

# Nation's Pipeline Construction Boom Brings Rewards And Challenges

By **Rita Tubb**, Managing Editor

**T**he fourth annual Pipeline Opportunities Conference held March 25 in Houston by *Pipeline & Gas Journal* attracted a record 494 attendees who came to hear 26 speakers discuss the latest news in pipeline projects throughout North and South America.

Jeff Share, conference founder and organizer, said the number of attendees grew by 35% from the 2007 event as the pipeline symposium, which is put on in conjunction with the Interstate Natural Gas Association of America (INGAA), has grown each year, attesting to the intense interest in the pipeline business.

Share said the 2008 conference was unique in that it brought together executives from both the oil products and natural gas transmission sectors. "Both of these businesses are facing tremendous growth opportunities, but with opportunity comes challenge," Share said.

In addition, representatives from Brazil's Petrobras unveiled billions of dollars worth of construction plans, new developments in technology, and their approach to transporting ethanol. Also on hand were representatives from Alaska Gov. Sarah Palin's office who updated attendees on the North Slope natural gas pipeline project.

Topics covered at the all-day event included workforce and environmental issues. Share said plans are well under way for the 2009 event with details to be released shortly. He said topics will include new technologies and a global outlook for the natural gas business.

Keynote speaker Norm Szydlowski, president/CEO of Colonial Pipeline Co. in Atlanta, opened up the conference with an upbeat outlook on his company's plans, including a significant expansion to correct a bottleneck between Baton Rouge, LA and Atlanta. "If the project goes forward we're going to add significant capacity that will not only open up the bottleneck but make products available beyond Atlanta, giving Colonial the opportunity to take advantage of markets to the north," he said.

Szydlowski also discussed the significance of ethanol and its promise. "I think we're going to be seeing ethanol in many, many markets. And regardless of our assessment, ethanol is part of our present and part of our future. In the pipeline business we've got to figure out how best to move it."

While noting that much work remains to be done, Szydlowski said, "I believe we're close to figuring out how best to transport ethanol, but the next step is logistics."

The Colonial executive noted that other opportunities are coming as well, including biodiesel. "It looks like this can be moved in a pipeline fairly well. However, it doesn't appear that the commercialization of that technology is moving very

**Contractors Current Anticipated Workload By Large Diameter Spreads**  
Current Date: 03-10-08

Project Description (Quantity or L/D)	2008												2009
	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	
Clinton - 115 Miles 24 inch and 36 inch / FR & MD					1	2	2	2	2	2			
Empire - 50 Miles 24 inch / NY						1	1	1	1	1	1		
Frankford - 357 Miles 24 and 42 inch		2	2	2	2	2	2						
Grubbs II - 483 Miles 20, 36 and 42 inch / FL & MD					4	4	4	4	4	4	4	4	
Minnesota Gas - 290 Miles 24 inch / MN	2	2											
Ontario - 37 Miles and 42 inch / LA			1	1	1	1	1						
Quebec - 91 Miles 24 inch / MT						1	1	1	1	1	1		
Quebec A - 25 Miles 42 inch / LA	2	2	1	1									
Energy Transfer - 55 Miles 42 inch / TX	1	1	1										
Duke/Carterport - 275 Miles 24 inch / LA, MS & AL	3	3	3	3	3	3							
Gulf South - 118 Miles 42 inch / MS & AL	3	3	3	3									
Redfish Pass - 506 Miles 42 inch / MD, VA, & DC							7	7	7	7	7	7	
CO - 164 Miles 30 inch / CO	1	1	1	1									
TransCanada - 228 Miles 24 inch / ND & SD						2	2	2	2	2	2	2	
Boardwalk - 339 Miles 42 inch / OK, TX, LA & MS						5	5	5	5	5	5	5	
Under Borgan of Energy Transfer - 308 Miles 24" 66" 82"								5	5	5	5	5	
Under Borgan - 140 Miles 42 inch / LA		1	1	1	1	1	1	1	1	1	1	1	
Energy Transfer - 51 Miles 24 inch / TX			1	1	1	1	1						
Texas Gas - 251 Miles 36" / MS & AL					3	3	3	3	3	3	3	3	
Outstream II - 35 Miles 24 inch / FL				1	1	1	1						
Millstream - 127 Miles 36 inch / NY						4	4	4	4	4	4	4	
Swan Golden Pass - 52 Miles 42 inch / TX	1	1	3	3	3	2	2	2	2	1			
<b>TOTAL SPREADS PER MONTH</b>	<b>12</b>	<b>16</b>	<b>17</b>	<b>17</b>	<b>21</b>	<b>40</b>	<b>37</b>	<b>37</b>	<b>37</b>	<b>36</b>	<b>28</b>	<b>5</b>	<b>5</b>

