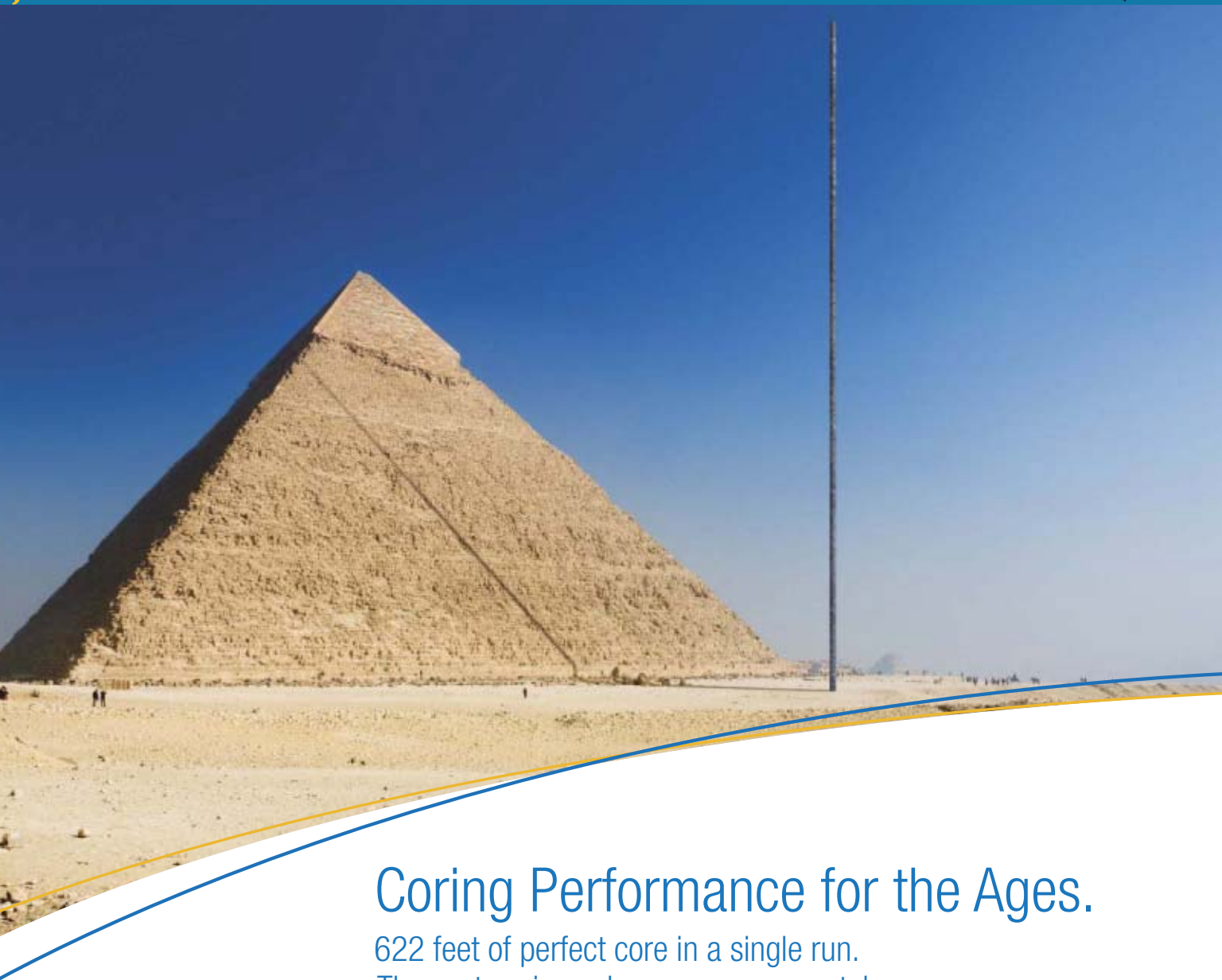

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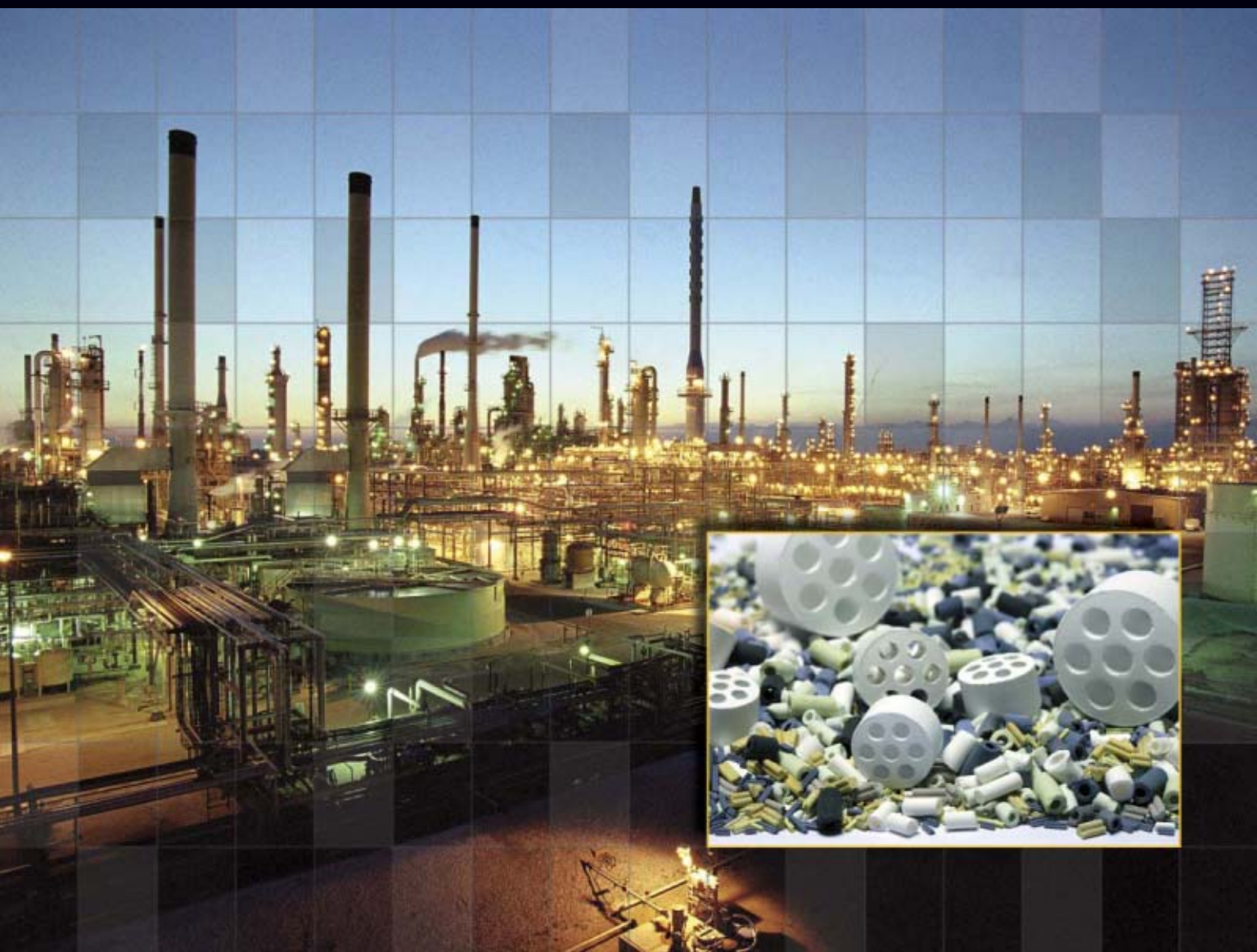

Catalyst Report

Politics, oil prices steer evolution of deal forms
Falcon to pursue large resource at Beetaloo
Raising supplemental bonding ups small firm liabilities
Regional supply competition pressures US gas prices

SINOPEC CATALYST COMPANY

Address: 58 Anwai Street, Dongcheng District,
Beijing 100011, People's Republic of China
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Sept. 7, 2009
Volume 107.33

CATALYST REPORT

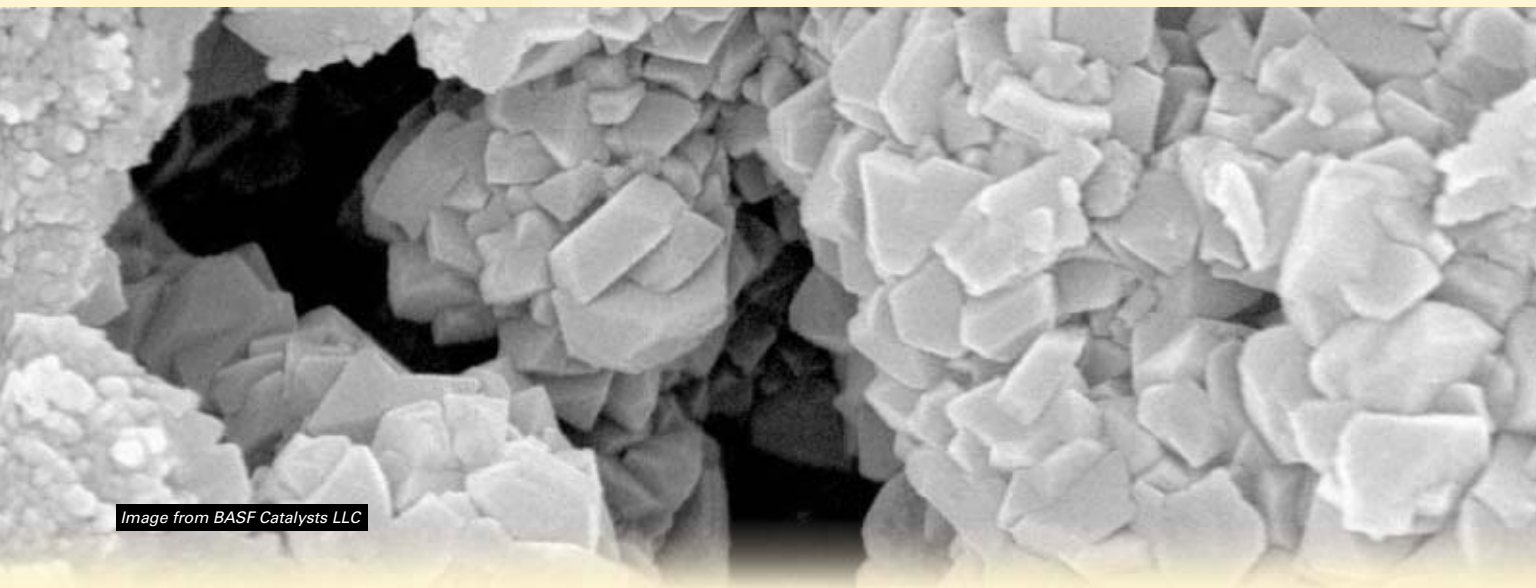

Image from BASF Catalysts LLC

REGULAR FEATURES

COVER

Refining catalyst supply, cost, and availability are concerns at Marathon Oil's Garyville, La., refinery, which is nearing completion of a 180,000-b/d expansion from 256,000 b/d. Start-up will take place later this year or early 2010. Final project cost has risen to $3.7 billion, from the initial estimate of $3.2 billion made in 2006. New process units include a 44,000-b/d coker, a 70,000-b/d hydrocracker, a 65,000-b/d CCR platformer, a 47,000-b/d kerosine hydrotreater, and a 40,000-b/d naphtha hydrotreater. Oil & Gas Journal's exclusive Catalyst Report, which begins on p. 44, updates the outlook for the catalyst market in the current global recession and reviews some important changes among producers. Photos from Marathon Oil and Haldor Topsoe.

General Interest

Exploration & Development

Drilling & Production

Processing

Transportation

 Oil & Gas Journal (ISSN 0030-1388) is published 47 times per year by PennWell Corporation, 1421 S. Sheridan Rd., Tulsa, Okla., Box 1260, 74101. Periodicals postage paid at Tulsa, Okla., and at additional mailing offices. Oil & Gas Journal and OGJ are registered trademarks of PennWell Corporation. **POSTMASTER:** send address changes, letters about subscription service, or subscription orders to P.O. Box 3497, Northbrook, IL 60065, or telephone (800) 633-1656. Change of address notices should be sent promptly with old as well as new address and with ZIP code or postal zone. Allow 30 days for change of address. Oil & Gas Journal is available for electronic retrieval on Oil & Gas Journal Online (www.ogjonline.com) or the NEXIS® Service, Box 933, Dayton, Ohio 45401, (937) 865-6800. **SUBSCRIPTION RATES** in the US: 1 yr. $89; Latin America and Canada: 1 yr. $94; Russia and republics of the former USSR, 1 yr. 2,200 rubles; all other countries: 1 yr. $129, 1 yr. premium digital $59 worldwide. These rates apply only to individuals holding responsible positions in the petroleum industry. Single copies are $10 each except for 100th Anniversary issue which is $20. Publisher reserves the right to refuse non-qualified subscriptions. Oil & Gas Journal is available on the Internet at http://www.ogjonline.com. (Vol. 107, No. 33) Printed in the US. GST No. 126813153. Publications Mail Agreement Number 602914. Return Undeliverable Canadian Addresses to: P.O. Box 1632, Windsor, ON N9A 7C9.

PennWell, Houston office
1455 West Loop South, Suite 400, Houston, TX 77027
Telephone 713.621.9720/Fax 713.963.6285/Web site www.ogjonline.com
Editor Bob Tippee, bobt@ogjonline.com
Chief Editor-Exploration Alan Petzet, alanp@ogjonline.com
Chief Technology Editor-LNG/Gas Processing Warren R. True, warrent@ogjonline.com
Production Editor Guntis Moritis, guntism@ogjonline.com
Pipeline Editor Christopher E. Smith, chriss@ogjonline.com
Senior Editor-Economics Marilyn Radler, marilynr@ogjonline.com
Senior Editor Steven Poruban, stevenp@ogjonline.com
Senior Writer Sam Fletcher, samf@ogjonline.com
Senior Staff Writer Paula Dittrick, paulad@ogjonline.com
Survey Editor/News Writer Leena Koottungal, lkoottungal@ogjonline.com
Editorial Assistant Linda Barzar, lbarzar@pennwell.com

Vice-President/Group Publishing Director Paul Westervelt, pwestervelt@pennwell.com
Vice-President/Custom Publishing Roy Markum, roym@pennwell.com

PennWell, Tulsa office
1421 S. Sheridan Rd., Tulsa, OK 74112
PO Box 1260, Tulsa, OK 74101
Telephone 918.835.3161 / Fax 918.832.9290
Presentation/Equipment Editor Jim Stilwell, jims@pennwell.com
Associate Presentation Editor Michelle Gourd, michelleg@pennwell.com
Statistics Editor Laura Bell, laurab@ogjonline.com
Illustrators Mike Reeder, Kay Wayne
Editorial Assistant Donna Barnett, donnab@ogjonline.com
Production Director Charlie Cole

London
Tel +44 (0)20.8884.4246
International Editor Uchenna Izundu, uchennai@pennwell.com

Washington
Tel 703.533.1552
Washington Editor Nick Snow, nicks@pennwell.com

Los Angeles
Tel 310.595.5657
Oil Diplomacy Editor Eric Watkins, hippalus@yahoo.com

OGJ News
Please submit press releases via e-mail to: news@ogjonline.com

Subscriber Service
P.O. Box 2002, Tulsa OK 74101
Tel 1.800.633.1656 / 918.831.9423 / Fax 918.831.9482
E-mail ogjsub@pennwell.com
Circulation Manager Tommie Grigg, tommieg@pennwell.com

PennWell Corporate Headquarters
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Sept. 7, 2009

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General Interest — Quick Takes

Norway eyes $2 trillion oil industry expenditure

Norway hopes to tap into $2 trillion of the oil industry's expenditure over 2009-13, according to a report published by Douglas-Westwood.

