

Ethanolamines/Glycol Ethers Tier 3 Procedure

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Title: Removal Of Equipment In Oxide Service For Maintenance (Pumps, Safety Valves, Gaskets, Etc.).
References: Glossary Of Equipment Identification (Text # 114)

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1300. Removal Of Equipment In Oxide Service For Maintenance (Pumps, Pressure Safety Valves, Gaskets, Etc.)

1.0 Objective:

- 1.1 To remove oxide related equipment from service and transport to the maintenance shop for repair or replacement in a safe and effective manner without damage to equipment or injury to personnel.

2.0 Responsibility:

- 2.1 It is the responsibility of the operations supervisor and the senior operations specialist to ensure that this procedure is adhered to at all times during maintenance operations.
- 2.2 It is the responsibility of the operations specialist and the operations specialist to ensure that this procedure is complied with.

3.0 Safety Notations:

- 3.1 Monogoggles, rubber gloves, rubber boots, full slicker suit.
- 3.2 Breathing air is required if breaking flanges, line opening or removing pump bowl.

4.0 Special Notation:

- 4.1 Breathing air is not required while bleeding pumps down to sump, if the sump level is high enough that the tubing is under water.
- 4.2 A cherry picker is required to pull the P-101's, but a fork lift and boom can be used to pull P-201's.

5.0 Procedure: Cont'd.

5.1 Pumps:

- 5.1.1 Red tag the pump according to the red tag procedure and check the field switch to make sure the motor will not run.
 - 5.1.2 Drain triethylene glycol from the seal buffer pot.
 - 5.1.3 Connect tubing from the suction of the pump to the sump and drain pump bowl.
 - 5.1.4 Flush condensate through pump from discharge bleed to sump.
 - 5.1.5 Bleed as much transmission oil as you can into a bucket.
 - 5.1.6 Have power leads at pump disconnected by an electrician.
 - 5.1.7 Disconnect all tubing, remove motor bolts and loosen bowl bolts on pump.
 - 5.1.8 Have personal safety coordinator escort cherry picker into position.
 - 5.1.9 Connect lifting cable to picker and remove motor. Place motor on the ground on 2x4's to protect motor shaft.
 - 5.1.10 Connect lifting cable to pump gear box and lift out of the bowl.
 - 5.1.11 Have personal safety coordinator escort the cherry picker to the maintenance shop door.
 - 5.1.12 When pump arrives at shop, remove from the cherry picker with electric hoist and place on work table. (this will take at least 2 to 3 people to perform safely). Be careful not to damage impeller.
- ### **5.2 Pressure safety valves:**
- 5.2.1 Red tag safety valve per red tag procedure.
 - 5.2.2 Connect tubing to the valve bleed to drain oxide to the sump. (breathing air must be used) discharge flange will have to be cracked to allow the oxide to drain.
 - 5.2.3 Remove valve from position and place on the ground for decontamination. (large valves will need to be removed by a cherry picker)
 - 5.2.4 Flush inlet and outlet of valve until there is oxide present.
 - 5.2.5 Take valve to the maintenance shop for tagging and removal to the valve shop.

5.3 Gaskets:

5.3.1 Isolate the section of line where the gasket change will occur. red tag line.

5.3.2 Connect tubing to the bleed and drain to the sump. (breathing air must be used)

5.3.3 Break flange(s) and replace gasket(s).

5.3.4 Remove red tags, place line back in service if required.

6.0 Revisions:

Revision No. 1	07-20-93	Yearly Review
Revision No. 2	07-12-94	Added full slicker suit in section 1300.3.1
Revision No. 3	12-29-95	Yearly Review