

SULZER

Maximizing FCCU Propylene Production at Minimum CAPEX

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Technologies That Make a Difference – Now and in the Future



The safe harbor statement under the US private securities litigation reform act 1995

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Current FCCU Direction

- Shift from fuels to petrochemical/chemical production
 - Increased propylene production
 - Historical 5 wt% typical, on fresh feed
 - New units 10-20 wt% but more realistically 10-15 wt%
 - Revamps 7-10 wt% is common



Increased Propylene Recovery Limitations

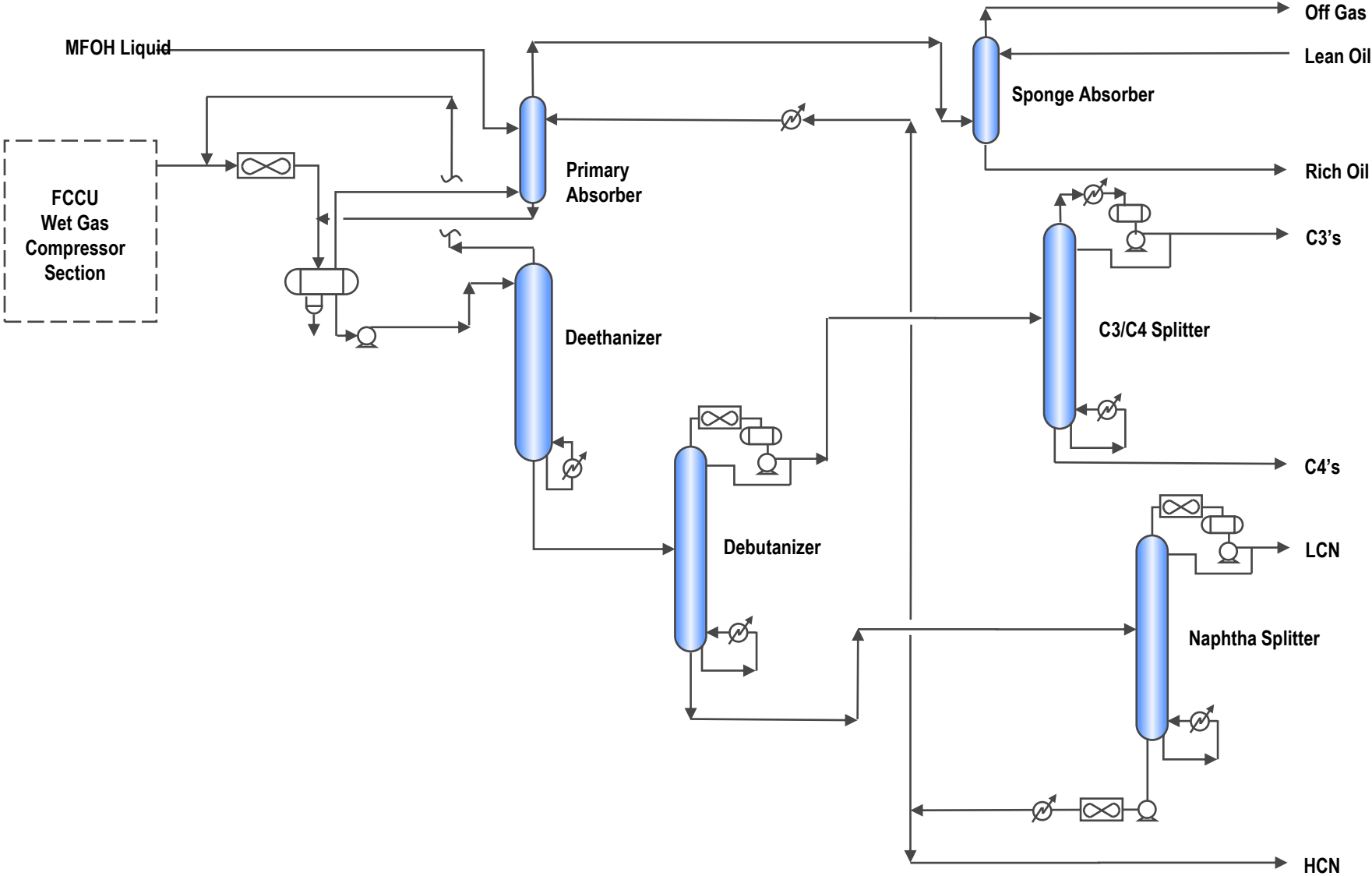
- Increased difficulty in achieving high propylene recovery
 - High CAPEX and OPEX associated with processing low MW components
 - Increased dry gas
 - Increased C3s
 - Increased C4s