The study, which focused on 19 target countries and 26 key onshore and offshore market areas, was commissioned by Norwegian oil and gas partners INTSOK. The organization works with Norwegian companies throughout the petroleum chain to do business abroad promoting the nation's experience, technology, and expertise.

The report found that increasingly oil and gas will be produced from deepwater provinces—opening a buoyant market over the coming decades. Other drivers underpinning the huge rise in expenditures include rising energy demand from the developing countries, growth in oil prices, and tightness in global energy supplies.

John Westwood, chairman of Douglas-Westwood, said, "The current economic environment has hit activity levels hard, however, by 2011 it is forecast that overall expenditure will have recovered and beyond this the majority of the selected market sectors are expected to exhibit growth through 2013."

He added: "Within the offshore target markets, expenditure is expected to grow from $163 billion in 2009 to $222 billion in 2013 and onshore markets from $170 billion to $229 billion."

"Over the next 5 years, we forecast that the total expenditure within the onshore and offshore INTSOK target markets will total nearly $2 trillion, compared to about $1.4 trillion over the previous period," said Westwood.

Indonesia pegs oil, gas spending at $5 billion

Indonesia's domestic firms will increasingly benefit from expenditures of oil and gas contractors this year due to "aggressive efforts" by the government, according to a senior official.

R. Priyono, chairman of the country's upstream oil and gas regulating agency BPMigas, said domestic firms might be able to absorb as much as 50 trillion rupiah ($5 billion) from the annual spending of oil and gas contractors now estimated at 110-150 trillion rupiah/year.

"We don't set high targets as we have just begun intensifying the use of local content in the industry," said Priyono. "We will be very happy with the 50 trillion rupiah if it can be realized."

Priyono acknowledged 50 trillion rupiah is not an optimal figure but said it is significantly higher than in previous years when most contractors spent only 20% of their annual outlay through local firms.

In an effort to raise the figure to 55% by the end of 2010 and to 91% by 2025, Priyono and Industry Minister Fahmi Idris signed an agreement Aug. 21 aimed at increasing the use of locally made heavy equipment, machines, ships, and offshore rigs for the country's oil and gas industry.

"We expect to follow up the agreement with more concrete actions," Priyono said, without providing details.

Seadrill looking into Timor Sea oil spill

Seadrill Ltd. reported that it is working closely with the National Offshore Petroleum Safety Authority to investigate an Aug. 21 oil spill involving the Montara platform complex off West Australia in the Timor Sea.

Seadrill's West Atlas jack up drilling rig is operating under contract to PTTEP of Thailand. PTTEP owns and operates the Montara platform complex. An oil leak developed on a well adjacent to where the West Atlas was working, Seadrill said.

All personnel on the West Atlas were safely evacuated, Seadrill said. The cause of the leak is yet unknown. The Australian Maritime Safety Authority sent planes to spray chemical dispersants on the water to help break up the resulting oil slick.

Seadrill said it is making another jack up, the West Triton, available to PTTEP to drill a relief well. Seadrill also sent an accident investigation team to Australia.

Once the leaking well is under control, Seadrill said its crews will reboard the West Atlas and assess any damage. ✦

Exploration & Development — Quick Takes

BP's Tiber one of industry's deepest wells

BP PLC has reported a giant Gulf of Mexico Lower Tertiary deepwater discovery that is also one of the world's deepest wells.

Named Tiber, the well went to a total depth of 35,055 ft on Keathley Canyon Block 102 and found oil in multiple Lower Tertiary (Paleogene) reservoirs, BP said.

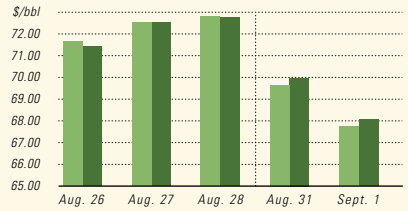
The company said Tiber, after appraisal to determine its size, should be larger than the 3 billion boe that BP expects to recover from its 2006 Kaskida discovery 45 miles to the southeast.

Kaskida, with more than 800 ft of net pay on Keathley Canyon 292, is under appraisal through 2010. The Kaskida unit covers 51,840 acres on nine blocks. The Kaskida discovery well went to 32,500 ft in 5,860 ft of water. Kaskida interests are BP 73.33% and Devon Energy Corp. 26.67%.

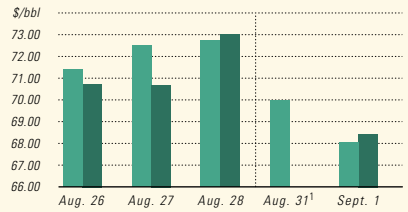
Andy Inglis, chief executive, BP Exploration & Production, said, "These material discoveries together with our industry leading acreage position support the continuing growth of our deepwater Gulf of Mexico business into the second half of the next decade."

Industry Scoreboard

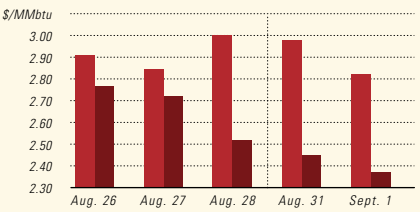
IPE BRENT / NYMEX LIGHT SWEET CRUDE



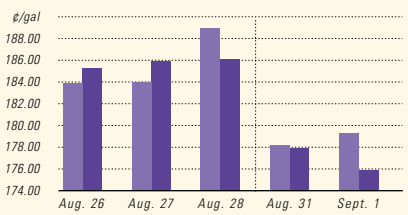
WTI CUSHING / BRENT SPOT



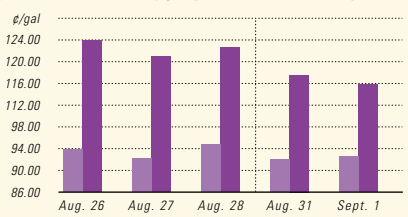
NYMEX NATURAL GAS / SPOT GAS - HENRY HUB



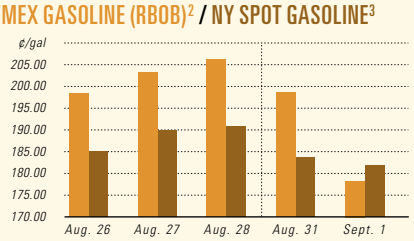
IPE GAS OIL / NYMEX HEATING OIL



PROPANE - MT. BELVIEU / BUTANE - MT. BELVIEU



NYMEX GASOLINE (RBOB)[2] / NY SPOT GASOLINE[3]



[1]Not available. [2]Reformulated gasoline blendstock for oxygen blending. [3]Nonoxygenated regular unleaded.

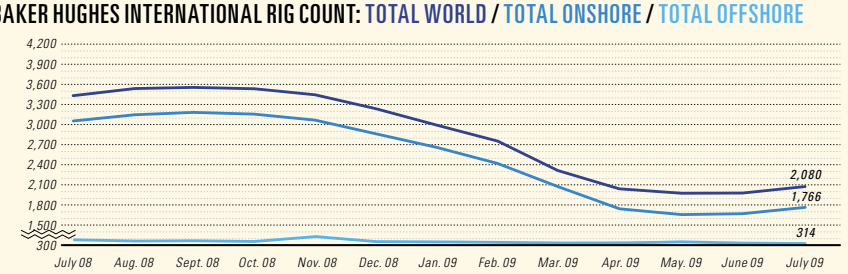
US INDUSTRY SCOREBOARD — 9/7

Latest week 8/21	4 wk. average	4 wk. avg. year ago[1]	Change, %	YTD average[1]	YTD avg. year ago[1]	Change, %
Demand, 1,000 b/d						
Motor gasoline	9,115	9,139	–0.3	8,981	9,060	–0.9
Distillate	3,376	3,667	–7.9	3,590	3,985	–9.9
Jet fuel	1,429	1,621	–11.8	1,385	1,590	–12.9
Residual	499	561	–11.1	595	640	–7.0
Other products	4,766	4,366	9.2	4,135	4,525	–8.6
TOTAL DEMAND	19,185	19,354	–0.9	18,686	19,800	–5.6
Supply, 1,000 b/d						
Crude production	5,190	4,962	4.6	5,228	5,098	2.6
NGL production[2]	2,127	2,221	–4.2	1,951	2,149	–9.2
Crude imports	9,039	10,262	–11.9	9,275	9,887	–6.2
Product imports	2,356	2,850	–17.3	2,782	3,170	–12.2
Other supply[3]	1,718	1,509	13.9	1,716	1,545	11.1
TOTAL SUPPLY	20,430	21,804	–6.3	20,952	21,849	–4.1
Refining, 1,000 b/d						
Crude runs to stills	14,454	15,398	–6.1	14,454	14,697	–1.7
Input to crude stills	14,815	15,417	–3.9	14,815	15,038	–1.5
% utilization	83.9	87.5	—	83.9	85.4	—

Latest week 8/21	Latest week	Previous week[1]	Change	Same week year ago[1]	Change	Change, %
Stocks, 1,000 bbl						
Crude oil	343,760	343,632	128	305,760	38,000	12.4
Motor gasoline	208,054	209,754	–1,700	195,441	12,613	6.5
Distillate	162,384	161,617	767	132,125	30,259	22.9
Jet fuel–kerosine	45,450	46,520	–1,070	42,072	3,378	8.0
Residual	34,442	35,606	–1,164	37,699	–3,257	–8.6
Stock cover (days)[4]			Change, %		Change, %	
Crude	23.8	23.7	0.4	20.5	16.1	
Motor gasoline	22.8	23.0	–0.9	20.7	10.1	
Distillate	48.1	48.4	–0.6	31.4	53.2	
Propane	70.9	70.7	0.3	55.2	28.4	
Futures prices[5] **8/28**			**Change**		**Change**	**%**
Light sweet crude ($/bbl)	72.62	70.96	1.66	115.63	–43.01	–37.2
Natural gas, $/MMbtu	2.92	3.03	–0.11	8.01	–5.09	–63.6

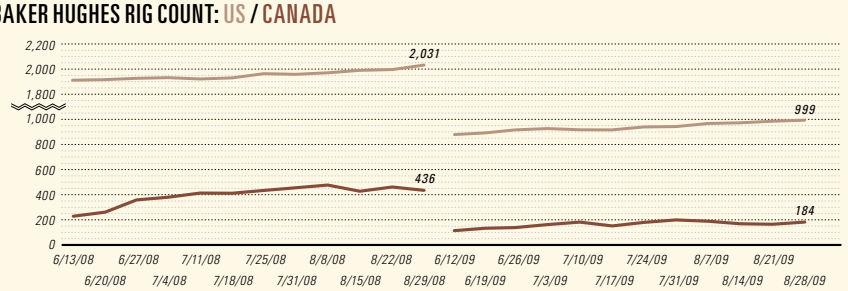
[1]Based on revised figures. [2]Includes adjustments for fuel ethanol and motor gasoline blending components. [3]Includes other hydrocarbons and alcohol, refinery processing gain, and unaccounted for crude oil. [4]Stocks divided by average daily product supplied for the prior 4 weeks. [5]Weekly average of daily closing futures prices.
Sources: Energy Information Administration, Wall Street Journal

BAKER HUGHES INTERNATIONAL RIG COUNT: TOTAL WORLD / TOTAL ONSHORE / TOTAL OFFSHORE



Note: Monthly average count

BAKER HUGHES RIG COUNT: US / CANADA



Note: End of week average count

BP is the gulf's largest oil and gas producer with net production of more than 400,000 boe/d. It is working on nine Gulf of Mexico projects: Atlantis Phase 2, Tubular Bells, Kodiak, Freedom, Kaskida, Isabela, Santa Cruz, Mad Dog tiebacks, and Great White.

Tiber is nearly 300 miles east-southeast of Corpus Christi, Tex., in 4,132 ft of water. It is also 35 miles southeast of the Gunnison field complex in the Garden Banks area.

BP operates Tiber with 62% interest. Brazil's Petroleo Brasileiro SA has 20%, and ConocoPhillips has 18%.

Large gas resource seen in Quebec's Utica shale

Consulting engineers estimated a prospective resource of 4.28 tcf of natural gas in place in the Ordovician Utica shale in the deep fairway of Quebec's St. Lawrence Lowlands.

The estimate of 150 bcf/sq mile is 66% higher than earlier industry figures, said Questerre Energy Corp., Calgary. The range of the resource is 2.2-8 tcf.

The estimates relate only to company lands that have geology validated by successful wells, Questerre said.

"The evaluation is focused on the acreage between the two main geological features, the Yamaska growth fault and Logan's Line, where Questerre holds approximately 833,000 gross acres in the deep fairway," the company said.

The assessment does not include the shallower Ordovician Lorraine interval but did include results from the recently completed, Talisman Energy Inc.-operated Edouard-1 exploratory well (OGJ Online, Aug. 31, 2009).

NAPE: Frac regulation Washington's 'worst threat'

A move to regulate hydraulic fracturing federally is the "biggest threat our industry has ever seen in Washington," Bruce Vincent, vice-chairman of the Independent Petroleum Association of America, said Aug. 26.

Joel Noyes, IPAA director of government relations and industry affairs, expressed a low expectation for passage of most of the Obama administrations frenzied agenda, much of which contains negative provisions for oil and gas producers.

The atmosphere in Washington is one of "almost chaos," said Noyes, and the environment is very partisan. The agenda is so congested because of the Democratic desire to push contentious legislation through before the 2010 election year, he said.

Ninety percent of wells are hydraulically fractured, some dozens of times, Vincent told the Summer NAPE E&P Forum in Houston. In the 60 years that the industry has been fracturing wells under state regulation, no case of fresh water contamination by the procedure has been documented, he said (OGJ Online, July 2, 2009).

Greater frac regulation is coming, predicted William Coates, president, Schlumberger Oilfield Services North America. The question is whether the industry can manage enough input that final rules are formed in a cooperative manner, he said. ✦

Drilling & Production — *Quick Takes*

NAPE: Rockies gas output just starting to decline

Rocky Mountain operators are just now seeing natural gas production begin to decline, almost a year after they began idling drilling rigs as prices at the wellhead plummeted.

Prices may fall even farther, however, because the volume of gas in underground storage is above the average of the last few years and Colorado figures show production was still growing in this year's first and second quarters, said Alan Harrison, vice-president, Denver region/Piceance basin, Williams Exploration & Production Co., Tulsa.

The Colorado rig count peaked at 140 in the second half of 2008 and fell to a low of about 40 in recent weeks, Harrison noted at the Summer NAPE E&P Forum in Houston. Williams, lead operator in the Piceance basin in Garfield County, Colo., is running 8 rigs, down from 28.

Various operators have shut-in at least 300-350 wells in each of the Barnett, Piceance, and Fayetteville plays, said Bob Fryklund, vice-president, IHS-Cambridge Energy Research Associates.

