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



#### Midstream Gas & Liquids Reliable. Experienced. Focused.





#### 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 Today – North & South America Assets as of August 2006





#### Exploration & Production

- Natural gas exploration and production
- Interest in international oil and natural gas exploration and production

#### Gathering & Processing

- Fractionator\*
- △ Gas processing and/or treatment plant
- Olefins off-gas plant
- Natural gas gathering
- \* Olefins plant
- ★ Olefins fractionator
- Devils Tower spar
- Deepwater pipeline
- Discovery Pipeline\*
- Black Marlin Pipeline
- Ethane pipeline
- Carbonate Trend
- ▼ Gas compression plant
- O NGL storage

#### Natural Gas

#### Transportation & Storage

- Northwest Pipeline
- ---- Transco Pipeline
- Gulfstream Pipeline\*
- ---- Cardinal Pipeline\*
- O LNG storage
- Underground storage

#### Power

- Tolling facilities
- Owned facilities

\*Partially owned by Williams



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

#### **Focused on Reliability**

- Metrics monitored and reported to all employees on monthly basis
- > Service reliability measures incorporated into our employees' incentive compensation plan

<b>Reliability Metrics Scorecard</b> (Year-to-date results, October 2006)		
Assets	% of Reliability	
Canadian Olefins	95.18%	
Gulf Coast Olefins	99.84%	
Conway	99.44%	
Four Corners Area	97.90%	
Rocky Mountain Area	98.90%	
Discovery	99.93%	
Eastern Gulf	98.86%	
Western Gulf	99.50%	
Venezuela (Wilpro)	99.35%	
Venezuela (Accroven)	99.10%	



"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**

CEL MAN



> 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**



Rio Blanco roads remain restricted GRAND JUNCTION DAILY SENTINEL MARCH 15, 2007

Energy impact costs hard to nail down, county commissioner says GLENWOOD SPRINGS POST INDEPENDENT APRIL 6, 2007

Weight limits stay on Rio Blanco roads GRAND JUNCTION DAILY SENTINEL MARCH 23, 2007

#### > 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 mmscfd capacity plant is equal to
- 15 60 mmscfd capacity plants

	Nox (TPY)	CO (TPY)	VOC (TPY)
Emissions for one 60 mmscfd Plant	95	95	20
Total Emissions for 15 Plant	1,425	1,425	300
Emissions for 2 450 mmscfd Plants (900 mmscfd total)	345	379	120
Emissions Reduction by using Large - Scale Facilities	Approximate 1,000	Approximate 1,000	Approximate 200

#### **Financial Considerations for Large-Scale**



**Relative Financial Value** 

**Fewer Personnel** 

Multiple NGL Delivery Options

Lower Unit Operating Cost

**Higher NGL Recovery** 

Lower Fuel Cost Per Gallon

Large-Scale

More Personnel

Limited NGL Delivery Options

**Higher Unit Operating Cost** 

Lower NGL Recovery

**Higher Fuel Cost Per Gallon** 

**Small-Scale** 

#### Financial Considerations – Large Scale Per Unit Costs Are Lower





### **Reliability Considerations for Large-Scale**



	Large-Scale	Small-Scale
Redundancy	Yes	Νο
Technology	Typically more sophisticated	Typically simpler technology
Specialized Employees	Generally yes	Generally no

# **Recent Developments**



#### **Overland Pass Pipeline**





🕨 Williams Processing Plant 🛛 🔵 3rd Party Processing Plant 🛞 Fractionator

- 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 mmcfd 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

**Conditioning Plant** 

**Cryogenic Processing Plant** 



## **Questions & Answers**