Company Resource	Total Capacity
Reactivated - (ASB)	2
Deer - (DERS)	1
Gregory & Davis - (GND)	4
Hessels & Hub City - (HHR)	2
Lebo - (LVE)	2
Mohr - (MCH)	2
Old Builders (OB)	1
Provision - (PRO)	3
R.C. Price - (RCP)	3
Quanta (Q)	1
Rockford - (ROCK)	2
Roper & Phillips - (RPH)	2
Sheehan Pipe Line Construction Co. - (SHCC)	4
Stewart (SUN)	2
U.S. Pipeline - (US)	4
Welder - (WELD)	3
<b>Total Capacity</b>	<b>38</b>

fast, which is another reason we will be in the petroleum business for a long time to come and need to pay attention to our infrastructure and make sure it can deliver the goods."

Among the challenges cited were:

- Financing future infrastructure projects;
- Industry's role in greenhouse gas emissions; and
- Changes in Washington that could hamper future construction activity.

In the workforce issues session, Sheehan Pipeline President/CEO David Sheehan provided attendees with a positive outlook for 2008 that included an unprecedented schedule for big-inch pipeline construction. He used the accompanying slide to show that during this peak summer season there will be an average of 40 spreads active throughout the country.

To put this in perspective, he shared a chart

showing contractors' current and anticipated workload by large-diameter spreads. "These are all major projects. It does not include rehab jobs, testing jobs or small jobs, which is about double the amount of work projected just a year ago," he said.

Turning to challenges facing the industry, he said that while the industry has about 20 spreads worth of manpower, it is hardly enough to accommodate 38-40 spreads needed for 2008.

"Keep in mind that this is only the union side of the industry," he explained. "And while I don't have a real good handle on the non-union side, my best guess is that their numbers would be at least 50% of our numbers."

Sheehan noted that based on information from the United Association of Welders, their figures indicate 6.9 million manhours worked in 2007. He anticipates the industry recording 10 million manhours in 2008.



Delivery interconnections will provide access to numerous downstream markets, including those served by the Natural Gas Pipeline Company of America (NGPL), Transco, Texas Eastern, Tennessee, Columbia Gulf, Texas Gas, Southern Natural, Destin and ANR pipelines.

Watson said the primary push for this pipeline is the significant production growth in both Texas and Oklahoma -- the Barnett Shale in Texas and the Woodford Shale in Oklahoma, along with the additional growth in western Oklahoma.

Scheduled to begin service in March 2009, The Midcontinent Express Pipeline is a 50/50

joint venture between Kinder Morgan Energy Partners, L.P. and Energy Transfer Partners, L.P.

In her discussion of the Rockies Express Pipelines, Watson noted that construction was winding down on the 713-mile Rex West line that extends from Weld County, CO to Audrain County, MO. "On Jan. 12, 2008, we went into interim service for 1.4 Bcf up to the ANR interconnect and full service to Audrain County, MO in late March 2008."

Rex East, a 638-mile pipeline from Audrain County, MO to Monroe County, OH, will be constructed in 2008 and 2009. Pipe and com-

pression are on order and 60% of the right-of-way has been acquired on the east end and construction contractor agreements are in place.

Deliveries at Clarington, OH are expected to commence near year end while the targeted in-service date for all of Rex East is June 2009.

Kinder Morgan is also proposing construction of the Rex Northeast Express Pipeline. This project involves: an expansion of the Rex East line from Lebanon to Clarington, which can be expanded via compression by another 650 MMcf/d to 1 Bcf; new build from Clarington to Linden, which involves approximately 350 miles of 42-inch from Clarington to Princeton and from Princeton to Linden it would be a combination of 30- and 24-inch pipe. After the Clarington to Princeton leg ramps from 1.1 to 1.8 Bcf over a four year time frame then the Princeton to Linden leg could ramp up 1.2 Bcf.

Watson indicated that various delivery points are available and the projected in-service date is December 2011. Still another proposed pipeline is the Chicago Express project, planned by Rex and NGPL. It will involve an expansion of the Overthrust Capacity Lease from Questar in Wyoming between Opal and Wamsutter and pipeline looping from Meeker to Arlington.