Harrison predicted that the rate of decline will steepen fairly rapidly but didn't estimate a time frame.

In the Piceance valley area, Williams has driven costs down to a low of $1.6 million/8,000-ft well by drilling as many as 22 wells/pad, pumping frac jobs from 2 miles away from the rig, and drilling, completing, and producing gas simultaneously from the same pad, Harrison said.

It also built a 3,200-ft tunnel and a road with drillsites along switchbacks to access 60 otherwise undrillable locations in the highlands part of the basin.

Cairn India starts oil production at Rajasthan

Cairn India Ltd. started oil production at its Mangala field in Rajasthan state in part of the larger complex of Mangala, Bhagyam, and Aishwariya (MBA) fields.

Representing the largest of 25 discoveries made by the firm in the Barmer basin on Block RJ-ON-90/1, Mangala's initial output of 30,000 b/d will increase to 130,000 b/d by first-half 2010, with production rising to a peak of 175,000 b/d over the next 2 years.

According to Cairn, the MBA fields hold nearly 1 billion bbl of oil recoverable, including proved plus probable gross reserves and resources of 685 million boe with a further 300 million boe—or more—with enhanced oil recovery potential.

The firm said initial volumes of oil will be produced through the first processing train with a capacity of 30,000 b/d. Production will continue to increase until all four processing trains, with a total capacity of 205,000 b/d, are built and installed by 2011.

Cairn said it is building a 670-km heated and insulated oil pipeline from the Mangala processing terminal to the Gujarat coast. The first phase is targeted for completion by yearend.

The 24-in. export line will extend from Barmer in Rajasthan to a coastal location in Gujarat, via Viramgam. It will have an 8-in. gas line running most of its length, starting from the Raageshwari gas field on Rajasthan block.

Cairn said a minimum of 32 intermediate power feeding and heating stations will be built along the length of the oil pipeline, aimed at helping to maintain the required temperature within the pipeline.

Until the pipeline is complete, oil will be transported by heated trucks from the MPT to the Gujarat coast.

Cairn India operates and has a 70% stake in RJ-ON-90/1 block in Rajasthan, while India's Oil & Natural Gas Corp. holds 30%.

PetroChina enters oil sands joint venture

Athabasca Oil Sands Corp. (AOSC) has entered a series of joint venture agreements with PetroChina International Investment Co. Ltd.

PIIC agreed to pay $1.9 billion (Can.) to acquire 60% working interest in AOSC's MacKay River and Dover oil sands projects in northeastern Alberta. The agreements provide certain financing arrangements for AOSC.

As JV partners, AOSC and PIIC plan to use in situ methods to develop the oil sands projects.

AOSC filed applications for approval of two pilot projects within the project areas with Alberta's Energy Resources Conservation Board and intends to file a regulatory application for the first 35,000 b/d phase of the MacKay River commercial project at yearend. ✦

Processing — *Quick Takes*

Mideast petrochemical complex doubles capacity

Expansion of the petrochemicals complex at Shaiba, Kuwait, about 25 miles south of Kuwait City, was completed earlier this summer, according to its engineering contractor Flour Corp., Irving, Tex. The project spanned 5 years.

Fluor began work on Olefins II in July 2004 by providing overall management consultancy and front-end engineering and design for utilities and infrastructure. Olefins II doubles capacity of the existing complex that has operated there since 1998 (OGJ, Sept. 15, 1997, p. 36).

In addition to overall management consultancy and FEED, Fluor handled FEED and engineering, procurement, and construction management for seawater cooling towers, polyethylene expansion, expansion of existing utilities and infrastructure, and new utilities and infrastructure shared with aromatics.

Olefins II also included Fluor oversight of engineering and construction of:

- An 850,000-tonne/year ethane cracker.
- A 600,000-tpy ethylene glycol unit.
- A 450,000-tpy ethyl benzene/styrene monomer unit.
- A debottleneck expansion of an additional 225,000 tpy of polyethylene capacity at the existing complex.

In 1998, Fluor completed the original complex at Shaiba. In 2005, after completion of FEED work for Olefins II, Fluor was chosen to expand the plant and build a new facility alongside the existing one while integrating the two facilities into a single complex (OGJ Online, Nov. 12, 2004).

The complex is owned by a joint venture of Dow Chemical Co., Kuwait's Petrochemical Industries Co., Bubyan Petrochemical, and Qurain Petrochemical Industries.

Shell restarts Utorogu gas plant

Shell Petroleum Development Co. has restarted its 300-MMscfd capacity gas plant in Utorogu in western Niger Delta after the vandalized Escravos-Lagos Pipeline (ELP) was repaired by the Nigerian Gas Co.

The explosions on ELP happened in early August. ELP transports gas from the western delta to Lagos for electric power generation and industrial use. It also disrupted power supplies at the Egbin power station in Lagos and elsewhere, meaning that 1,000 Mw was lost on the national grid.

According to local reports, militant group Urhobo Revolutionary Army admitted responsibility for the sabotage in protest against the lack of development in their communities.

The incident has threatened to topple the fragile amnesty brokered between the Nigerian government and militant groups, including the prolific Movement for Emancipation of the Niger Delta (MEND). This was meant to stop sabotages on oil and gas facilities and enhance oil production. But the initiative is controversial within MEND with several high-profile figures agreeing to it and other members determined to continue with their campaign after the 60 days expires on Oct. 4.

An SPDC spokesman told OGJ that the plant would be slowly ramped up to full capacity. He said, "Utorogu was shut temporarily as a precautionary measure following damage to the ELP, and was restarted on Aug. 19 when repairs were completed."

The plant is operated by SPDC on behalf of joint venture in which Shell owns 30%, Nigerian National Petroleum Corp. 55%, Total SA 10%, and Eni SPA 5%.

Shell is yet to complete repairs at its Soku facility in Rivers State, which was closed last year following attacks and bunkering of condensate (OGJ Online, Dec. 12, 2008). It supplies about 40% of the feed gas for the Nigeria LNG plant on Bonny Island.

Soku was briefly restarted for 4 days in April, but was shut again after condensate theft occurred again.

Costs spiral for Brazil-Venezuela refinery project

Brazil's Petroleo Brasileiro SA (Petrobras), already under fire from legislators, said the estimated cost of the joint-venture Abreu e Lima refinery project tentatively stands at $12 billion, or nearly three times more than the original estimate of $4.05 billion.

"It's important to clarify that the total investments are under evaluation and will be subject to approval by the executive board after a technical and economic feasibility study," Petrobras said.

The Brazilian firm said the original estimate of $4.05 billion came in 2006 during the conceptual project preparation phase, when the expected capacity of the plant was 200,000 b/d of oil. At that time, it said the cost of building a refinery was estimated at about $20,000/bbl of capacity.

Petrobras said the cost rose to $12 billion with the finalization of the basic plans for the project and the decision to increase its refining capacity by 15% to 230,000 b/d. It said the upward cost estimate fits with current construction costs for a refinery, which have risen to $50,000/bbl of capacity.

Petrobras said in addition to the increase in construction costs, the budget for the refinery was affected by the depreciation of the dollar relative to the Brazilian real.

The Petrobras statement came after complaints by opposition members of a legislative committee, which is investigating alleged irregularities at the mixed capital firm.

The legislators based their complaints on an investigation by the office of Brazil's controller-general, which allegedly has found irregularities and over-invoicing and overpricing by companies hired to build the refinery.

The Abreu e Lima refinery is under construction in Brazil's northeastern Pernambuco state by Petrobras in association with Venezuela's state-own Petroleos de Venezuela SA (PDVSA). Site work at the refinery project, which started last year, is near completion, the company added.

Earlier this month, Petrobras and PDVSA reached an agreement in principle on the final details of the joint venture, and the accord is expected to be signed in September, during bilateral trade talks between presidents of the two countries (OGJ Online, Aug. 6, 2009). ✦

Transportation — *Quick Takes*

Energy Transfer completes gas line projects

Energy Transfer Partners LP (ETP) has completed construction of the 160-mile Texas Independence Pipeline (TIP), which increases its gas takeaway capacity in Texas by an incremental 1.1 bcfd. ETP also completed the Rulison expansion project in Colorado.

The 42-in. OD TIP system will transport gas from Waha, the Bossier sands, and Barnett shale in east and north central Texas to southeast Texas. Originating just west of Maypearl, Tex., and ending near Henderson, Tex., the TIP system connects ETP's existing Central and North Texas infrastructure to its East Texas pipeline network. With the addition of compression, the project can be expanded to transport gas volumes in excess of 1.75 bcfd.

Completion of the TIP system follows the Aug. 1 start of operations on the Midcontinent Express Pipeline (MEP), between Delhi, La., and Butler, Ala. ETP is a partner in MEP with Kinder Morgan Energy Partners LP (OGJ, Aug. 10, 2009, Newsletter).

The Rulison expansion project includes the 10-mile, 24-in. OD Rulison pipeline and the Holmes Mesa compressor station in Garfield County, Colo.

These projects are designed to increase the capacity of ETP's South Parachute-Rifle pipeline system. The project will also create an outlet for producers to access the Meeker processing plant at the White River hub.

The Rulison line will initially add more than 70 MMcfd of capacity, with the ability to expand to more than 200 MMcfd. The Holmes Mesa compressor station has more than 9,000 hp of compression.

Tesoro starts flow through Panama pipeline

Tesoro Corp. announced shipment of the first barrels of oil through the reversed 81-mile Petroterminal de Panama Trans-Panamanian Pipeline from the Atlantic side of the isthmus to the Pacific. The reversal establishes a new conduit for the flow of oil from the Atlantic Basin to the Pacific and will enable Tesoro to source a broader range of crude oils to supply its Pacific Rim refining system, Tesoro said.

The first oil shipped through the pipeline was Castilla blend crude sourced from Colombia, which Tesoro will process at its refineries in California.

Very large crude carriers with 2 million bbl of capacity will be able to transport West African and other crudes to the port of Chiriqui Grande, Bocas del Toro, on the Caribbean for the journey across the isthmus of Panama.

Crude will be piped to the port of Charco Azul on the Pacific Coast where it will be received by tankers and shipped to US West Coast refineries.

BP Products North America signed an agreement with PTP to ship oil to its US West Coast refineries through the reversed Trans-Panama Pipeline in May 2008 (OGJ Online, May 28, 2008).

UK's Dragon LNG begins operations

The UK's 4.4 million-tonne/year Dragon LNG terminal at Milford Haven, South Wales, has recently completed commissioning and begun commercial operations (OGJ Online, July 2, 2009).

Commissioning formally began on July 14 with arrival of BG Group LNG's the 145,000-cu m carrier Methane Lydon Volney. BG Group holds a 50% interest in the terminal with Petronas (30%) and 4Gas (20%).

BG Group (50%) and Petronas (50%) also have agreements governing capacity rights for a 20-year term, allowing them each 2.2 million tpy of throughput.

Licenses push Gorgon LNG towards reality

Chevron Corp.'s Gorgon project, including a planned three-train, 15 million-tonne/year LNG plant, took another step to realization Sept. 1 when Australia's resources and energy minister and Western Australia's state petroleum minister revealed they had offered to the Gorgon partnership five production licenses to cover Io-Jansz and Gorgon gas fields that will back stop the project.

Partners for the $42 billion project are Chevron 50%, ExxonMobil Corp. 25%, and Royal Dutch Shell PLC 25%.

The offshore gas fields that are the subject of the licenses will be developed via subsea wells and two pipelines bringing gas to Barrow Island where three LNG trains will each produce 5 million tpy.

There will also be a 300-terajoule/day domestic gas plant feeding into a pipeline to the mainland and a carbon dioxide sequestration plant that can store in deep formations beneath the island the high levels of CO_2 from Gorgon fields (OGJ, July 20, 2009, p. 10).

Reports have been circulating for some weeks that Chevron expects to make a final investment decision soon. ✦

Letters

Fully informed markets?

The editorial "Politics and fuel choice" hit a point with me as you noted, "Energy choices are best left to free markets, fully informed" (OGJ, Aug. 10, 2009, p. 18). Here our industry and society must come to grips with the definition of the "market" and what constitutes the concept of "fully informed."

The free market is not only those who directly participate with their own dollars but all of society, as everyone must consume energy. If we ignore or neglect this Man-on-the-Street, we do so at our own peril because it is this segment of the market that will dictate energy policy and all of its ramifications.

The real crux of the matter is who to get that market to be fully informed. Is having an informed, energy-literate consumer base even worthwhile? If that answer is yes, then the next question is, whose job is it to teach the public (market) about the role energy plays in their daily lives?

It is all well and good to see this statement in print once again. But what are we, the energy industry, going to do about it? We can all point to the literally hundreds of programs that foist themselves off as energy education. Indeed, our industry is the deep pockets funding a great deal of these efforts. In addition, the various trade associations that represent all forms of energy also put out some very good yet appropriately focused material about their specific btu. These programs are a great effort toward this goal. However, I do not think that any can say that "fully informed" has been achieved. Shouldn't we expect a real positive return for this investment in energy education?

There is no real coordinated effort at informing the public about just plain btus. We do a great job on our particular form of btus, but where is the fundamental information about energy? Society is missing the prerequisite course in Energy Literacy 101 that they need to have to fully appreciate Oil & Gas 212, Coal 240, Wind and Solar 310, Nuclear 431, or even Energy Policy 550.

Talk is cheap. Isn't now the time to walk the walk and take it upon ourselves to develop a truly "fully informed free market?" It is either that or let's admit that society will always need our product and we will be able to pass along any cost that we may incur so that energy choices and their prices really do not matter after all.

I don't dare to claim to have the solution. However, I am participating with an ad hoc group that we call The Public Energy Literacy Initiative that is trying to get our industry leaders to sit down and truly answer these questions. Who knows? If they did, we might see some better coordination and collaboration in existing programs and a real chance at having an informed, energy-literate market. (I might also finally realize that return on the money I invest in the stocks of these firms allocated to energy education.)

Thank you for opening the door to further discuss the issue of fully informed free markets.

John Tobin
The Energy Literacy Project
Evergreen, Colo.

Calendar

✦ Denotes new listing or a change in previously published information.

OIL&GAS JOURNAL online

Additional information on upcoming seminars and conferences is available through OGJ Online, Oil & Gas Journal's Internet-based electronic information source at http://www.ogjonline.com.

2009

SEPTEMBER

EAGE Near Surface European Meeting, Dublin, +31 88 995 5055, +31 30 6343524 (fax), e-mail: eage@eage.org, website: www.eage.org. 7-9.

IAEE European Conference, Vienna, (216) 464-5365, e-mail: iaee@iaee.org, website: www.iaee.org. 7-10.

Offshore Europe Conference, Aberdeen, +44 (0) 20 7299 3300, e-mail: nbradbury@spe.org, website: www.offshore-europe.co.uk. 8-11.

GPA Rocky Mountain Annual Meeting, Denver, (918) 493-3872, (918) 493-3875 (fax), e-mail: pmirkin@gpaglobal.org, website: www.gpaglobal.org. 9.

GITA's GIS Annual Oil & Gas Conference, Houston, (303) 337-0513, (303) 337-1001 (fax), e-mail: info@gita.org, website: www.gita.org/oilgas. 13-17.

