Appendix

A

A-1

Process Flow Diagrams Using VISIO 2002 Software

Figure 1.12b. Process Flow diagram (Feed & Fuel Desulfurization Section)

Figure 1-12C. Typical process flow diagram for the production of Methyl Tertiary Butyl Ether (MTBE)

Figure 1-14. Piping & Instrumentation diagram for Ammonia plant CO₂ removal.

Figure 1-15. Piping & Instrumentation diagram: Ammonia Synthesis & Refrigeration Unit (2)

Figure 1-15a. P & ID Unit – Sect. 2000 (Urea) condensate recovery system.

Figure 1-17. Isometric drawing for liquid ammonia line (4LA-10033-B1-N)

Figure 1-17a. Isometric drawing for liquid ammonia line (6LA-10034-B1-C40)

Figure 1-17b. Equipment drawing for refrigerant compressor 2nd stage intercooler A-EA711 (137-C)

A-2.

Process Data Sheets.

| 1 | Air cooled heat exchanger process data sheet |
|----|--|
| 2 | Centrifugal pump schedule: driver |
| 3 | Centrifugal pump schedule: pump |
| 4 | Centrifugal pump summary |
| 5 | Column schedule |
| 6. | Construction Commissioning Start-up Checklist |
| 7 | Deaerator process data sheet: Deaerator water storage tank |
| 8 | Deaerator process data sheet: Deaerator head |
| 9 | Drum process data sheet |
| 10 | Effluent schedule |
| 11 | Equilibrium flash calculation |
| 12 | Fabricated equipment schedule |
| 13 | Fan/Compressor process duty specification |
| 14 | Fractionator calculation summary |
| 15 | General services and utilities checklist |
| 16 | Hazardous chemical and conditions schedule |
| 17 | Heat and mass balances |
| 18 | Heat exchanger rating sheet |
| 19 | Hydrocarbon dew point calculation |
| 20 | Line list schedule |
| 21 | Line schedule |
| 22 | Line schedule sheet |
| 23 | Line summary table |
| 24 | Mass balance |
| 25 | Mechanical equipment schedule |
| 26 | Pipe line list |
| 27 | Pipe list |
| 28 | Piping process conditions summary |
| 29 | Plate heat exchanger data sheet |
| 30 | Calculation of pressure drop in fixed catalyst beds |
| 31 | Process engineering job analysis summary |
| 32 | Pump calculation sheet |

Pump schedule

Relief device philosophy sheet

Tank and vessel agitator data sheet

33

34

35

- Tank process data sheet
- Tank schedule
- Tie-in-schedule

- Tower process data sheet
 Tray loading summary
 Trip schedule
 Utility summary sheet
 Vessel and tank schedule
 Vessel and tank summary: driver
- Vessel schedule
- Water analysis sheet