

## NGL Deethanizer Capacity Expansion Achieved by Using High Capacity ULTRA-FRAC® Trays

**Customer:** NGL Fractionation Plant

**Location:** USA

**Tower Name:** Deethanizer

**Tower Diameter:** 8' x 11.5'  
(2,438 mm x 3,505 mm)

**Mass Transfer Equipment:** 31 ULTRA-FRAC Trays

**Objective:** The NGL fractionation plant had an opportunity to increase raw feed to the plant but required additional deethanizer capacity. The overall objective was to increase the deethanizer capacity by 35% and reduce the butane content in the ethane product. Additionally, the plant wanted to increase the operating pressure of column.

**Solution:** Koch-Glitsch, Inc. recommended replacing the existing conventional valve trays one-for-one with high capacity ULTRA-FRAC trays both above and below the feed.

**Results:** The main two objectives were easily achieved. The capacity of the column has been tested at 163% of the original capacity. This is significantly above the target of 135%. As can be seen in the above chart, the iC4+ in the column overhead (ethane) has been reduced by more than an order of magnitude. The ULTRA-FRAC trays have successfully increased the capacity and improved operations.

**Deethanizer Tower Conditions:  
Before and After Revamp**

	Before	After
Column Diameter	8'x11.5'	8'x11.5'
Type of Trays	Conv. Valve	ULTRA-FRAC
Pressure, psig	415	466
Reflux Ratio (R/D)	1.1	1.7
iC4+ in Overhead	0.4%	0.02%
Percent of Original Feed Rate	100%	135%