Turbomachinery Symposium, Houston, (979) 845-7417, (979) 847-9500 (fax), e-mail: inquiry@turbo-lab.tamu.edu, website:http://turbolab.tamu.edu. 14-17.

Annual IPLOCA Convention, San Francisco, +41 22 306 02 30, +41 22 306 02 39 (fax), e-mail: info@iploca.com, website: www.iploca.com. 14-18.

Polar Petroleum Potential 3P Conference, Moscow, (918) 584-2555, (918) 560-2665 (fax), website: www.aapg.org. 16-18.

Drilling Engineering Association-Europe: ERD and Associated Technology Meeting, Stavanger, +44 (0) 1483-598000, e-mail: Dawn.Dukes@otmnet.com, website: www.dea-europe.com. 17-18.

Annual Energy Policy Conference, Oklahoma City, (202) 580-6532, (202) 580-6559 (fax), e-mail: info@energyadvocates.org, website: www.energyadvocates.org. 20-22.

NPRA Environmental Conference, Denver, (202) 457-0480, (202) 457-0486 (fax), website: www.npra.org. 21-22.

Multiphase User Roundtable-Mexico,Villahermosa, (979) 268-8959, (979) 268-8718 (fax), e-mail:

Calendar

Heather@petroleumetc.com, website: www.mur-mexico.org. 22-23.

IADC Drilling HSE Europe Conference & Exhibition, Amsterdam, (713) 292-1945, (713) 292-1946 (fax), e-mail: conferences@iadc.org, website: www.iadc.org. 23-24.

SPE Eastern Regional Meeting, Charleston, W.Va., (972) 952-9393, (972) 952-9435 (fax), e-mail: spedal@spe.org, website: www.spe.org. 23-25.

ERTC Sustainable Refining Conference, Brussels, 44 1737 365100, +44 1737 365101 (fax), e-mail: events@gtforum.com, website: www.gtforum.com. 28-30.

DGMK Production and Use of Light Olefins Conference, Dresden, 040 639004 0, 040 639004 50, website: www.dgmk.de. 28-30.

IADC Advanced Rig Technology Conference, Houston, (713) 292-1945, (713) 292-1946 (fax), e-mail: conferences@iadc.org, website: www.iadc.org. 29.

Unconventional Gas International Conference & Exhibition, Fort Worth, Tex., (918) 831-9160, (918) 831-9161 (fax), e-mail: registration@pennwell.com, website: www.unconventionalgas.net. Sept. 29-Oct. 1.

ERTC Biofuels+ Conference, Brussels, 44 1737 365100, +44 1737 365101 (fax), e-mail: events@gtforum.com, website: www.gtforum.com. Sept. 30-Oct. 2.

OCTOBER

Interstate Oil and Gas Compact Commission Annual Meeting (IOGCC), Biloxi, Miss., (405) 525-3556, (405) 525-3592 (fax), e-mail: iogcc@iogcc.state.ok.us, website: www.iogcc.state.ok.us. 4-6.

SPE Annual Technical Conference and Exhibition, New Orleans, (972) 952-9393, (972) 952-9435 (fax), e-mail: spedal@spe.org, website: www.spe.org. 4-7.

World Gas Conference, Buenos Aires, +54 11 5252 9801, e-mail: registration@wgc2009.com, website: www.wgc2009.com. 5-9.

ISA EXPO, Houston, (919) 549-8411, (919) 549-8288 (fax), e-mail: info@isa.org, website: www.isa.org. 6-8.

Kazakhstan International Oil & Gas Exhibition & Conference (KIOGE), Almaty, +44 (0) 207 596 5233, +44 (0) 207 596 5106 (fax), e-mail: oilgas@ite-exhibitions.com, website: www.oilgas-events.com. 6-9.

Power-Gen Asia Conference, Bangkok, (918) 831-9160, (918) 831-9161 (fax), e-mail: registration@pennwell.com, website: www.powergenasia.com. 7-9.

Renewable Energy World Asia Conference & Expo, Bangkok, (918) 831-9160, (918) 831-9161 (fax), e-mail: registration@pennwell.com, website: www.renewableenergyworld-asia.com. 7-9.

NPRA Q&A and Technology Forum, Ft. Worth, Tex., (202) 457-0480, (202) 457-0486 (fax), e-mail: info@npra.org, website: www.npra.org. 11-14.

API Fall Petroleum Measurement Standards Meeting, Calgary, Alta., (202) 682-8000, (202) 682-8222 (fax), website: www.api.org. 12-15.

GPA Houston Annual Meeting, Houston, (918) 493-3872, (918) 493-3875 (fax), e-mail: pmirkin@gpaglobal.org, website: www.gpaglobal.org. 13.

Expandable Technology Forum, Houston, +44 (0) 1483 598000, e-mail: sally.marriage@otmnet.com, website: www.expandableforum.com. 14-15.

International Oil & Gas Exploration, Production & Refining Exhibition, Jakarta, +44 (0)20 7840 2100, +44 (0)20 7840 2111 (fax), e-mail: ogti@oesallworld.com, website: www.allworldexhibitions.com. 14-17.

SPE/EAGE Reservoir Characterization and Simulation Conference and Exhibition, Abu Dhabi, (972) 952-9393, (972) 952-9435 (fax), e-mail: spedal@spe.org, website: www.spe.org. 18-21.

GSA Annual Meeting, Portland, (303) 357-1000, (303) 357-1070 (fax), e-mail: meetings@geosociety.org, website: www.geosociety.org. 18-21.

Oil Shale Symposium, Golden, Colo., (303) 384-2235, e-mail: jboak@mines.edu, website: www.mines.edu/outreach/cont_ed/oilshale/. 19-23.

Oil and Gas Transportation in the CIS and Caspain Region Annual Meeting, Moscow, +44 (0) 20 7067 1800, +44 (0) 20 7242 2673 (fax), website: www.theenergyexchange.co.uk. 20-22.

SEG International Exposition and Annual Meeting, Houston, (918) 497-5500, (918) 497-5557 (fax), e-mail: register@seg.org, website: www.seg.org. 25-30.

SPE/IADC Middle East Drilling Conference & Exhibition, Manama, +971 4 390 3540, +971 4 366 4648 (fax), e-mail: spedal@spe.org, website: www.spe.org. 26-28.

PICT-Passive Inflow Control Technology Meeting, Copenhagen, +44 (0) 1483-598000, e-mail: Dawn.Dukes@otmnet.com, website: www.inflowcontrol.com. 27-28.

Louisiana Gulf Coast Oil Exposition (LAGCOE), Lafayette, (337) 235-4055, (337) 237-1030 (fax), e-mail: lynette@lagcoe.com, website: www.lagcoe.com. 27-29.

North African Oil and Gas Summit, Tunis, +44 (0) 20 7067 1800, +44 (0) 20 7242 2673 (fax), website: www.theenergyexchange.co.uk. 27-29.

Offshore Middle East Conference & Exhibition, Manama, (918) 831-9160, (918) 831-9161 (fax), e-mail: registration@pennwell.com, website: www.offshoremiddleeast.com. 27-29.

NOVEMBER

Deep Offshore Technology International Conference & Exhibition, Monte Carlo, (918) 831-9160, (918) 831-9161 (fax), e-mail: registration@pennwell.com, website: www.deepoffshoretechnology.com. 3-5.

IPAA Annual Meeting, New Orleans, (202) 857-4722, (202) 857-4799 (fax), website: www.ipaa.org. 4-6.

GPA North Texas Annual Meeting, Dallas, (918) 493-3872, (918) 493-3875 (fax), e-mail: pmirkin@gpaglobal.org, website: www.gpaglobal.org. 5.

Capture and Geological Storage of CO_2 Symposium, Paris, +33 1 47 52 67 21, +33 1 47 52 70 96 (fax), e-mail: patricia.fulgoni@ifp.fr, website: www.CO2symposium.com. 5-6.

Sulphur International Conference and Exhibition, Vancouver, +44 20 7903 2058, +44 20 7903 2172 (fax), e-mail: cruevents@crugroup.com, website: www.sulphurconference.com. 8-11.

Gas Turbine Users International (GTUI) Annual Conference, Calgary, Alta., +9714 804 7738, +9714 804 7764 (fax), e-mail: info@gtui.org, website: www.gtui.org. 8-13.

IADC Annual Meeting, Miami, (713) 292-1945, (713) 292-1946 (fax), e-mail: conferences@iadc.org, website: www.iadc.org. 9-10.

Multiphase User Roundtable-South America, Rio de Janeiro, (979) 268-8959, (979) 268-8718 (fax), e-mail: Heather@petroleumetc.com, website: www.mur-sa.org. 9-10.

API Fall Refining and Equipment Standards Meeting, Dallas, (202) 682-8000, (202) 682-8222 (fax), website: www.api.org/events. 9-11.

Digital E&P Event, Houston, (646) 200-7444, (212) 885-2733 (fax), e-mail: cambrosio@wbresearch.com, website: www.digitaleandp.com. 9-11.

NPRA/API Operating Practices Symposium, Dallas, (202) 457-0480, (202) 457-0486 (fax), website: www.npra.org. 10.

Petroleum Association of Wyoming (PAW) Annual Oil & Gas Statewide Reclamation Conference, Casper, (307) 234-5333, (307) 266-2189 (fax), e-mail: cheryl@pawyo.org, website: www.pawyo.org. 10.

Deepwater Operations Conference & Exhibition, Galveston, Tex., (918) 831-9160, (918) 831-9161 (fax), e-mail: registration@pennwell.com, website: www.deepwateroperations.com. 10-12.

SPE International Oil and Gas China Conference & Exhibition, Beijing, (972) 952-9393, (972) 952-9435 (fax), e-mail: spedal@spe.org, website: www.spe.org. 10-12.

NPRA International Lubricants & Waxes Meeting, Houston, (202) 457-0480, (202) 457-0486 (fax), website: www.npra.org. 12-13.

ASME International Mechanical Engineering Congress and Exposition (IMECE), Lake Buena Vista, Fla., (973) 882-1170, (973) 882-1717 (fax), e-mail: infocentral@asme.org, website: www.asme.org. 13-19.

IADC Completions Conference, Houston, (713) 292-1945, (713) 292-1946 (fax), e-mail: conferences@iadc.org, website: www.iadc.org. 17.

Houston Energy Financial Forum, Houston, (918) 831-9160, (918) 831-9161 (fax), e-mail: registration@pennwell.com, website: www.accessanalyst.net. 17-19.

IADC Well Control Asia Pacific Conference & Exhibition, Bangkok, (713) 292-1945, (713) 292-1946 (fax), e-mail: conferences@iadc.org, website: www.iadc.org. 18-19.

DECEMBER

✦Advanced Contract Risk Management Europe for Oil & Gas, Aberdeen, +44 0 207 368 9300, e-mail: enquire@iqpc.co.uk, website: www.contractriskmanagement.MAC=11579.003EDIARY. 1-2.

Refining and Petrochemicals in Russia and the CIS Countries Annual Meeting, Amsterdam, +44 (0) 20 7067 1800, +44 (0) 20 7242 2673 (fax), website: www.theenergyexchange.co.uk. 1-3.

World LNG Summit, Barcelona, +44 (0)20 7978 0000, +44 (0)20 7978 0099 (fax), e-mail: info@thecwcgroup.com, website: www.thecwcgroup.com. 1-4.

European Drilling Engineering Association Expandables, Multilaterals and Technologies Meeting, Vienna, +44 (0) 1483-598000, e-mail: Dukes@otmnet.com, website: www.dea-europe.com. 3-4.

Nuclear Power International Conference, Las Vegas, (918) 831-9160, (918) 831-9161 (fax), e-mail: registration@pennwell.com, website: www.nuclearpowerinternational.com. 8.

Emerging Unconventional Resources Conference & Exhibition, Shreveport, (918) 831-9160, (918) 831-9161 (fax), e-mail: registration@pennwell.com, website: www.emergingresourcesconference.com. 8-10.

Power-Gen International Conference, Las Vegas, (918) 831-9160, (918) 831-9161 (fax), e-mail: registration@pennwell.com, website: www.power-gen.com. 8-10.

✦ PIRA Natural Gas Markets Conference, New York, (212) 686-6808, (212) 686-6628 (fax), e-mail: sales@pira.com, website: www.pira.com. 14-15.

PIRA Understanding Natural Gas and LNG Markets Seminar, New York, (212) 686-6808, (212) 686-6628 (fax), website: www.pira.com. 14-15.

PIRA Understanding Global Oil Markets Seminar, New York, (212) 686-6808, (212) 686-6628 (fax), website: www.pira.com. 16-17.

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JANUARY

Plant Maintenance in the Middle East & Annual Meeting, Abu Dhabi, +44 (0) 1242 529 090, +44 (0) 1242 529 060 (fax), e-mail: wra@theenergyexchange.co.uk, website: www.wraconferences.com. 10-13.

Oil & Gas Maintenance Technology Conference & Exhibition Co-located with Pipeline Rehabilitation and Maintenance, Manama, Bahrain, (918) 831-9160, (918) 831-9161 (fax), e-mail: registration@pennwell.com, website: www.oilandgas-maintenance.com. 18-20.

Pipeline Rehabilitation & Maintenance Co-located with Oil & Gas Maintenance Technology, Manama, Bahrain, (918) 831-9160, (918) 831-9161 (fax), e-mail: registration@pennwell.com, website: www.pipeline-rehab.com. 18-20.

World Future Energy Summit, Abu Dhabi, +971 2 4090 445, +971 2 444 3768 (fax), e-mail: ludoiva.sarram@reedexpo.ae, website: www.worldfutureenergysummit.com. 18-21.

SPE Oil and Gas India Conference and Exhibition, Mumbai, (972) 952-9393, (972) 952-9435 (fax), e-mail: spedal@spe.org, website: www.spe.org. 20-22.

SPE Deep Gas Conference, Manama, (972) 952-9393, (972) 952-9435 (fax), e-mail: spedal@spe.org, website: www.spe.org. 24-27.

API Exploration and Production Winter Standards Meeting, New Orleans, (202) 682-8000, (202) 682-8222, website: www.api.org. 25-29.

Health, Safety, Environment & Training Conference & Exhibition, Houston, (713) 292 1945, (713) 292 1946 (fax), e-mail: info@iadc.org, website: www.iadc.org. 26-27.

Calendar

The European Gas Conference and Annual Meeting, Vienna, +44 (0) 20 7067 1800, +44 (0) 20 7242 2673 (fax), website: www.theenergyexchange.co.uk. 26-28.

API/AGA Joint Committee on Oil and Gas Pipeline Welding Practices Conference, New Orleans, (202) 682-8000, (202) 682-8222 (fax), website: www.api.org. 27-29.

Annual Gas Arabia Summit, Abu Dhabi, +44 (0) 20 7067 1800, +44 (0) 20 7242 2673 (fax), website: www.theenergyexchange.co.uk. Jan. 31- Feb. 3.

International Process Analytical Technology Forum (IFPAC), Baltimore, (847) 543-6800, (847) 548-1811 (fax), e-mail: info@ifpacnet.org, website: www.ifpac.com. Jan 31-Feb 4.

FEBRUARY

Deep Offshore Technology International Conference & Exhibition, Houston, (713) 963-6271, (713) 963 6296 (fax), e-mail: registration@pennwell.com, website: www.dotinternational.net. 2-4.

