

Ethanolamines/Glycol Ethers In Plant Training (IPT)

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Ethanolamines - Reactor Area Line-Of-Logic

Answers:

- 1. State all the things that can cause a P-201 to shut down.**
 - A. Low oil pressure
 - B. High vibration (if not bypassed)
 - C. High discharge temperature
 - D. R-201 shutdown

- 2. State all the things that will happen when a P-201 shuts down on low oil pressure.**
 - A. Oxide to R-201 control valve closes
 - B. Oxide EBV closes
 - C. P-205 shuts down
 - D. Anhydrous ammonia flow to D-210 EBV closes
 - E. P-201 shuts down
 - F. Suction valves to P-205 A/B closes
 - G. Anhydrous ammonia control valve closes

- 3. State all the things that cause a R-201 shutdown.**
 - A. Loss of P-212 A/B
 - B. Low ratio trip
 - C. Total emergency shutdown
 - D. Low ammonia flow
 - E. Low incoming EO pressure
 - F. High EO feed temperature
 - G. R-201 high or low pressure
 - H. EO system shutdown
 - I. P-210 shutdown
 - J. HS-2078 (EO trip switch)

4. **State everything that happens if there is a low feed ratio shutdown.**
- A. P-201 A/B shuts down
 - B. The suction valves to P-205 A/B close
 - C. P-205 A/B trip off
 - D. The anhydrous ammonia EBV to D-210 closes
 - E. The anhydrous ammonia control valve closes
 - F. The EO to R-201 EBV closes
 - G. The EO to R-201 control valve closes
5. **Explain what happens if the P-205 that is on line shuts down.**
The anhydrous ammonia flow to D-210 is lost, and no valves close.
6. **Explain everything that happens when Glycol II loses their oxide pump.**
- A. The EBV on incoming EO To D-101 closes on low pressure
 - B. P-201 A/B shuts down
 - C. EO To R-201 EBV closes
 - D. EO To R-201 control valve closes
 - E. P-205 A/B shuts down.
 - F. Anhydrous ammonia to D-210 EBV closes
 - G. Anhydrous ammonia to D-210 control valve closes
 - H. Suction EBV's to P-205 A/B close
7. **Explain what can happen to cause a P-212 to shut down.**
- A. Low oil pressure.
 - B. Over amping.
8. **Explain what happens if the aqua ammonia flow indication goes to zero.**
- A. R-201 will shut down on low aqua ammonia flow
 - B. Aqua ammonia EBV at mix tube closes
 - C. P-201 A/B shuts down
 - D. EO To R-201 EBV closes
 - E. EO. To R-201 control valve closes
 - F. P-205 A/B will shut down
 - G. Anhydrous ammonia to D-210 EBV closes
 - H. Anhydrous ammonia to D-210 control valve closes
 - I. Suction EBV To P-205 A/B closes
9. **State the two ways to get the aqua ammonia block valve open if it closes automatically.**
Go on bypass and hit the reset button. Put butterfly switch for aqua ammonia EBV in field in manual.

10. **State everything that happens when the total emergency shutdown button is pushed.**
- A. P-212 A/B keeps on running on total recirculation
 - B. Aqua ammonia EBV at R-201 closes
 - C. P-201 A/B shuts down
 - D. EO To R-201 EBV closes
 - E. EO to R-201 control valve closes
 - F. P-205 A/B shuts down
 - G. Anhydrous ammonia to D-210 EBV closes
 - H. Anhydrous ammonia to D-210 control valve closes
 - I. Suction EBV to P-205 A/B closes
11. **Explain what happens when P-210 shuts down.**
R-201 trips on low aqua ammonia flow, same as question no. 8.

Revisions:

Revision No. 1	06-28-93	Yearly Review
Revision No. 2	12-09-94	Yearly Review