

UOP Russell NGL Recovery: Cryogenic Turboexpander Plant

UOP Russell cryogenic turboexpanders help you recover high-value NGLs from natural gas for sale into petrochemicals and energy products. We can begin work on your modular plant before you know the composition of the site – or even its location.

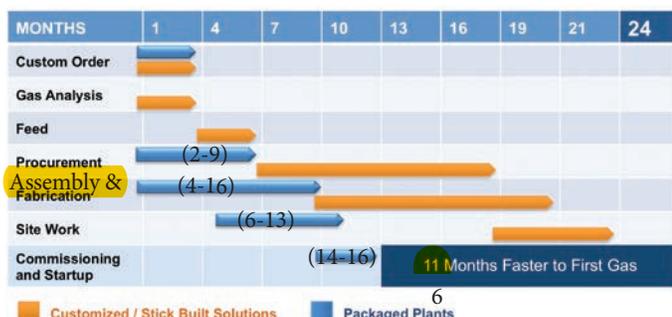
Introduction

Time and money are both vital components of your natural gas operation, and cryogenic turboexpander (“cryo”) plants from UOP Russell can help you achieve a fast start-up time – **often in less than 16 months** – and adjust to changing natural gas feed compositions.

Here’s how our proven, pre-engineered solution can help you:

- Greater control of equipment and labor costs through use of shop fabrication and skid-mounted plant delivery
- Easy to install: skid mounted delivery reduces need for field piping and change orders
- Operate in ethane recovery or rejection mode based upon industry conditions and pipeline specifications
- Scale up plant capacity via multiple processing trains for phased investments
- Pre-engineered plant design with interchangeable equipment parts, allowing projects to be easily repeated across multiple locations and operators to cross train across multiple facilities
- Gas conditioning and mechanical refrigeration easily incorporated as bolt-on additions for NGL wet natural gas streams
- Energy efficient compression and expansion provided by the use of turboexpansion technology

Representative project Timeline by Project Type? tasks/timeline??



Quickly and cost-effectively recover natural gas liquids (NGLs) with a proven, pre-engineered, modular gas processing plant that has the flexibility to adjust to changing feed gas and industry conditions.

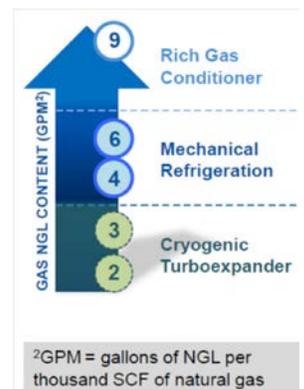
Economic Benefits

- Each month of reduced project schedule can be worth up to \$7 million NGL revenue net of operating costs
- At least 15% lower installed cost due to modular project execution vs. field erected plant
- 20%-50% schedule acceleration vs. field erected project
- Deep Cut NGL recovery: 95%+ ethane recovery

Modular Plant Capacities:

- SC4 : 40 MMscfd
- SC6 : 60-70 MMscfd
- SC12 : 120-150 MMscfd
- SC20 : 200-230 MMscfd
- SC30: 300-370 MMSCFD

Bolt on Mechanical Refrigeration available in horsepower increments below for very NGL wet gas stream



- SR10 - 1000 HP
- SR20 - 2000 HP
- SR30 - 3000 HP
- SR45 - 4500 HP
- SR60 - 6000 HP

Option to operate in high ethane (C₂) recovery or rejection mode.

Experience

With 100 years of innovation in oil and gas technology, UOP will provide your operation with unparalleled technical support. UOP technical services can help train operators, perform pre-commissioning check out, assure smooth startup and optimize ongoing operation.

NGL recovery is the latest addition to UOP's growing portfolio of innovative Gas Processing products. In fact, UOP has implemented several regenerable adsorbent-based systems for treating lean gas (see table).

Backed by Experience and Commitment

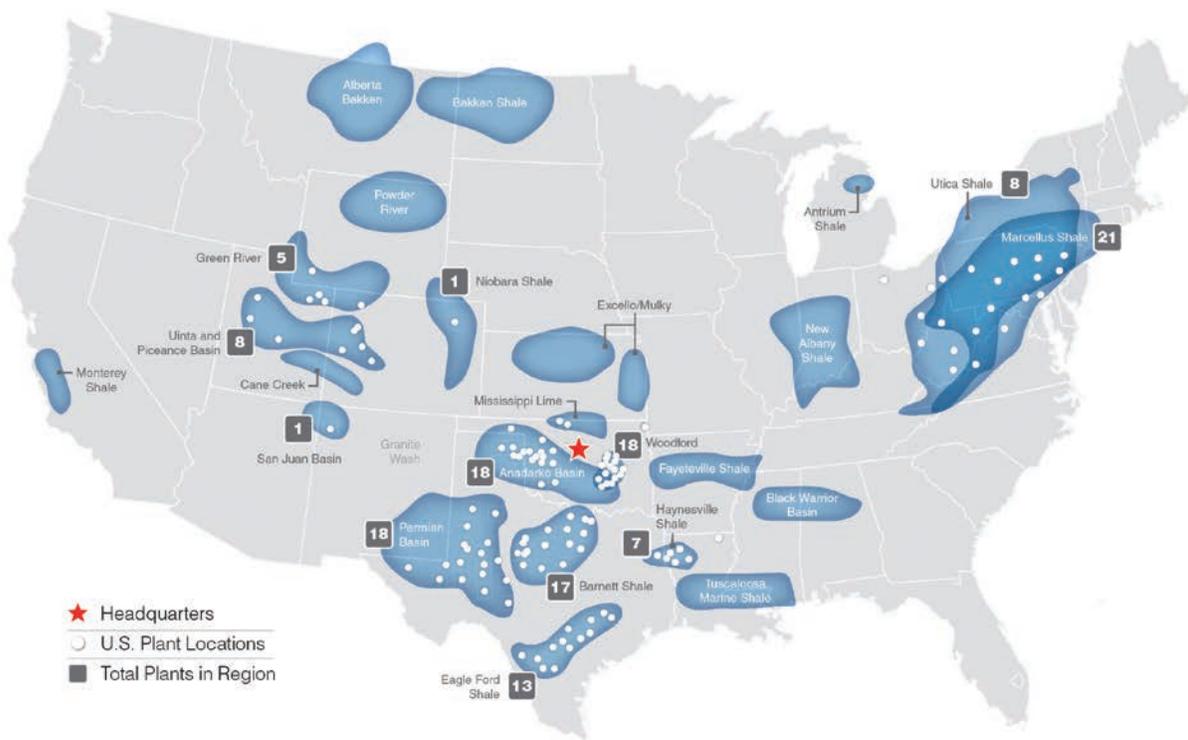
UOP, a Honeywell company, develops and supplies process technology, modular plants, and adsorbents & catalysts for the gas processing, refining, renewables, and petrochemical industries.

With five engineering centers and 11 manufacturing facilities in 16 countries, UOP is close to its customers wherever they are. Since 1914, UOP has developed more than 70 licensed processes for the industries it serves. UOP is the world's leading supplier of catalysts and molecular sieve adsorbents and provides a full range of technical services and support.

UOP Modular Plants 250 Executed Projects

100+ Operating Plants

14 BCFD Gas Treated



For more information

www.uop.com

UOP LLC, A Honeywell Company

25 East Algonquin Road
Des Plaines, IL 60017-5017, U.S.A.
www.uop.com

© 2016 UOP LLC All rights reserved.

The information in this document should not be construed as a representation for which UOP assumes legal responsibility, or an authorization or recommendation to practice a patented invention without a license. UOP4524-22b July 2016