IADC/SPE Drilling Conference and Exhibition, New Orleans, (713) 292 1945, (713) 292 1946 (fax), e-mail: info@.org, website: www.iadc.org. 2-4.

Russia Offshore Annual Meeting, Moscow, +44 (0) 20 7067 1800, +44 (0) 20 7242 2673 (fax), website: www.theenergyexchange.co.uk. 2-4.

Global Petrochemicals Conference & Annual Meeting, Vienna, Austria, +44 (0) 1242 529 090. +44 (0) 1242 529 060 (fax), e-mail: wra@theenergyexchange.co.uk, website: www.wraconferences.com. Feb 9-11.

SPE International Symposium & Exhibition of Formation Damage Control, Lafayette, (972) 952-9393, (972) 952-9435 (fax), e-mail: spedal@spe.org, website: www.spe.org. 10-12.

NAPE Expo, Houston, (817) 847-7701, (817) 847-7703 (fax), e-mail: info@napeexpo.com, website: www.napeonline.com. Feb 11-12.

Annual Petroleum Coke Conference, Seattle, (832) 351-7828, (832) 351-7887 (fax), e-mail: petcoke.conference@jacobs.com, website: www.petcokes.com. 12-13.

SPE North Africa Technical Conference & Exhibition, Cairo, (972) 952-9393, (972) 952-9435 (fax), e-mail: spedal@spe.org, website: www.spe.org. 14-17.

Pipeline Pigging & Integrity Management Conference & Exhibition, Houston, (713) 521-5929, (713) 521-9255 (fax), e-mail: clarion@clarion.org, website: www.clarion.org. 16-18.

Pipe Line Contractors Association Annual Conference (PLCA), Scottsdale, Ariz. (214) 969-2700, e-mail: plca@plca.org, website: www.plca.org. 17-21.

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CARS effects are mixed

Sam Fletcher
Senior Writer

Back in the 1930s during the Great Depression, humorist Will Rogers once cracked that Americans are the only people in the world to drive themselves to the poor house. This time around, many will make the trip in new cars, based on media reports of laid-off workers signing over severance checks to auto dealers in the recent scramble for "Cash for Clunkers" subsidies.

The US Car Allowance Rebate System (CARS) was so popular it blew through its first $1 billion in rebates in just a week, prompting Congress to toss in another $2 billion pulled from a program to finance renewable-energy projects. By Aug. 25, it ended out of funds although originally scheduled for July 1-Oct. 31.

Obviously, the program was extremely popular, especially among automakers that industry-wide sold nearly 1.3 million new cars and pickups in August, the most since May 2008 and the first year-to-year increase since October 2007. It also pumped a good amount of money into local and state governments through sales taxes and fees.

But the same newspapers reporting the auto industry's rebound also reported weak back-to-school sales even in states featuring sales tax holidays. Apparently kiddies will ride to school in daddy's new car dressed in last year's old clothes. If economic recovery takes on a W-shape instead of the anticipated V, some households will be holding debt for the balance of new vehicles they otherwise would not have purchased if not for the CARS stimulus.

Moreover, the Cash for Clunkers program did not accomplish its nominal goals to lower carbon dioxide emissions, reduce US dependence on imported oil, and improve urban air quality, said the National Center for Policy Analysis, Dallas. "Although there is evidence that removing older cars from the road will cut air pollution, the numbers indicate that any reduction in CO_2 emissions or oil consumption would be minimal and expensive," said Todd Myers at NCPA. According to a recent report by that group, the cost of reducing emissions under the CARS program is more than eight times the cost on the European carbon market.

With few hybrids and other alternatives yet available, most vehicles purchased through CARS are gasoline-fueled. H. Sterling Burnett, NCPA senior fellow, said, "It would have been more effective if the rebate could be applied toward the purchase of any vehicle with better fuel economy, including used cars. Many people with low incomes are unable to afford a new car, even with a rebate."

Back to work

Because of the boost in auto sales through CARS, Ford and General Motors said they plan to bring back some of the thousands of workers laid off in recent years. The administration of President Barack Obama estimates the program will save 42,000 jobs in this year's second half. During his campaign, Obama talked of establishing millions of new "green" jobs as the US is weaned from fossil fuels. A large chunk of his stimulus spending is aimed at creating those new jobs, but few if any are yet available.

On the other hand, Marathon Oil Corp. hired two of the first 15 former automotive designers graduated from Talascend's Global Training Academy in Troy, Mich., after they were retrained as petrochemical piping designers and certified by the Society of Piping Engineers and Designers. Other graduates have interviewed with AMEC Paragon, Houston, the Americas operational center for AMEC's oil and gas division; SBM Atlantia, the deepwater floating production arm of SBM Offshore NV; and Spectrum Engineering Inc., Houston.

The academy was opened in February by Talascend, an international engineering resources organization in association with Macomb Community College, Michigan's largest provider of certificates and associate degrees. "It's been a long cold winter for the automotive industry, and there are a great many people looking for a way out," said Jacob DuCharme, one of the graduates hired by Marathon.

"While the oil and gas industry struggles to find the engineering staff it needs to fill critical vacancies on projects, talented and experienced engineers are without opportunities in the automotive sector. With the right training, these engineers can play a vital part in moving both industries forward," said Jason Dawson, academy president. The American Petroleum Institute estimates the US petrochemical industry will be short 6,000 engineers in 2010 because of retirements and the "pull of the information technology sector in the 1990s." ✦

Rig Photo: Courtesy Anadarko Petroleum Corp.

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Fax: +44 (0) 1992 656 700
Email: janeb@pennwell.com

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Editorial

Suspicion and speculation

Evidence grows in support of the longstanding suspicion by many oil and gas operators that trading of financial instruments related to crude oil, oil products, and natural gas unduly influences prices of those commodities. In the shorthand of the day, speculation increases price volatility. In the politics of the day, speculators are demonic.

Speculators—or noncommercial traders, who seek trading profits with no intention of taking possession of what they trade—are in fact essential to market fluidity. Among other things, they assume price risks unwanted by buyers and sellers of physical commodities.

But a recent increase in speculative activity coincides with a decrease in regulation and a surge in oil and gas prices unexplained by events in physical markets. Hence the boiling suspicion, from which grows political efforts to tighten market regulation. The issue is important beyond financial dimensions of the oil and gas business. It carries a political charge capable of affecting operations.

Tracing relationships

A new study from the James A. Baker III Institute for Public Policy at Rice University traces relationships between the activity of noncommercial traders, the value of the US dollar, and oil prices. It shows that, since relaxation in the regulation of speculative trading in oil and gas derivatives, the share of market activity represented by noncommercial trading has grown. Movements in oil prices, meanwhile, have coincided with changes in the dollar's value to an extent previously not evident. The speculation and dollar-value phenomena, argue study authors Kenneth B. Medlock III and Amy Myers Jaffe, are related.

"As the market presence of noncommercial traders increased between 2003 and early 2008, the stance of these noncommercial traders has fairly consistently been to hold bullish, long positions that supported rising prices," Medlock and Jaffe write. "And, when their market share was highest, so was their net long position, which again roughly coincided (acting as a slight leading indicator) with the peak in oil prices at $147/bbl in the middle of 2008."

The increase in noncommercial activity and its orientation toward price strength occurred after enactment of the Commodity Futures Modernization Act (CFMA) late in 2000. The law exempted oil and gas financial instruments traded outside formal exchanges from regulation by the Commodity Futures Trading Commission (CFTC).

"While correlation does not imply causation, the trends evident in open-interest data are impossible to ignore," the study authors say. "It is striking that only after the CFMA was enacted did the composition of players in the market significantly change and oil prices rise to unprecedented highs." CFTC officials have testified to an absence of evidence that speculation boosted commodity prices. Medlock and Jaffe say the commission's analytical methods don't account for changes in market composition.

Since January 2001, the authors note, oil prices have been strongly correlated with the dollar's value, rising when the dollar value falls and vice versa. The correlation was negligible during 1986-2000. Medlock and Jaffe warn that "the dollar risks getting caught in a vicious cycle where continually rising oil prices feed the US trade deficit, leading to increased US indebtedness and thereby an even weaker dollar, which further drives oil prices higher."

The authors call for a review of market structures and regulations as well as of the role of government intervention—via purchase and sale of oil to and from strategic storage—in "extreme circumstances." Some of that review is under way in Congress and the CFTC.

Government's role

To much of the oil and gas industry, an increased role of government in markets is anathema. Properly so. But the market can't be said to work well when prices appear to have disengaged from physical supply and demand.

Those fundamentals couldn't explain the zoom in oil prices to extremely high levels in mid-2008, when speculative activity, according to the Baker Institute study, peaked. The price surge inflamed a political assault that remains a threat to oil and gas operations. To the extent it resulted from unbridled speculation, the industry should support whatever regulation may be needed to prevent a recurrence—though not a paragraph more. ✦

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INTERNATIONAL PETROLEUM AGREEMENTS—1

Politics, oil prices steer evolution of deal forms

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Attorney
Paris

Honore Le Leuch
Beicip-Franlab
Paris

Andre Pertuzio
Consultant
Paris

Jaqueline Lang Weaver
University of Houston Law Center
Houston

International petroleum agreements (IPAs) have structures that are well-established yet strongly influenced by changes in political relationships and markets. The large swings of oil prices in recent years and the related pressures on existing agreements call attention to the need for IPAs to be flexible if not fundamentally changed (OGJ, Aug. 24, 2009, p. 20).

Modern IPAs are generally either production-sharing contracts or modernized concession agreements—with more host-country (HC) control over petroleum operations and state participation—although risk service contracts also exist on a more limited scale. Those structures have evolved both to accommodate the political ambitions of HC governments and to adapt to gyrations in the price of oil.

In years of oil scarcity and high prices (particularly in 1979 and 1980), international oil companies (IOCs) competed fiercely among themselves and were forced to accept very harsh terms, even on marginally attractive prospects.

With the advent of low prices in the 1980s and 1990s and the perception of increased political risk in many developing countries, the respective bargaining power of HCs and IOCs shifted. Many IOCs redirected their new investments to exploration ventures in the US and Canada or in other politically stable areas, and many HCs renegotiated their earlier agreements at the request of IOCs, leading to less stringent contractual terms in order to encourage exploration and production (E&P) investments in a low-price environment.

A clearly opposite trend was observed in the 2003-July 2008 period as a result of increasing oil prices.

This review of the evolution of IPAs shows how changes in IPAs have followed closely the political evolution of relationships between countries, especially relationships between the industrialized world and developing countries. Still, economic considerations, especially the increasing volatility of oil prices, are obviously important to the particular fiscal terms imposed on, or offered by, investors over time.

At the beginning of the petroleum industry in the US in 1857, deal-making parties adopted the traditional concession agreement, derived from contracts used in the mining industry.

Early concessions

At the beginning of the petroleum industry in the US in 1857, deal-making parties adopted the traditional concession agreement, derived from contracts used in the mining industry. The lease issued on Dec. 30, 1857, to Col. Edwin L. Drake on the tract of land in Titusville, Pa., where oil was first discovered in 1859 follows the pattern (see box).

Brief as it is, the Drake lease contains core elements that exist in basic petroleum concession agreements today, namely:

- The award by the lessor to the lessee (or "licensee" or "concessionaire") of exclusive exploration and production rights in a specific area for a given term with a possible time extension (although Drake's rights also covered coal and other minerals, which is not common in modern petroleum contracts).
- Payment of a royalty (called a "rental" in the Drake lease) corresponding to a fractional share of the production (one-eighth or 12.5% was traditional at that time for mining activity), payable in cash or in kind to the lessor.
- The obligation of the lessee to carry out the operations as soon as practicable, without undue delay, or otherwise the lease could be terminated.

Legal instruments used for petroleum exploration and exploitation have undergone far-reaching changes since the days of Col. Drake. Although a wide

variety of agreements now exists, IPAs can still be reduced to a few different types of legal documents and contractual arrangements used throughout the world today. There is, however, one paramount difference: The modern concession agreement (like other international agreements) is now usually 100 pages long, not a mere paragraph as in the 1857 contract.

The drake lease of 1857

Dated December 30, 1857
Deed Book, p. 357
$1 in hand.

Pennsylvania Rock Oil Company
To
E.B. Bowditch and E.L. Drake

'Demise and let' all the lands owned or held under lease by said company in the County of Vanango, State of Pennsylvania, To bore, dig, mine, search for and obtain oil, salt water, coal and all materials existing in and upon said lands, and take, remove and sell such, etc., for their own exclusive use and benefit, for the term of 15 years, with the privilege or renewal for same term. Rental, one-eighth of all oil as collected from the springs in barrels furnished or paid for by lessees. Lessees may elect to purchase said one-eighth at 45 cents per gallon, but such election, when made, shall remain fixed. On all other minerals, 10 percent of net profits. Lessees agree to prosecute operations as early in the spring of 1858 as the season will permit, and if they fail to work the property for an unreasonable length of time, or fail to pay rent for more than 60 days, the lease to be null and void.

Profit-sharing principle

In 1948, Venezuela took the lead in instituting the 50-50 profit-sharing principle, which is the idea that the IOCs and the HC should share equally in the profits from oil development in the host country.

Saudi Arabia followed suit in 1950 and negotiated an agreement with Aramco which was signed on Dec. 31 of that year. For the first time in the Middle East, an income tax on petroleum revenues was instituted and the principle of 50-50 profit-sharing established. The royalty hitherto paid by Aramco continued to be paid and was credited against a 50% income tax as an advance payment for the tax. As a result of that arrangement, Saudi Arabia nearly quadrupled its petroleum revenues.

Because other Middle East producers were in a similar situation, the new system rapidly spread to other countries. However, the IOCs retained complete control over both the conduct of operations and the pricing of petroleum; in particular, the control of production schedules remained their exclusive prerogative.

The respective positions and relative strength of HCs and IOCs nevertheless underwent a steady and gradual change. As early as 1952, the 50-50 profit-sharing principle was applied in most countries, except in Iran. There, the more radical approach of nationalizing the oil industry was taken in 1951 by the Mossadegh government. At that time, however, the dominance of the oil market by the major IOCs was such that they succeeded in imposing an embargo on Iranian oil.

This eventually led to the downfall of Mossadegh and the reinstatement of the shah. Nationalization of the oil industry was nevertheless preserved, and the Anglo-Iranian concession was replaced by an agreement between the National Iranian Oil Co. (NIOC) and an international consortium dominated by US companies that became major players in Iran for the first time, along with the Cie. Francaise des Petroles (CFP), now called Total.

Evolving relationships

The events in Iran accelerated the evolution of the relationship between HCs and IOCs. On Aug. 24, 1957, NIOC entered into a joint venture with AGIP, the Italian national oil company. AGIP sought new forms of joint venture agreements with HCs in an effort to challenge the dominance of the seven sisters, as the seven largest IOCs were collectively named, contending that AGIP had been excluded from their marketing systems.

Thus, somewhat ironically, it was the arrangement between the national oil company of a western nation and the national oil company of a developing HC that led to the advent of "association" (the so-called state participation) between IOCs and HCs. The AGIP/NIOC agreement led for the first time to a 75% HC-25% IOC profit-sharing split through two mechanisms: first, a 50%-50% participation in the venture to take effect upon declaration of a commercial discovery and, second, imposition on net income of the 50-50 profit-sharing principle.

