <input type="checkbox"/> |
| 21 | Perform a test on production solids / deposits for NORM and enter results into the Site Register. | <input type="checkbox"/> | | <input type="checkbox"/> |

ON COMPLETION OF TASK:

- | | | | | |
|----|---|--------------------------|--|--------------------------|
| 22 | Quality Assurance (QA) results are recorded on the flange assembly control | <input type="checkbox"/> | | <input type="checkbox"/> |
| 23 | Check that any Victaulic or similar couplings or expansion joints are adequately supported and anchored in both the vertical and horizontal planes to eliminate the potential to fail under pressure? | <input type="checkbox"/> | | <input type="checkbox"/> |
| 24 | A 'line walk' has been conducted to ensure all equipment is reinstated as per reinstatement section of approved isolation procedure. | <input type="checkbox"/> | | |

FLANGE ASSEMBLY CONTROL SHEET

Work Order/Project No. _____ Site _____
 Compiled by _____ Date _____
(to be prepared by Work/Project Team and assembled into Workpack)

PROCEDURE

1. On the P&ID or other drawings, allocate each flange-set with the associated Flange Assembly TagNo. and fill in the flange details on this control sheet and on the green section of each Flange Assembly Tag.
2. Fitter to install Flange Assembly Tag to the flange set when the flanges are assembled.
3. Fitter to assemble and tighten flange, fill in the details on the red (Assembled & Tightened) section of the Tag, remove and return the red tag to the Work Supervisor and sign this Control Sheet (Fitter).
4. Checker to check the flange make-up, fill in the details on the yellow (Checked) section of the Tag, remove and return the yellow tag to the Work Supervisor and sign this Control Sheet (Checker).
 The green section of the Tag is to remain until integrity testing is completed by Operations.
5. Work Supervisor to sign-off completion of items 3 & 4 for each Flange.
6. On completion of integrity testing, Operations fill in green (Tested) section of the tag, remove and return the complete green section to the Operations Team Leader (Permit Issuer) and sign this Control Sheet (Integrity Testing).
7. Operations Team Leader (Permit Issuer) will check the Flange Assembly Control Sheet to ensure all flanges have been signed off, and signs the Control Sheet "Accepted as Correct" prior to the system being put back into service.
8. The Flange Assembly Control Sheet is to be archived with the completed Workpack (Tags may be discarded).

FLANGE TAG NO.	FLANGE DETAIL		FITTER		CHECKER	
	Size & Class	Torque	Date	Sign	Date	Sign

ACCEPTED AS CORRECT BY: (Permit Issuer / Team Leader)

Name: _____ Signed: _____ Date: _____

FLANGE TAG NO.	FLANGE DETAIL		FITTER		CHECKER	
	Size & Class	Torque	Date	Sign	Date	Sign