Rex would build 776 miles of high-pressure 36-inch pipeline from Arlington to GNPL's Station 109 while GNPL would build 226 miles of 36-inch pipe from Station 109 into the Chicago area. This line would also connect into Guardian, Midwestern, Peoples, Nicor, and NGPL's low-pressure system so shippers would have access to the company's existing delivery gates. The project will have a 1.2 Bcf/d capacity and is scheduled to begin service in late 2011.

Now under construction is the KM Louisiana Pipeline. This is a 137-mile, 42-inch diameter pipeline from Chenier's Sabine Pass LNG regasification facility that will terminate at Columbia Gas' mainline in the Eunice, LA area.

In addition to the 137-mile leg, a one-mile lateral will be built from the Chenier plant to NGPL's Louisiana line that will have daily capacity of 1.6 Bcf. The in-service date for the NGPL leg is September while the 137-mile leg to the Columbia Gulf interconnect will begin service in January. Watson noted that this pipe is fully subscribed. Total and Chevron each took half the capacity under 20-year fixed rate contract agreements.

Other highlights of the session included presentations by Mackie McCrea, president, Energy Transfer Midstream Operations, Mike Moran, senior vice president and chief commercial officer, Panhandle Eastern and Bob Riga, general manager of marketing, Spectra Energy Transmission. Also, Bryan Neskora, senior vice president and chief commercial officer, Tennessee Gas Pipeline, discussed projects totaling some \$4 billion that will be placed into service over the next several years.

The Liquids Pipeline Roundtable session started with a presentation by Perry Schuldhuis, Enbridge Pipelines' vice president, Business Development, who summarized the company's \$12 billion worth of projects under construction and another \$12 billion in pipelines projects planned for development.

The Enbridge executive noted that the driver behind the growth for pipeline construction from Canada into the U.S. is the tremendous

increased production in oil sands between now and 2016 and beyond.

“We are looking at roughly 2 million barrels of growth by 2016 which is driven mostly by the oil sands and the projects up in the Alberta oil sands region,” he explained.

In overviewing projects under construction, Schulhaus said his company is working to complete the Waupisoo Pipeline from the oil sands region down to Edmonton by mid-2008. This pipeline will have an initial capacity of 350,000 bpd and can be expanded to 600,000 bpd.

“There is also the Alberta Clipper project where we are maximizing the use of our existing rights-of-way,” he said. “The Alberta Clipper is effectively a new crude line from Hardisty, Alberta to Superior, WI. It is a 36-inch pipeline with an initial capacity of 450,000 bpd, expandable to 800,000 bpd, with an in-service target date of 2010.”

Schulhaus also discussed the proposed 180,000 bpd Southern Lights Pipeline designed to transport diluent from the U.S. Midwest to western Canada. It will involve a combination of new construction, changes to Enbridge’s existing crude oil pipeline system and utilization of existing facilities.

Major elements of the project include a diluent line from Chicago to Edmonton, achieved by:

- Constructing 674 miles of 16-inch pipe from the Chicago area to Clearbrook, MN.
- Reversing the flow of Enbridge’s Line 13 from Clearbrook to Edmonton.

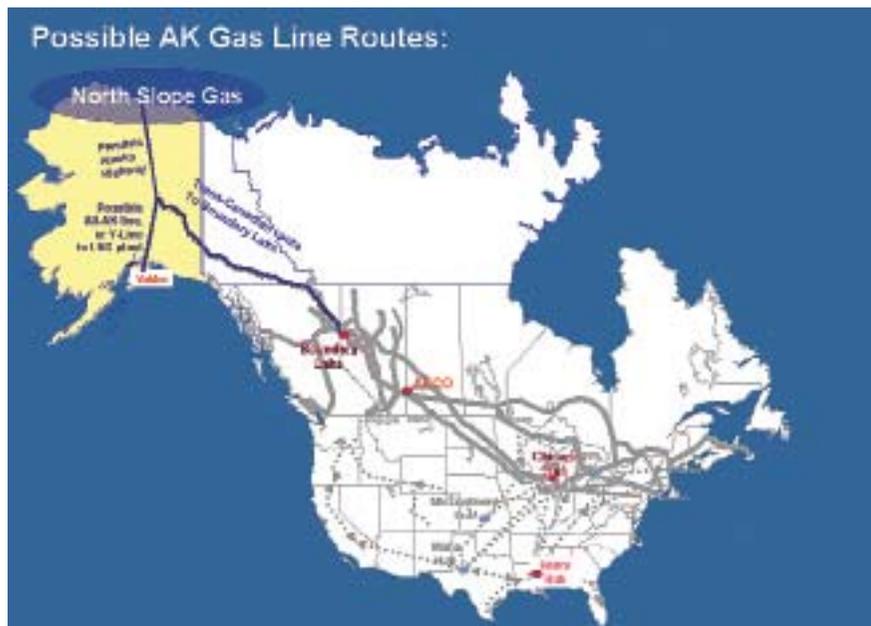
Additionally, Enbridge plans to construct a 20-inch pipeline to transport 185,000 bpd of light sour crude oil from Cromer, Manitoba to