The AGIP contract was followed in 1958 by similar agreements made by NIOC with Pan American and Sapphire. Similar state participation schemes were introduced by AGIP in Tunisia in 1960 and in Egypt in 1961. The introduction of HC participation in most Middle East countries took place later in the 1970s.

Risk service agreements

The risk service agreement differs significantly from the traditional concession. Under this type of agreement, the IOC is no longer a concessionaire but a contractor of the HC, performing at its own risk exploration and, in the event of commercial discovery, the development and production of oil and gas.

Risk service contracts were first used in Latin America, where concession arrangements became unacceptable to several countries that had created their own NOCs and granted them a monop-

oly on oil exploration and exploitation. For example, Brazil created Petrobras in 1953, and Argentina created Yacimientos Petroliferos Fiscales (YPF) in 1958. Some Middle Eastern countries began using risk service contracts, such as those signed by the French national oil company ERAP-Elf (now merged into Total) with NIOC in 1966 and with Iraq National Oil Co. in 1968.

Under the terms of these contracts in Iran and Iraq, the IOC acted as a general contractor, not as a concessionaire owner of petroleum. The IOC was obligated to render technical, financial, and commercial services, taking all the exploration risk. The IOC's risk was rewarded, if successful production was obtained, by reimbursement of its costs by means of a discounted price for petroleum that it was entitled to purchase from the HC, up to a given percentage of the total production.

For the first time, a major oil company accepted an agreement under which it did not own even a small part of the production. The IOC acted as a mere contractor to the national oil company of the HC. The risk service contracts were rather coldly received by the oil industry, yet the industry was later ready to accept even more stringent terms from certain producing countries.

Production sharing

The stage was thus progressively set for a departure from the traditional concession agreements. An important move in that direction took place in 1960 with Indonesian Law No. 44, which ultimately led to the introduction in 1966 of the production-sharing agreement (PSA).

Indonesia signed the first of a series of more than 100 PSAs with US independents from Denver. The first PSA was signed with Independent Indonesian American Petroleum Co. (IIAPCO) on Aug. 18, 1966, on an area offshore Northwest Sumatra; it is expected to expire in 2017 after an agreed time extension.

Although a wide variety of agreements now exists, international petroleum agreements can still be reduced to a few different types of legal documents and contractual arrangements.

The main principle of this new system is that ownership and control of national resources are entrusted to the state, and the IOCs assume the status of risk-taking contractors, entitled to reimbursement of their costs only in the event of commercial production plus a share of production to remunerate their efforts. The initial Indonesian PSAs of 1966 amounted to a 65% (HC)-35% (IOC) profit-oil split after cost recovery.

This new relationship embodied a new political orientation and maturing of national goals. From the HC perspective, the extraction of natural resources is no longer a simple revenue-raising scheme with the state waiting for payments as a sleeping partner in the oil venture. Rather, the new agreements express the modern goals and values of the HC: exercising sovereign control over the nation's natural resources, obtaining a share in the production and the financial benefits of these wealth-producing assets, speeding the achievement of financial self-reliance, providing resources for improvement of other national programs, acquiring technology and expertise, and raising the levels of national employment and training, all to ensure the long-term welfare of the country.

A critical step in the evolution from HC participation contracts to the HC's status of "employer" under the PSA was the element of control. Transition from the shared responsibility of equity ownership under the state participation scheme to the concept of full HC authority was consistent with growing national aspirations. The Indonesian model PSA contains explicit language providing for control by stating that the HC "retains and is responsible for the management of the operations."

This bold modification of the standard contract form by Indonesia expressed the country's underlying mandate to assert control over its natural resources, stated in constitutional provisions which required that "natural resources...be controlled by the state." This effort to elevate the HC's position by means of a management clause vesting managerial control in the HC was initially a source of deep concern to many IOCs because it suggested a radical and unsound departure from existing relationships. Managerial control should not be separated from capital risk accountability. In practice, however, the HC's need for sovereignty was balanced by the practical necessity that the IOC retains managerial functions.

The decade of the 1960s was thus characterized by the development of HC-IOC participation agreements and production sharing agreements as well as new forms of risk service agreements in the Middle East.

Modern host-country goals and values

- Exercising sovereign control over the nation's natural resources
- Obtaining a share in production and financial benefits of wealth-producing assets
- Speeding the achievement of financial self-reliance
- Providing resources for improvement of other national programs
- Acquiring technology and expertise
- Raising the levels of national employment and training
- Ensuring long-term welfare of the country

OPEC's role

An event of utmost importance occurred in 1960 with the establishment of the Organization of Petroleum Exporting Countries. OPEC was created in Baghdad in September 1960 by the major oil-exporting countries of Venezuela, Saudi Arabia, Iran, Iraq, and Kuwait. Current membership includes those countries and Algeria, Libya, Nigeria, Qatar, the United Arab Emirates, Angola, and Ecuador.

The original objective of OPEC was to prevent the continuing drop in crude oil prices which had resulted from the discovery of huge reserves by new entrants lacking marketing systems. The OPEC founders sought to forestall a reduction in their income. However, events led OPEC to enlarge its role. The individual countries in OPEC, with the support of their organization, began challenging IOCs on such matters as ownership rights, pricing of oil, production levels, and types of agreements.

An example of the challenge was the Declaration of Sovereigns and Chiefs of State of OPEC countries in Algiers on Mar. 6, 1975: "The sovereigns and heads of states reaffirm the solidarity which unites their countries in safeguarding the legitimate rights and interests of their people; reasserting the sovereign and inalienable right of their countries to the ownership, exploitation, and pricing of their national resources; and rejecting any idea or thought that challenges these fundamental rights and, thereby, the sovereignty of their countries."

During the 1970s, OPEC's leverage strengthened as its combined production went from 9 million b/d in 1961 to 30 million b/d in 1973. As a result, OPEC enjoyed a near monopoly on the external supply of crude oil to the industrialized world.

The remaining traditional concession agreements were to undergo important changes after Sept. 1, 1969, in the wake of the coup d'etat by Col. Moammar Qaddafi of Libya. Libya demanded a substantial increase in the posted price of petroleum.[1]

The major IOCs recognized the leapfrog implications of Libya's demand and its effect on their production in the Persian Gulf area. After Shell's Libyan production of 150,000 b/d was shut in when the company refused to accede to Libyan demands, Occidental Petroleum, an independent oil company almost entirely dependent on Libyan production, entered into a settlement with Libya. Other independents like Marathon, Amerada Hess, and Continental followed suit. Libya then turned to the large IOCs with an ultimatum: Settle within a week, or be nationalized. Like wildfire, other HCs copied Libya's demands.

In February 1971, Iran sought the same terms Libya had obtained from Occidental. After seeking assistance from the US State Department, Texaco and Standard Oil of California agreed to Tehran's terms.[2] Sheikh Ahmed Zaki Yamani, the Saudi Arabian minister of petroleum and minerals, noted the shift in bargaining power brought about by the Tehran agreement of 1971, which resulted in a substantial increase in the government take.[3] This agreement raised posted prices used for tax assessment and generally established a 55% tax rate on profits as well as an expensed-royalty scheme (in lieu of the previous credited-royalty scheme against profit tax).

The 50-50 principle was a relic of the past in the major Middle Eastern oil-exporting countries. In the future, HCs would receive a majority share of the profits from production.

Next week: How the 1973 embargo and later political and economic developments changed international petroleum agreements.

Acknowledgment

This article is adapted from International Petroleum Exploration and Exploitation Agreements, Second Edition, published by Barrows Co. Inc., New York. It contains contributions by Prof. Owen L. Anderson, R. Doak Bishop, and John P. Bowman. ✦

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The authors

Claude Duval is a member of the Paris Bar (Avocat a la Cour). Formerly, he was with Coudert Freres in Paris and a senior legal Counsel with the World Bank in Washington, DC. Prior to joining the World Bank, Duval had been in private practice in New York City with White & Case.

Honore Le Leuch is director of the consultancy division of Beicip-Franlab, a subsidiary of the Institut Francais du Petrole. He acts as an international consultant and expert on petroleum legislation, contracts, and negotiations. Le Leuch has advised more than 50 countries and international companies on petroleum laws, regulations and tax systems and has negotiated petroleum agreements in all parts of the world.

Andre Pertuzio is an international petroleum legal consultant, a past legal advisor for energy at the World Bank, and a past lecturer on petroleum law at the Paris Law School. Formerly, he was with the Department of International Negotiations of Ste. Nationale Elf Aquitaine, now part of Total.

Jacqueline Lang Weaver is the A.A. White Professor of Law at the University of Houston Law Center. She was executive director of the Russian Petroleum Legislation Project at the Law Center, which drafted model laws for the Russian Federation in 1990-91. Weaver writes and lectures extensively on international petroleum issues and energy.

Study lists House clean air bill's possible refining impacts

Nick Snow
Washington Editor

US refining investments could plunge because of soaring business costs if clear air legislation that the US House passed in June becomes law, a study commissioned by the American Petroleum Institute concluded.

Production at US refineries also could drop as product output rises in countries without similar greenhouse gas limits, effectively making any GHG reductions minor, API said on Aug. 24 as it released the analysis by EnSys Energy, an independent consulting firm based in Lexington, Mass.

"This study clearly shows the devastating impact this legislation could have on US jobs and US energy security," said API Pres. Jack N. Gerard. "Climate legislation should not come at the expense of US economic and energy security. Congress needs to analyze carefully the impact of any climate policy on ordinary Americans, American jobs, and American companies," Gerard said.

A deep US refining decline would create ripples throughout the general economy, affecting jobs beyond the oil and gas industry, Gerard said, adding, "Steelworkers, construction workers, even the shopkeepers, school teachers, and waitresses working in communities where refineries operate would feel the pinch."

Allowance distributions

API and other oil and gas groups have criticized HR 2454, which the House passed June 26 by a 219-212 vote, because of the free emissions allowances it would distribute to various industries as part of its carbon cap-and-trade program.

Refiners would receive 2.25% of the allowances but be held responsible for 44% of total emissions, including those from their oil-processing operations (about 4%) as well as consumer emissions from planes, trains, automobiles, heating oil, and other oil product uses, API said. In contrast, some other industries and businesses would receive free allowances that match or exceed their carbon reduction obligations, it noted.

EnSys warned in the study that HR 2454, if it were to become law, could by 2030 cut US refining throughput by as much as 4.4 million b/d to 12.2 million b/d, with California and Gulf Coast refineries hit particularly hard. Refining throughput in the rest of the world, meanwhile, could grow by as much as 3.3 million b/d, it said.

US refining investments could drop by $89.7 billion, or 88%, to $12.2 billion by 2030, while projected utilization rates could plunge from 83.3% to as low as 63.4%, the study continued. Increased costs from complying with the new regulations would make US refineries less competitive with product suppliers in countries without similar carbon limits and increase US reliance on imported products, it indicated.

For its base-case, the EnSys study used the US Energy Information Administration's latest reference-case projection of future energy liquids supply and demand without climate legislation. It also used HR 2454's basic case allowance costs and other market impacts, and the bill's no international/limited case allowance costs and other market impacts. ✦

NGSA, AGA react to FERC's pipeline flow data proposals

Nick Snow
Washington Editor

The Natural Gas Supply Association and American Gas Association responded differently to proposed new federal requirements requiring the daily posting of the scheduled flow of natural gas on pipelines.

NGSA said in comments filed with the US Federal Energy Regulatory Commission on Aug. 31 that the requirements will provide market participants with enhanced insight into supply and demand fundamentals influencing price formation.

"FERC has taken a constructive approach that enhances transparency without distorting competition or efficiency in the market," said David Murphy, NGSA's analyst for energy markets and government affairs. "With implementation of requirements on posting pipeline flow data, the commission will achieve the final step in facilitating transparency in the physical natural gas market."

In separate comments, AGA expressed concern that the proposed posting requirements could not only fail to accomplish FERC's transparency goals, but would potentially yield confusing, and false or misleading market information if applied to the local distribution companies which make up AGA's membership.

"The ability of an LDC to deliver gas at any point on its system downstream of its city-gates is a function almost exclusively of the actual consumption by end-use customers behind that point. Thus, the amount of capacity that may be 'available' for an LDC to receive or deliver at any given point on its system beyond its city gates is driven by end-

user demand, not the size of the pipe in the ground, gas quantities flowing through a meter, contractual entitlements, or certificated volumes," it said.

'False or misleading'

AGA maintained, "Therefore, the commission's mathematical equation of 'posted capacity minus scheduled volumes equals available capacity' underlying the proposed rules does not hold true for LDCs and can often yield false or misleading market information when applied to LDCs." It recommended that FERC exempt LDCs from the posting requirement as originally proposed.

NGSA noted that the new flow posting requirements were imposed in FERC Order No. 720 as part of the commission's efforts to further expand information about physical market transactions and fundamentals. The flow data complements the annual transaction data collected in FERC's new Form 552 earlier this year and extensive market data already available on the commission's web site, NGSA said.

In its filing, NGSA also asked FERC to consider adopting a standard conversion factor of 1,000 British thermal units per standard cubic foot for the threshold determination of whether a point must post, increase the de minimis flow threshold on certain pipelines to 12,000 MMbtu/day in recognition of divergence between actual flow and design flow capacity, and confirm that the posting obligation is for aggregated flow information and consider adopting an exemption procedure to protect confidentiality concerns in locations with a single market participant.

Overall, NGSA praised FERC's decision to require the posting of scheduled pipeline flow data. "In addition to providing the market with important information regarding underlying supply and demand fundamentals, the availability of pipeline flow information will have the added benefit of spurring new innovative services resulting in more efficient pipeline grid utilization and infrastructure development decisions," it said in its filing.

WATCHING GOVERNMENT

Nick Snow, Washington Editor

Blog at www.ogjonline.com

Beaufort Sea leases upheld

A federal appeals court upheld a lower court's decision that the US Minerals Management Service did not need to prepare a supplemental environmental impact statement before conducting a 2007 lease sale in the Beaufort Sea off Alaska.

A three-judge panel in The 9th Circuit Court of Appeals unanimously said on Aug. 27 that MMS satisfied its duties under the National Environmental Protection Act.

It said that MMS took the requisite "hard look" at new information concerning the impact of rising oil prices on OCS Lease Sale 202 before issuing a finding of no new significance.

The North Slope Borough and the Alaska Eskimo Whaling Commission said in their lawsuit that MMS did not adequately consider seismic and other impacts on whales and other wildlife.

"The agency did not act arbitrarily or capriciously in determining no supplemental environmental impact statement was required to address new information about the impact of seismic activity on Inupiat subsistence activities," the appeals court said in a memorandum.

'Adequately analyzed'

"The impact of this new information, and the effectiveness of the existing and new proposed mitigation measures, were adequately analyzed in the 2006 Final Programmatic Environmental Assessment, which was incorporated by reference into the 2006 Environmental Assessment for Lease Sale 202," it continued.

Alaska Gov. Sean Parnell welcomed the news. The decision means that Shell Alaska can continue with its plans to explore and develop its Beaufort Sea leases, he said on Aug. 28.

"Outer Continental Shelf development is critical to the state's long-term economic future. The OCS offers the greatest opportunity for new oil discoveries in the Arctic, and barriers against exploration and development there continue to fall," Parnell said.

