Value of Large-Scale Midstream Infrastructure
James Quintana
Piceance Basin Director of Operations, Williams Midstream
Williams Overview

> Integrated energy company with a portfolio of natural gas businesses in key growth areas

> Midstream, E&P and interstate pipeline businesses are core
  
  • Completing expansions on our interstate gas pipelines
  
  • Adding production from newly drilled natural gas wells

  • Continuing investment in gathering and processing infrastructure
Williams Commitment

Williams Midstream is dedicated to being the most reliable and consistent service provider in the industry.

“Reliability defines customer service.”

Alan Armstrong
Senior Vice President, Williams Midstream
> Metrics monitored and reported to all employees on monthly basis

> Service reliability measures incorporated into our employees’ incentive compensation plan

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**Reliability Metrics Scorecard** *(Year-to-date results, October 2006)*

<table>
<thead>
<tr>
<th>Assets</th>
<th>% of Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canadian Olefins</td>
<td>95.18%</td>
</tr>
<tr>
<td>Gulf Coast Olefins</td>
<td>99.84%</td>
</tr>
<tr>
<td>Conway</td>
<td>99.44%</td>
</tr>
<tr>
<td>Four Corners Area</td>
<td>97.90%</td>
</tr>
<tr>
<td>Rocky Mountain Area</td>
<td>98.90%</td>
</tr>
<tr>
<td>Discovery</td>
<td>99.93%</td>
</tr>
<tr>
<td>Eastern Gulf</td>
<td>98.86%</td>
</tr>
<tr>
<td>Western Gulf</td>
<td>99.50%</td>
</tr>
<tr>
<td>Venezuela (Wilpro)</td>
<td>99.35%</td>
</tr>
<tr>
<td>Venezuela (Accroven)</td>
<td>99.10%</td>
</tr>
</tbody>
</table>

“We are aligned with our customers on the importance of providing our services on a safe and reliable basis. We track our performance on how we impact customers’ volumes, we discuss that performance with our customers and we expect to improve that performance over time.”

*Mac Hummel*
*Vice President, Western Region*
Midstream Overview

> Williams – one of the energy industry’s largest and most trusted natural gas gatherers and processors

> Primary service areas: Wyoming, San Juan Basin, Gulf of Mexico, Venezuela and Canada

> Our network includes:
  
  • 18 natural gas processing, treating and/or production handling facilities
  • Combined daily inlet capacity of approximately 6.7 Bcf/d
  • More than 8,000 miles of gas gathering lines with capacity in excess of 7.3 Bcf/d
  • 287,000 bbl/d of natural gas liquids production
  • Fractionating capacity of nearly 300,000 barrels per day (as operators and/or owners)
  • Innovative infrastructure – strategic hubs
Presentation Agenda

> The case for large-scale midstream infrastructure
> Recent developments
The Case for Large-Scale Plants
Environmental Considerations for Large-Scale

> Large-Scale

- Footprint: 25 acres
- Limited land impact
- Pipeline-transported NGLs
- Supportive of common residue gas pipeline corridors
- Better noise mitigation
- Fewer roads and less traffic
- Lower cumulative air emissions
Environmental Considerations for Small-Scale

> Small-Scale

- Footprint: 60 acres (4 acres per plant)
- Widespread land impact
- Truck-transported NGLs
- Not supportive of common residue gas pipeline corridors
- Widely-dispersed noise impact
- More roads and traffic
## Emissions Comparison

### Assumptions:
- 1 900 mmcf/d capacity plant is equal to 15 60 mmcf/d capacity plants

<table>
<thead>
<tr>
<th></th>
<th>Nox (TPY)</th>
<th>CO (TPY)</th>
<th>VOC (TPY)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emissions for one 60 mmcf/d Plant</td>
<td>95</td>
<td>95</td>
<td>20</td>
</tr>
<tr>
<td>Total Emissions for 15 Plant</td>
<td>1,425</td>
<td>1,425</td>
<td>300</td>
</tr>
<tr>
<td>Emissions for 2450 mmcf/d Plants (900 mmcf/d total)</td>
<td>345</td>
<td>379</td>
<td>120</td>
</tr>
<tr>
<td>Emissions Reduction by using Large - Scale Facilities</td>
<td>Approximate 1,000</td>
<td>Approximate 1,000</td>
<td>Approximate 200</td>
</tr>
</tbody>
</table>
Financial Considerations for Large-Scale

Relative Financial Value

Large-Scale

Fewer Personnel
Multiple NGL Delivery Options
Higher NGL Recovery
Lower Fuel Cost Per Gallon

Small-Scale

More Personnel
Limited NGL Delivery Options
Higher Unit Operating Cost
Lower NGL Recovery
Higher Fuel Cost Per Gallon
Financial Considerations – Large Scale Per Unit Costs Are Lower

Source: SAIC Midstream Gas Benchmarking Study Feb 2001 (O&M $/mcf) and internal Williams estimates
## Reliability Considerations for Large-Scale

<table>
<thead>
<tr>
<th></th>
<th>Large-Scale</th>
<th>Small-Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Redundancy</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Technology</td>
<td>Typically more sophisticated</td>
<td>Typically simpler technology</td>
</tr>
<tr>
<td>Specialized Employees</td>
<td>Generally yes</td>
<td>Generally no</td>
</tr>
</tbody>
</table>
Overland Pass Pipeline

- Joint venture between Williams and ONEOK, Inc.
- Transport NGLs from southwest WY to Conway, KS
- Provide more market opportunities for Rockies NGLs
Willow Creek Processing Plant

- 450 mmcf/d natural gas processing plant
- Boost volume of marketable liquids recovered from production by more than fivefold
- Help ensure production in Piceance Basin has efficient and effective access to markets