

BP OIL -- TOLEDO REFINERY

	Refinery Wide	Procedure No.: SAF 039
Effective Date: December 7, 2009	Opening or unplating of towers, vessels, drums, tanks and pipe	Rev. No.: 3 MOC#: M20094581-001
Written By: J.D. Parker	Auth. By: D. C. Durnwald (signature on file)	Page 1 of 3

SCOPE	This procedure is a guide for opening or unplating towers, drums, vessels, tanks and pipe for inspection or work purposes.
HEALTH Special PPE & Special Hazards	Potential exposures to various hazards throughout the refinery. PPE will vary depending on specific hazards.
SAFETY	Working at elevated levels, impact wrenches, gases and oil, unexpected pressure existing.
REFERENCE DOCUMENTS	SAF 037 Control of Hazardous Energy (lockout/tagout) SAF 032 Confined Space Entry SAF 044 Hot Work, Hot Work Spark Potential, and Vehicle Entry Respiratory Protection Program
SPECIAL MATERIALS & EQUIPMENT	N/A
QUALITY	N/A
ENVIRONMENTAL	Caution should be taken when products or materials are depressured to air or drained to sewer.

OVERVIEW

This procedure is to be used when opening or unplating towers, drums, vessels, tanks and pipe. **It can be adapted to specific vessels by changing some of its steps to suit vessel operating conditions.** Before a vessel or pipe can be safely opened it must be depressured, drained or pumped out until loss of suction and isolated from sources pursuant to the Toledo Refinery lockout/tagout procedures.

Should entry and/or internal Hot Work be necessary, follow confined space and/or Hot Work procedures. Operations will determine when manways may be unplated based on the guidelines listed below.

- 1.0 Typical Safing Guidelines
 - __1.1 Stop process.
 - __1.2 As necessary, cooldown, depressure, drain and pumpout.
 - __1.3 Purge using steam, nitrogen/inert gas or water flooding.

WARNING
Where vessels or pipe are liable to contain iron sulfide, cyanides, acid or caustic, they should be thoroughly washed down with water before opening or uncovering manways. Drain residual water during cold weather.

CAUTION
Water flooding should not be used where the vessels and foundations are not designed to withstand the weight and pressure of water.

- 1.3.1. After purging for the predetermined time, turn off purge medium.
- 1.3.2. Allow equipment to stabilize.
- 1.3.3. Test atmosphere for appropriate hazards to determine purge effectiveness. i.e., flammability is less than or equal to 50% of LEL, toxics are less than STEL.
- 1.3.4. Repurge as necessary.
- __1.4 Isolate equipment pursuant to lockout/tagout procedure.

NOTE: A single block valve which is locked closed and not passing can be considered an isolation device for removing manway covers. However, a single block valve is not considered adequate isolation for Hot Work or confined space entry. Refer to applicable procedures for additional isolation requirements. Verification of the block valve not passing can be achieved by checking drains, bleeds, etc.

- __1.5 Open or unplate equipment or pipe.
 - 1.5.1 Have spill containment ready for any material that may come out when breaking containment unless determined to not be necessary by the risk assessment.
 - 1.5.2 Carefully remove the required manway cover plates. At least one manway at the lowest level and one at the top of a tower should be opened to promote ventilation. If possible, remove top manway first, then bottom manway. In removing lower plates, loosen bolts only enough to avoid any sudden outflow of heavy oils or other residuals.
 - 1.5.3 Open pipe by breaking flanges so that unexpected pressure is relieved away from the person making the break.

THIS IS THE LAST PAGE