US Sen. Lisa Murkowski (R-Alas.) said the ruling was good news not just for the state, but also for US energy security. "That the 9th Circuit rejected all of the claims brought is not surprising," she said. "I've always felt that the MMS met the 'hard look' standard in their environmental assessment of the 2007 lease sale."

Sees other delays

Murkowski added that she remains concerned about continued delays in exploring more of the OCS off Alaska, however.

The Alaska Wilderness League, meanwhile, noted that US Interior Secretary Ken Salazar will face several Alaska OCS decisions during September.

It said that a 30-day comment period on Shell's Beaufort Sea exploratory plan will end on Sept. 6, and MMS will decide whether additional environmental reviews are needed "in the same area where thousands of endangered bowhead whales were seen in a 2007 survey by Shell."

The extended public comment period ends on Sept. 21 for a proposed new offshore leasing program for Alaska that MMS is developing, the group continued. And on Sept. 26, it said, Salazar is due to give his first report to the federal appeals court, which vacated the Alaska portion of MMS's current 5-year OCS plan earlier this year. ✦

Other AGA points

In addition to urging FERC to exempt LDCs from the posting obligation as originally proposed, AGA also recommended that those LDCs that the commission might require to comply with the proposed regulations be required to post scheduled volumes only at their city gates.

"No wholesale price formation occurs downstream of an LDC's city gates. Price index publishers provide city gate index prices but do not report prices at any points downstream of an LDC's city-gates because there is no wholesale trading of gas downstream of an LDC's city-gates. Information regarding volumes delivered on LDC systems beyond an LDC's city gate would not meaningfully contribute to the understanding of supply and demand fundamentals that affect wholesale natural gas price formation," it said.

AGA also recommended that FERC clarify that the threshold for reporting of a nonphysical point is reached when the point has a maximum volume scheduled to it equal to or greater than 15,000 MMbtu/day on any day within the three preceding calendar years.

It also urged the commission to permit LDCs to treat the noncontiguous portions of their systems on a facility-by-facility basis for purposes of determining whether they meet the threshold requirement for posting and whether they qualify for the end-use delivery company exemption. ✦

FERC issues draft EIS on proposed Bison gas line

Nick Snow
Washington Editor

A proposed 302-mile natural gas pipeline from a site near Gillette, Wyo., to an interconnection in Morton County, ND, would have some adverse environmental impacts that could be reduced with appropriate measures, said the US Federal Energy Regulatory Commission in a draft environmental impact statement.

The Bison Pipeline Project would include a 30-in. line from the Dead Horse Region near Gillette across southeastern Montana and southwestern North Dakota where it would connect with Northern Border Pipeline Co.'s system near Northern Border's Compressor Station No. 6, according to project sponsor Bison Pipeline LLC.

It said the line would have a 477 MMcfd design capacity, which could be expanded to 1 bcfd. Bison Pipeline added that it hopes to have the line operating by Nov. 15, 2010. Bison Pipeline, which is based in Omaha, is part of a TransCanada Corp. subsidiary. TransCanada also is a partner and operator of Northern Border.

FERC noted that the proposed project also would include a 4,700-hp compressor station in Hettinger County, ND. It pointed out that its draft EIS contains conclusions and recommendations from the commission's staff, which considered input from the US Bureau of Land Management as a cooperating agency.

BLM will present its own conclusions and recommendations in a separate record of decision and adopt FERC's final EIS if, after independently reviewing it, the US Department of the Interior agency concludes that its permitting requirements have been satisfied, FERC continued.

'Less than significant'

In its draft EIS, FERC said the proposed line would result in some adverse impacts if it is approved with Bison's proposed minimization and mitigation measures and FERC's recommended mitigation measures. "However, these impacts would be reduced to less than significant levels with the implementation of Bison's proposed mitigation and the additional measures we recommend in the EIS," it said.

It indicated that the proposed line would use existing rights-of-way for 53.1 miles, or 17.6% of its route. "The proposed route has been significantly influenced by agency recommendations to avoid sensitive wildlife habitats and vegetation types. Bison has been responsive to landowner requests for minor route modifications and has adopted many of these into the route evaluated in this EIS," FERC said.

Bison also would reduce adverse impacts to more acceptable levels if it used dry-crossing methods on fisheries of special concern based on its own proposal and FERC's recommendation, the draft EIS said. It also recommended that the company complete all necessary surveys for sensitive species and cultural resources, and the appropriate consultations before beginning construction.

FERC said it would accept comments on the draft EIS through Oct. 12. It said that commissioners would consider staff recommendations and a final EIS before making a final decision on the proposed project. ✦

Senate cap-and-trade bill delayed for a few weeks

Nick Snow
Washington Editor

The US Senate's version of carbon cap-and-trade legislation will not be introduced until later in September, its two sponsors said on Aug. 31.

Majority Leader Harry M. Reid agreed to provide Environment and Public Works Committee Chairwoman Barbara Boxer (D-Calif.) and Foreign Relations Committee Chairman John F. Kerry (D-Mass.) more time to work on

the bill, Boxer and Reid said in a joint statement.

They said Reid agreed that more time will be needed to work on the bill's final details "and to reach out to colleagues and important stakeholders" following the death of Sen. Edward M. Kennedy (D-Mass.), Kerry's recent hip surgery, and work on health care legislation on the Finance Committee, where Kerry is a member.

"We have told the majority leader that our goal is to introduce our bill later in September," Boxer and Kerry said in their statement.

James M. Inhofe (R-Okla.), the Senate Environment and Public Works Committee's ranking minority member, said a hearing earlier this summer revealed that Democrats still were a long way from having enough votes to pass what he considers the largest tax increase in US history. "With the climate-change debate on Capitol Hill, it's safe to report that bipartisanship is nowhere in evidence," he maintained.

"Cap-and-trade has pitted Democrat against Democrat or, put another way, it centers on those in the party supporting the largest tax increase in American history against those in the party who oppose it," Inhofe continued. "As to just who will win this intraparty squabble, I put money down on those representing the vast majority of the American people, who are clear that cap-and-trade should be rationed out of existence." ✦

Russia's ESPO pipeline construction 'on schedule'

Eric Watkins
Oil Diplomacy Editor

Russian Prime Minister Vladimir Putin, who recently launched a major new oil field, has been told that state-owned pipeline monopoly OAO Transneft is on schedule with construction of both phases of the 4,130-km East Siberia-Pacific Ocean (ESPO) pipeline.

"I am positive that the first line of the pipeline will be ready by the end of this year, and the construction of the second line will start immediately," Transneft Pres. Nikolai Tokarev told Putin in a meeting on Aug 25.

The first phase of the ESPO line will extend from Taishet to Skovorodino, while the second will extend on from Skovorodino to Perevoznaya on Russia's Pacific Coast. Phase 1 will carry 30 million tonnes/year of oil, while the line's capacity will reach 80 million tpy with the completion of Phase 2.

The fully extended pipeline will pass through Taishet, Kazachinskoe, Skovorodino, and Perevoznaya as it crosses seven constituents of the Russian Federation, including the Irkutsk, Chita, and Amur regions, the Republic of Buryatia, the Jewish autonomous district, and the Khabarovsk and Primorye territories.

In addition to his report on the main line, Tokarev also said construction of a pipeline spur, from Skovorodino to the Chinese border city of Mohe, will be completed by mid-September and will go into operation by October 2010. From Mohe, China will build a separate line southward to the industrial city of Daqing.

Vankor field

Tokarev's statements came just days after Putin launched operations at the Vankor field, which will supply Russia's state-owned OAO Rosneft with 510,000 b/d of oil when it reaches peak production in 2014—about 25% of the firm's output in 2008 (OGJ Online, Aug. 24, 2009).

"A new oil and gas province will be established here in the near future," Putin said at the launch, adding that Vankor field would feed oil into pipelines under construction to China and the Baltic Sea.

Earlier this year, China agreed to lend $15 billion to Rosneft and $10 billion to Transneft in exchange for 300 million tonnes of Russian oil over 2 decades, much of which will originate from Vankor.

The oil from Vanko will be delivered via a 556-km pipeline to Transneft's nationwide system, with deliveries to China scheduled to begin from 2011 via the ESPO line and its spur from Skovorodino to Mohe.

Vankor, which lies in the north of the Siberian region of Krasnoyarsk, holds 520 million tonnes, or 3.8 billion bbl, of oil reserves and 95 billion cu m of natural gas, according to Rosneft. This year, the field will produce 3 million tonnes, or 22 million bbl.

However, according to analyst IHS Global Insight, the development of Vankor will have the added value of stimulating further development in the region.

"The expectation is that a development of the magnitude of Vankor will provide additional stimuli for the development of the infrastructure of the Arctic and Far Eastern regions of Russia, which consequently will encourage oil companies to increase their exploration activities in these regions," IHS Global Insight said.

Meanwhile, according to Transneft, the ESPO project is being developed in accordance with the Russian energy strategy up to 2020 and is based on an analysis of long-term forecasts of oil production in Russia as well as demand in Asia-Pacific markets, comprised largely of China, Japan, South Korea, India, Indonesia, and Australia.

In 2002, according to Transneft, the Asia-Pacific region consumed 992 million tonnes of oil and products, representing 28% of world demand. But Transneft forecasts that the region's consumption will grow to 1.51 billion tonnes by 2010; 1.97 billion by 2020, and 2.205 billion by 2030.

In addition to the Vankor field, Russia's Tomsk region and the Khanty-Mansi autonomous district in West Siberia as well as oil provinces of Eastern Siberia are expected to form the resource base for the new line. ✦

WATCHING THE WORLD

Eric Watkins, Oil Diplomacy Editor

Blog at www.ogjonline.com

Don't scapegoat oil

If the oil and gas industry has learned anything from Scotland's decision to release Abdelbasset Ali al-Megrahi, the Libyan convicted of the 1998 Pan Am airline bombing, it should have learned the meaning of the word "scapegoat."

That view clearly emerged when US Sen. Joe Lieberman urged an independent investigation of Scotland's decision to free the convicted Lockerbie bomber, expressing concern that British interest in Libyan oil may have played a role.

In urging the investigation, Lieberman pointed to "shocking" suggestions by Libyan leader Mu'ammar al-Qadhafi, his son Saif, and the head of the British Libyan Business Council that the release was mixed with Britain's interest in exploring oil in Libya.

"I don't want to believe that they are true, but they are hanging so heavily in the air that I hope that our friends in Britain will convene an independent investigation of this action by the Scottish justice minister to release a mass murderer," Liebermann said on CNN.

Hero's welcome?

Al-Megrahi's return to what appeared to some observers a hero's welcome in Tripoli set off an outpouring of anger in the US over the decision by the Scottish government to release him on compassionate grounds.

Scottish Justice Secretary Kenny MacAskill said he made the decision on his own after doctors concluded that al-Megrahi, who suffers from prostate cancer, had just a few months to live.

"It is difficult for people sometimes in the United States to recognize that it is a different legal system, but it is a different legal system. It is a Scottish legal system and therefore we have to follow the tenets of Scottish justice," Scottish First Minister Alex Salmond told Sky News.

But adding fuel to the outrage was a claim by Seif al-Islam, al-Qadhafi's son, that the issue of Megrahi's fate "was always on the negotiating table" in talks with Britain over Libya's huge reserves of oil and gas.

Sen. Ben Cardin, a Democrat, said Lieberman's questioning of Scottish motives in releasing Megrahi "raises a very valid point."

Compromise over oil?

"I think we need to know what this oil deal was all about and whether there was a compromise to the judicial system for commercial gain," he said on the same CNN program.

Both Lieberman and Cardin said Libya's celebratory homecoming for the former intelligence officer should have "consequences."

But Sen. Richard Lugar, the top Republican on the Senate Foreign Relations Committee, took a more temperate view, telling CNN that while Washington "ought to condemn as strongly as possible this release," it was also necessary "to continue our relations with Libya."

Lugar said, "I think it's important to notice that President Qadhafi has a constituency in Libya. And the rest of the world is now engaged in diplomatic relations with Libya."

In a word, it makes no sense for anyone to scapegoat the oil and gas industry for Scotland's release of al-Megrahi. ✦

Putin touts Russia's oil reserves; seeks funding

Eric Watkins
Oil Diplomacy Editor

Russia's Prime Minister Vladimir Putin, on a visit to the town of Igarka in Krasnoyarsk Territory, boasted that the region will eventually provide more than 115 million tons/year of "additional oil and condensate" on reaching its estimated capacity.

"We ourselves find it hard to imagine the riches that fill our country," said Putin at the launch of the Vankor oil field, adding that "It is possible and necessary to develop the resources that we have for hundreds of years."

He said on national television that Vankor is "the first, and therefore a highly significant step in implementation of the large-scale, strategic project for the integrated development of hydrocarbon deposits in the north of Krasnoyarsk Territory and the Yamal-Nenets Autonomous Area."

"In the coming years, a whole new Russian oil and gas region should appear here. Hundreds of kilometers of gas and oil pipelines will be laid," Putin said. "Roads and power stations will be built, literally from scratch. Dozens of fields will be developed," he said.

"According to specialists' calculations, this region will provide over 115 million tons of additional oil and condensate each year when it reaches its estimated capacity," Putin said. "Of course, this will significantly strengthen the raw material base of the Russian economy and our export potential."

Production in the oil and gas region should reach full capacity in around 10 years, said Putin, who also spoke about measures planned to improve infrastructure in the region.

"The government has taken a decision about integrated development

of this, essentially new, oil and gas region," said Putin, who proposed a partnership between the government and private oil companies.

"In our view, this approach will make it possible to consolidate the efforts of the state and resource-extracting companies and to significantly reduce costs," he said.

Putin said such a partnership would also "create a common transport network, energy supply system and social provisions much more effectively, quickly and—the most important thing—cheaply, than if each company built such infrastructure individually, just for itself."

Public-private partnerships should be used in the development process, said Putin, who said that "top-notch development of infrastructure needs to be ensured for the development of these new fields."

Putin said, "We are talking about the construction and modernization of roads, pipelines, and power stations. It would be expedient to widely use the possibilities of state-private partnerships for this."

Putin, who said that infrastructure bonds should be issued to help finance the projects, also suggested that a zero rate of tax on the extraction of subsoil resources could be extended to oil deposits in the Yamal-Nenets Autonomous Area.

"A subsidized, 'zero' rate of the subsoil resources extraction tax is already in effect for a whole series of oil deposits," he said, adding that "this norm should be extended to the whole territory of the Yamal-Nenets Autonomous Area."

Putin also urged the swift introduction of a zero rate of customs duty on oil exported from eastern Siberia.

"A fundamental decision has been taken regarding a 'zero' customs duty on the export of oil extracted from certain oil deposits in eastern Siberia," he said, adding, "Vankor is on this list."

At the launch, Putin said that fields in the Yamal-Nenets Autonomous Area and the north of Krasnoyarsk Territory contain 67% of Russia's natural gas, 15% of its oil, and 60% of its gas condensate.

"What's more, geological exploration work here is far from complete and it promises new discoveries," he said, adding, "The degree of resource exploration is 20% for oil, 35% for gas, and just 17% for condensate." ✦

Chemicals found in Wyoming water near gas wells

Paula Dittrick
Senior Staff Writer

Federal environmental officials reported water sampling tests tentatively identified chemical contaminants—possibly from natural gas operations—in drinking water wells near Pavillion, Wyo., and more testing will be done to determine the chemical's source.