Clearbrook and expand its existing Line 2. The result of these changes to the existing crude oil system is to increase effective light crude system capacity by 45,000 bpd from Edmonton to the U.S. Midwest. The estimated cost of the Southern Lights project is US\$2.2 billion. In-service is anticipated in 2010.

Also discussed was a joint Enbridge/

ExxonMobil Pipeline initiative to develop the Texas Access Pipeline. The proposed project comprises a new 768-mile, 30-inch pipeline which will transport crude oil from a receipt point in the vicinity of ExxonMobil Pipeline’s Patoka, IL crude oil terminal southward to a delivery point in the vicinity of existing terminals in Nederland, TX. Also proposed is an



88-mile, 24-inch pipeline to transport crude oil onward from Nederland to a delivery point in the East Houston area. Through potential connections with existing terminals in Nederland and Houston, the new pipeline system can provide shippers with the flexibility of moving onto different crude oil distribution pipelines. The pipeline is expected to be in service in 2011.

Also in this session, Robert Jones, vice president, Keystone Pipeline (TransCanada), gave an upbeat forecast on his company's plans. Noting that TransCanada's vision is relatively simple, he cited the following as near-term goals: to be the leading energy infrastructure company in North America; to have a strong focus on two business lines, pipelines and power generation; and develop that infrastructure in areas where the company has a strategic advantage.

In his discussion of new and planned pipelines and expansion projects, Jones said TransCanada has \$10 billion in approved projects, one of which is the 2,148-mile Keystone Pipeline that will transport crude from Hardisty, Alberta to U.S. Midwest markets at Wood River and Patoka, IL to Cushing, OK. Jones said it is basically comprised of a combination of 1,300 miles of new 30-inch construction, 300 miles of new 36-inch construction and 548 miles of existing pipelines.

As to construction, he said starting this spring there will be four spreads operating, two in Canada and two in the United States. "The first spread will be built in Manitoba, going from around Winnipeg to Carmen and building south toward the U.S. border," he explained. "The first U.S. spread starts at the international border and extends south through North Dakota. At the same time the 2A spread will start about two-thirds of the way into North Dakota and head south into South Dakota. We are going to commence the civil work at some 40 pump stations along with the conversion of the existing pipeline being used on the project.

"The peak year is 2009, when work moves from Manitoba to Alberta, heading toward

Hardisty. There will be additional spreads in Nebraska, South Dakota, Missouri and Illinois in 2009. Finally, in 2010, there will be three 36-inch spreads and construction will also commence on the 50 pump stations."

He gave the following as some of the highlights of the project;

- More than 1,600 miles of new construction;
- Fourteen different spreads;
- Almost 600,000 tons of pipe;
- Fifty pump stations; and
- A peak labor force of 6,500.

The Keystone Pipeline will have an initial nominal capacity of 435,000 bpd in late 2009 and be expanded to a nominal capacity of 590,000 bpd in late 2010.

Other highlights of the session included an informative presentation by Mike Mears, chief operating officer, Magellan Midstream Partners, L.P.

Luncheon speakers included two member of Alaska Gov. Sarah Palin's Gas Line Team: Kurt Gibson, deputy director of the State of Alaska's Division of Oil and Gas and Bruce Anders, chief of the Oil and Gas Division's Lease Sales and Permitting and Petroleum System Integrity Offices.

Their talk focused on business opportunities the long-awaited Alaskan Gas Pipeline project offers and how to get involved in what will be the largest construction project in North America history.

Other highlights at the conference included an information session on Painting Your Pipeline Green. This session featured El Paso Pipeline's Tom Hutchins, director, Environmental, Health and Safety, and Fiji George, manager, Environmental (Air). Also, Mark Slaughter, North American sales manager, GE Oil and Gas and Brit Brown, Attorney, Beirne, Maynard & Parsons LLC gave thought provoking presentations on this timely subject.

The final session of the day featured executives from Brazil's leading energy company, Petrobras, they discussed the company's experience in transporting ethanol, the company's five-year pipeline construction program and current pipeline R&D technology. **P&GJ**