FCCU Gas Plants

Example of Conventional FCCU Gas Plant Configuration

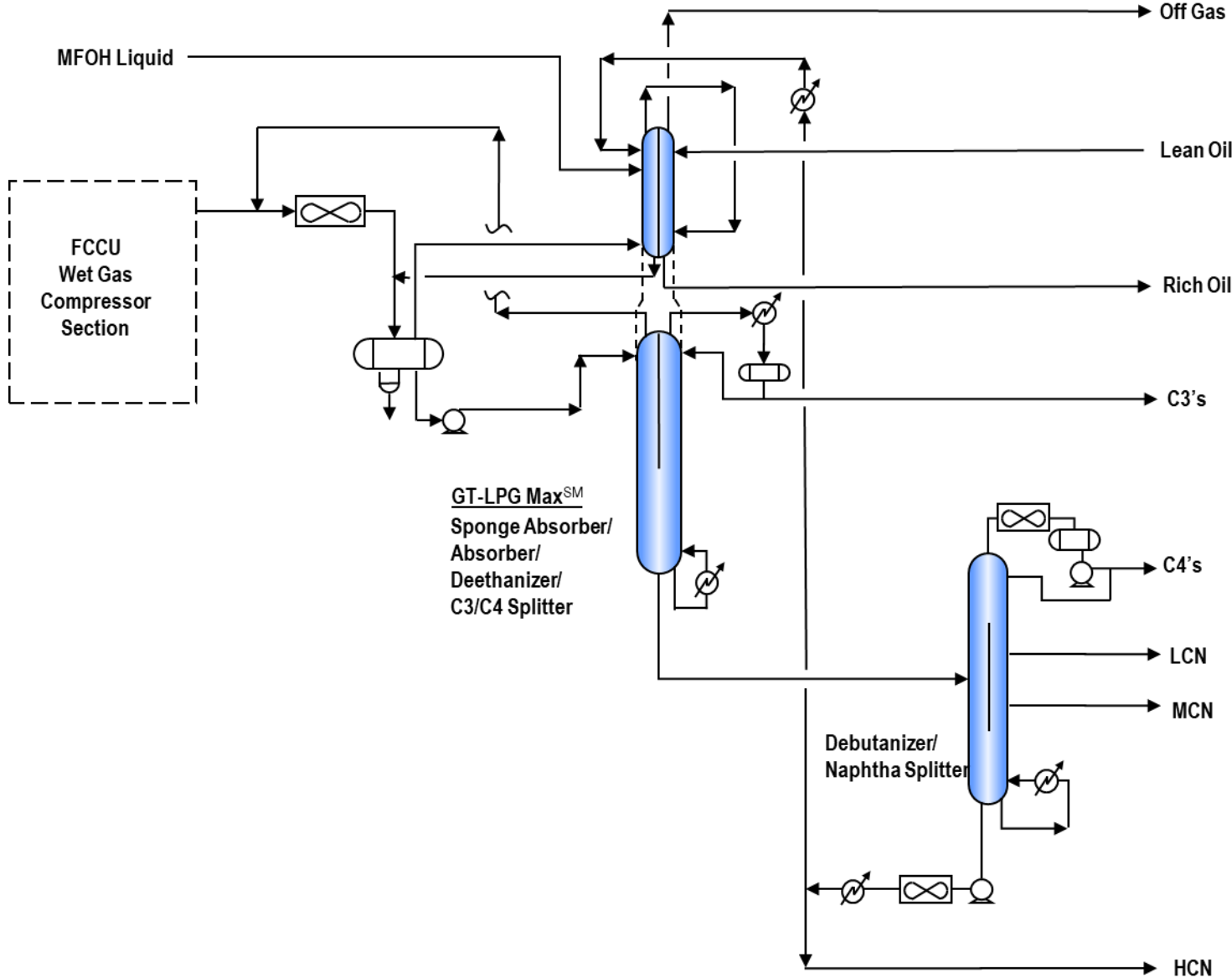
FCCU LPG Recovery – Conventional Design



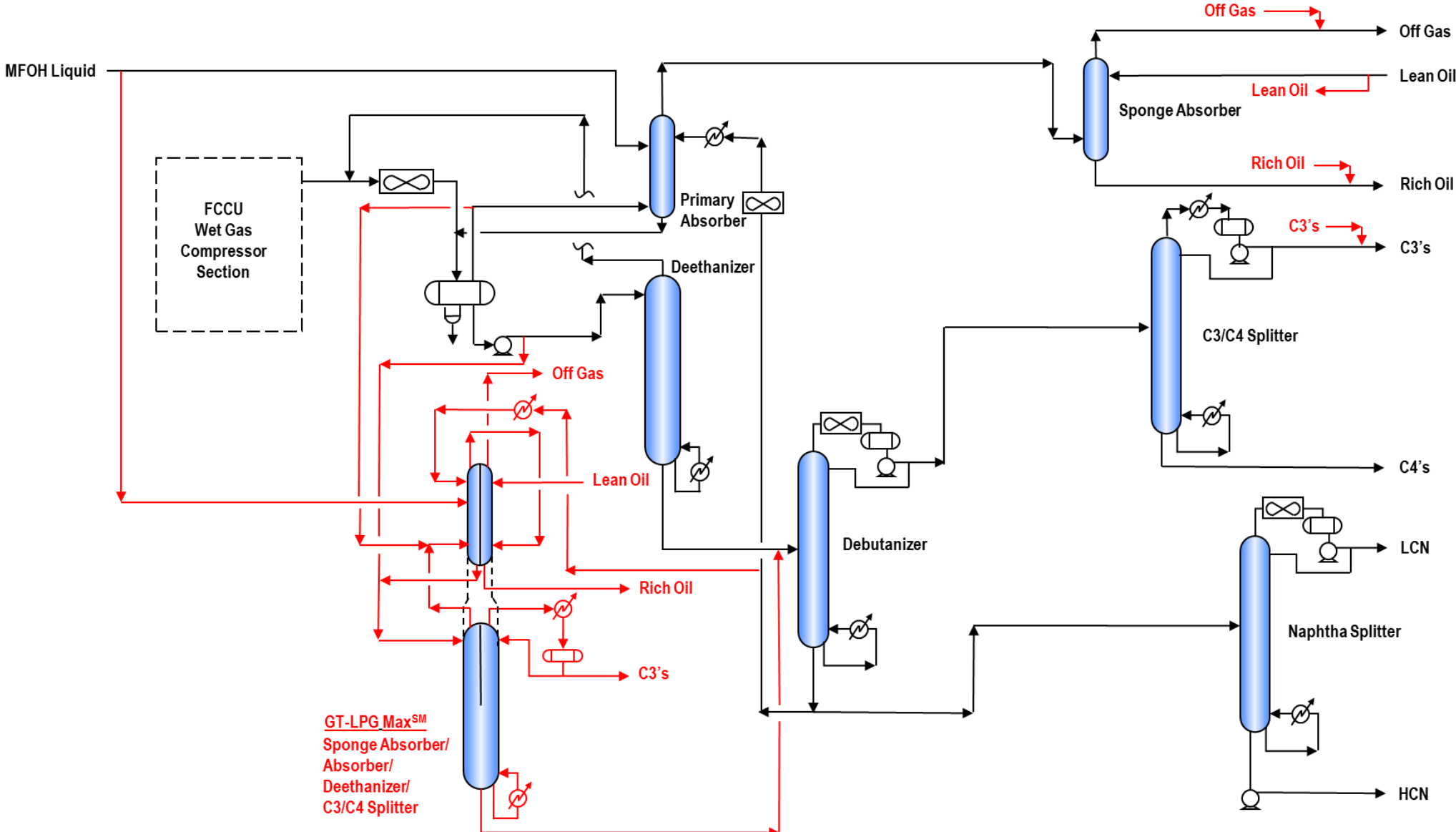
FCCU Gas Plants

Example of DWC FCCU Gas Plant Configurations

DWC FCCU Gas Concentration Unit



Revamp – DWC FCCU Gas Concentration Unit



Fundamental Benefits of DWCs

- Lower capital cost
- Smaller plot footprint and weight
- Decreased carbon footprint

DWC FCCU Gas Plant Case Study

DWC FCCU Gas Plant operating in maximum gasoline mode can be designed without using chilled water and produce:

- Greater than 97% propylene recovery
- C3 stream purity of 99% (combined C3's)
- Mixed C4 stream purity of 96.6% (combined C4's)
- C5+ CN stream composition with C4 minus of 1% or less

DWC FCCU Gas Plants

DWC FCCU Gas Plant Technology provides significantly lower CAPEX for:

- Increased gas plant capacity or building new grassroots plants
- Shifting refinery yields to petrochemicals
- Increasing Gasoline Pool Octane while providing low vapor pressure blending components
- Maximizing refinery molecular management to improve margins

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Questions?



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