Ethanolamines/Glycol Ethers
In Plant Training (IPT)

Section Number :5B
Issue Number :1.2
Origination Date :09-01-91 **Author:** Keith Bonanno
Revision Date :12-12-94
Section Test :5

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Ethanolamines - Distillation
T-260

Answers:

1. **Physically locate.**
   - A. P-260 A/B
   - B. P-261 A/B
   - C. E-260
   - D. E-261
   - E. E-262
   - G. D-260
   - G. Reflux control loop
   - H. Overhead control loop
   - I. Bottoms control loop
   - J. Recirculation control loop
   - K. EJ-260 and EJ-270

2. **State the main purpose of T-260.**
   Separate and distill DEA.

3. **State what type reboiler T-260 has.**
   Pump through falling film reboiler.

4. **State what type steam drives E-260.**
   475# steam.

5. **State what happens if you loose recirculation to the reboiler. What should you do?**
   The reboiler would lose its main feed and the tubes could become fouled with baked on product. The steam to the reboiler should be blocked in when the recirculation drops off to prevent the tubes from getting fouled.

6. **State where the condensate out of E-260 goes.**
   The high pressure condensate header.

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7. **Explain what type trays or packing T-260 has.**
T-260 has two sections of Koch Sultzer packing which is a stainless steel mesh packing designed to give maximum surface area for liquid vapor interaction.

8. **Explain how the packing in T-260 works.**
The packing is a fine mesh screen which breaks the product up into smaller and smaller drops. The smaller the drops the more surface area; there is for interaction between liquid and vapor.

9. **State where the reflux comes from. Is this internal or external reflux?**
The overheads on T-260 are collected in the reflux pot, E-263. This reflux pot is the suction for the overhead pumps, the P-261's, which pump the reflux back into the tower. This reflux is external.

10. **State the three places the overheads on t-260 normally go.**
The overhead pumps can pump back to the tower as reflux, to the check tanks as finished product , or to recycle to the front end.

11. **State where the feed enters T-260.**
The feed enters T-260 at the side of the tower above the bottom packed section. There is a distribution tray which provides an even distribution of flow through the packing.

12. **Explain how the vacuum is broken on T-260.**
At low pressures and high temperatures, air (oxygen) coming in contact with the hot product and packing could cause a fire or explosion. To keep that from happening break the vacuum with nitrogen to keep oxygen out of the tower until the pressure is back to atmospheric. Another way would be to cool the tower down below 60 degrees c before opening to the atmosphere. It is always best to break the vacuum with nitrogen.

Revisions:

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

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