The US Environmental Protection Agency on Aug. 11 issued a 44-page report outlining its water sampling results in Fremont County, which is a rural area with gas production. Field testing was done during March and again in May.

"There are numerous gas wells, gas well waste pits, and agricultural chemical storage areas that could be potential sources of contamination," said the report. Among contaminants found, one was 2-butoyethanol, or 2-BE, which EPA officials say is used by the gas industry.

This chemical is a solvent used in hydraulic fracturing, but EPA has yet to determine the cause of the contamination. The water tests were conducted because some Pavillion-area residents complained about their drinking water's color, smell, and taste.

EnCana's Wyoming operations

EnCana Corp. has 248 wells in the area, EnCana spokesman Doug Hock of Denver told OGJ. The wells are in the Fort Union formation in the Wind River basin. EnCana acquired the wells in 2004.

"We have not done any drilling or completions there since 2007," Hock said, adding that EnCana is cooperating with the EPA investigation. "At this point, we just don't know," if the chemical found in the water might have come from fracturing, he said.

Luke Chavez, EPA Region 8 project manager in Denver, said there also are coal mines in the area. EPA has yet to determine the volume of 2-BE in the water. The study was conducted under the EPA's Superfund program.

Chavez noted that the substances found by EPA are found in some household products and in degreasers. He said it's possible the contaminants came from a degreaser used around a gas production well rather than from fracturing.

"We cannot pinpoint any specific source at this time," Chevez said. "Further sampling is needed, and we are meeting with stakeholders to determine the best way to approach the next sampling effort."

Fracturing traditionally is a state-regulated practice, although several federal lawmakers have expressed concerns about whether it should be regulated under federal law.

In June, some members of Congress introduced legislation that would give EPA the authority to regulate fracturing under the Safe Drinking Water Act. Hydraulic fracturing is crucial to the development of shale gas plays (OGJ, July 6, 2009, p. 18).

The American Petroleum Institute has issued recommendations to ensure the chemical mixtures used in fracturing jobs remain isolated from groundwater. ✦

USW seeks phaseout of HF alkylation units

Paula Dittrick
Senior Staff Writer

The United Steelworkers Union has called for a nationwide phaseout of hydrogen fluoride alkylation units at refineries, saying solid-state catalysts offer promise as a safer alternative although this method is only used at the pilot plant stage.

Hydrogen fluoride is an acid used as a catalyst in alkylation units. The other main commercially used alternative for a catalyst is sulfuric acid. Both are hazardous chemicals. A third alternative is a modified HF process although only a handful of refineries are using it, industry spokespeople said.

"We intend to pursue every avenue till we have safer units that don't endanger our refinery workers or the communities surrounding these facilities," USB Vice-Pres. Gary Beevers said in an Aug. 31 news release.

The union said it is scheduling a mid-September meeting in Corpus Christi, Tex., between the local and international union representatives, the Sierra Club, and Citizens for Environmental Justice.

USW said sulfuric acid has less potential to form a deadly vapor plume in the case of an accidental release. The union noted three HF release incidents in 5 months.

HF releases

HF was released from the alkylation unit at Sunoco Inc.'s 330,000-b/d refinery in Philadelphia on Mar. 11, HF was released during a fire at Citgo Petroleum Corp.'s 156,800-b/d Corpus Christi refinery on July 19, and the chemical also was released Aug. 6 from the alkylation unit at the ExxonMobil Corp. refinery in Joliet, Ill.

The US Chemical Safety Board (CSB) has sent an investigative team to ExxonMobil's 240,000-b/d Joliet refinery (OGJ, Aug. 17, 2009, Newsletter).

At that time, CSB Chairman John S. Bresland said, "We are concerned about the three apparent releases of hydrogen fluoride from refinery alkylation units in Pennsylvania, Texas, and now Illinois that have been reported since March 2009. Because of its high toxicity, any loss of primary containment for hydrogen fluoride is a serious matter," he said.

CSB has investigators examining the HF releases at Citgo's Corpus Christi plant.

NPRA, API responds

National Petrochemical & Refiners Association Pres. Charles T. Drevna said HF is as safe as any other catalyst, and is a critical component in refinery operations.

"It appears to us that USW may be a victim of bad analysis provided by environmental activists, who for years have unsuccessfully promoted the concept of chemical substitution," Drevna said. "You can't simply switch hydrofluoric acid for something else. Such a policy position could actually threaten the very jobs USW is seeking to protect."

Ron Chittim, American Petroleum Institute senior downstream policy adviser, said he has seen estimates that it could cost a refinery up to $125 million to switch from an HF unit to a modified HF unit.

Chittim said the HF process is so different from the sulfuric acid process that a refinery wanting to switch to sulfuric acid probably would have to scrap its existing HF unit and build a sulfuric acid unit.

"You are talking about different types of equipment," Chittim said. "They both have a role in refining. I don't think it's right to pick winners and losers. Both methods have their pros and cons."

USW withdrew from API talks

Drevna said, "It's no coincidence that USW is trying to seize an issue to make hay of in the wake of walking away from safety discussions, and this is nothing more than a manufactured opportunity to lobby through the press."

He referred to the USW withdrawing from talks on refinery standards with the API and the oil industry.

The talks were in response to recommendations from the CSB following the deadly Mar. 23, 2005, explosion at BP America Inc.'s Texas City, Tex., refinery (OGJ, Sept. 8, 2008, p. 20).

USW and API were working to develop two American National Standards Institute standards for process safety performance indicators and fatigue. The two groups had worked together for more than a year on the upcoming standards, which API spokesmen say will be completed without USW participation. ✦

FACTS: No gas imports for Pakistan before 2014-15

Christopher E. Smith
Pipeline Editor

LNG will not reach Pakistan before 2015, with pipeline gas from Iran not expected before 2014, according to the new brief "Iran-Pakistan Pipeline Deal: Future Role of Gas and LNG in Pakistan's Power Sector," by FACTS Global Energy Group, Honolulu.

Moving proposed Pakistani LNG projects forward will require active government participation, according to FACTS. Such participation would include loan guarantees and domestic price increases designed to make Pakistan a more attractive destination for international suppliers.

FACTS said financing is the primary obstacle to having the Iran-Pakistan pipeline done any sooner, the 750-km

Pakistani leg alone costing more than $1 billion.

The economic downturn also created financing difficulties for Pakistan's leading proposed LNG terminal project, according to FACTS. The Pakistani government approved Sui Southern Gas Corp.'s Mashal LNG project at Port Qasim, Karachi, in early 2007, choosing a development consortium led by 4Gas. The brief said two other projects proposed for Port Qasim have not advanced as far as Mashal LNG.

The Iran-Pakistan pipeline would be an extension of Iran Gas Trunkline 7, currently under construction and expected to be completed in 2010. Running 900 km from Assaluyeh to Iranshahr in Iran's Sistan-Baluchestan province, the 56-in. OD line will have a capacity of 5.3 bcfd. A 400-km branch line from Iranshahr to the Pakistani border would have an initial capacity of 750 MMcfd, according to FACTS, expandable to as much as 2.1 bcfd. Contracts for this connecting pipeline, likely running through Chahbahar in southeast Iran to the Pakistani border, have not yet been awarded.

FACTS said the pipeline will enter Pakistan in southern Balochistan, running to Sindh province where the country's main pipeline hub lies. From Sindh, gas would travel through SSGC's existing distribution network.

Iranian gas entering Pakistan will be used by independent power producers, according to FACTS, as they have the greatest ability to pay. Iranian gas could replace more costly liquid fuels in power generation in the more remote parts the country, at the same time reducing its fuel oil and naphtha imports.

Iran and Pakistan agreed in June to a price formula linked 79% to the Japan crude cocktail (JCC) price. At JCC of $60/bbl Pakistan would pay around $8.20/MMbtu, said FACTS. ✦

StatoilHydro shutting down Hammerfest LNG for 3 months

StatoilHydro's Hammerfest LNG plant on Melkoya Island in northern Norway will be shut down on Aug. 15 for upgrading and maintenance for as long as 3 months, the company announced. Since the plant's 2007 start-up, upgrading and replacement of equipment have been carried out to increase the plant's production.

From February, said the company, the plant has produced at about full nominal capacity of 4.1 million tonnes/year. "To secure this level, the plant has to be made more robust," the announcement said.

A major operation will be replacing 15 heat exchangers, which form the core of the process that liquefies Snohvit development gas. During the shutdown and before the mechanical work can begin, all gas must be removed from the plant. Some flaring will therefore take place during the first day of the stoppage.

Hammerfest LNG will resume production in November, said the company.

Although the company claims official start-up in second-half 2007 and the plant did send out its first cargo in late October (OGJ Online, Oct. 25, 2007), the plant was plagued by outages for the remainder of the year and into 2008 (OGJ Online, Feb. 25, 2008).

The development

Snohvit, which encompasses the subsea field development as well as the Hammerfest LNG plant, is the first offshore development in the Barents Sea. It has no surface field installations and brings natural gas to Melkoya Island for liquefaction and export. Hammerfest is the first plant of its kind in Europe, the world's northernmost LNG plant, and the only one inside the Arctic Circle.

Subsea production facilities in the Barents Sea stand on the seabed, in water depths of 250-345 m, according to company information. From the Snohvit, Askeladd, and Albatross fields, 20 wells are to produce gas to be transported through a 143-km pipeline.

For Snohvit, 9 wells are planned, including 8 for production and 1 for reinjecting carbon dioxide. During 2004-05, 6 of the producers and the CO_2 injector were drilled, with the remaining two to follow in 2011.

Production wells on Albatross were drilled in 2005-06, according to the company. Snohvit and Albatross wells came on stream in 2007. The Askeladd part of the development is due on stream in 2014-15. ✦

Hammerfest LNG is shutting down until November for extensive upgrading and maintenance. 33Photo by Eiliv Leren, StatoilHydro.

Falcon to pursue large resource at Beetaloo

Falcon Oil & Gas Ltd., Denver, plans to reenter, deepen, and test the Shenandoah-1 exploration well in the Beetaloo subbasin of Australia's McArthur basin, where a resource evaluation has indicated large oil and gas potential.

Consulting engineers released best estimates of 193 billion stb of unrisked, undiscovered oil in place and 385 tscf of unrisked, undiscovered gas in place....

Twelve wells have been drilled in the lightly explored basin, in which Falcon has 75% interest in and operates four Northern Territory exploration permits that cover 7 million acres.

Consulting engineers released best estimates of 193 billion stb of unrisked, undiscovered oil in place and 385 tscf of unrisked, undiscovered gas in place attributable to Falcon's interest. The prospective resource figures are 19 billion bbl and 64 tcf.

The oil is estimated to be present in the conventional Hayfield mudstone and Jamison sandstone and in the unconventional Upper Kyalla shale. The gas is estimated to be in the conventional Hayfield, Jamison, and Moroak sandstone, in basin centered gas accumulations in the Moroak and Bessie Creek sandstones, and in the Lower Kyalla and Middle Velkerri shales. All formations are part of the Proterozoic Roper Group (see chart, OGJ, June 27, 1994, p. 61).

The bulk of the oil believed recoverable is in the Upper Kyalla shale, and the largest share of the potentially recoverable gas is in the Bessie Creek sandstone. The formations are at depths of 3,000 m or less.

Sweetpea Petroleum Pty. Ltd., a subsidiary of PetroHunter Energy Corp., Denver, drilled Shenandoah-1 to a total depth of 4,740 ft in 2007 in the southern part of Exploration Permit 98.

Shenandoah, a twin to the Pacific Oil & Gas Pty. Ltd. Balmain-1 well, is about 375 miles north of nearest onshore production in Mereenie and Palm Valley fields near Alice Springs. PetroHunter owns the other 25% interest in the four Beetaloo permits.

Falcon will deepen to an undisclosed depth. It engaged two consulting firms to help identify and select participants for its Australian initiatives. ✦

Venoco to press Monterey shale work in 2010

Denver independent Venoco Inc. sees 2010 as the year it begins to exploit California's Miocene Monterey shale in earnest and believes more than 10 billion bbl of original oil in place exist on its onshore acreage.

The Monterey shale play is only now emerging, but the formation may hold the largest shale resource in the US with 300 billion bbl in place, said Timothy Marquez, Venoco chairman and chief executive officer. Monterey holds more than 2 billion bbl on its leases, Venoco estimated.

Venoco, which began geologic studies on the Monterey 4 years ago, has now amassed 200,000 prospective acres and is still leasing onshore. The package includes offshore leases held by production from other formations or not producing and nonproducing onshore acreage.

Venoco has drilled a couple of Monterey shale wells onshore and is pleased with the results, Marquez said without giving details.

At least 2,000 wells have been drilled and logged through Monterey in exploring and producing from deeper

formations. Shale thickness ranges from 1,000 ft to 3,500 ft. The extremely complex reservoir is mostly a shale but with bits of most every other facies, Marquez said (see map, OGJ, Jan. 9, 1984, p. 75).

Venoco is "working toward completion techniques that can replicate the productive capacity" the company sees in the naturally fractured Monterey shale offshore and believes the shale holds oil that is lighter in gravity than typical California heavy oil.

Venoco has been producing from Monterey shale offshore for more than a decade in South Ellwood and Sockeye fields in the Santa Barbara Channel. South Ellwood's production is entirely from Monterey, and Sockeye produces from Monterey and conventional formations.

Venoco is anxious to frac the Monterey at Sockeye, but no mobile frac equipment is available off California, Marquez said. The company hopes to access purpose-built frac equipment or bring it in from Alaska's Cook Inlet by late 2009 or in 2010.

Marquez said the former ARCO Oil & Gas Co. discovered Monterey's potential as a reservoir and not just a world class source rock when a well on South Ellwood's Platform Holly developed a hole in the casing and flowed 1,500 b/d of oil. ✦

Seismic-while-drilling technology advance hailed

Technology International Inc. of Kingwood, Tex., has developed a breakthrough borehole imaging system that is nearly commercial, according to the US Department of Energy, which is sponsoring the project.

By pushing the limits of seismic-while-drilling technology, the patent-pending SeismicPulser system provides more accurate geosteering for oil and gas discoveries, facilitating field development and improving well economics, DOE's Fossil Energy Office (FEO) said.

It said drillbit SWD technology uses a downhole acoustic source and receivers at the surface to create real-time images that allow operators to "see" ahead of the drillbit. The SeismicPulser system was developed to withstand high-pressure, high-temperature (HPHT) environments in deep onshore and offshore deepwater wells that require special imaging technologies, DOE said.

DOE said no drillbit SWD system available currently has the new system's full capabilities. It said the system, which is built into or attached to the drillstring, emits broadband low-frequency sounds that, based on seismic calculations, can be transmitted to surface receivers from depths beyond 30,000 ft.

Project managers have indicated that SeismicPulser is the only system that meets the requirements of those companies planning to drill HPHT wells to as deep as 35,000 ft in ultradeep water, according to DOE.

It said SeismicPulser provides accurate drillbit location relative to predrilling reservoir models and gives the operator real-time images roughly 1,000 ft ahead of the drillbit, all without interfering with normal drilling operations.

The system costs less than conventional vertical seismic profiling systems and increases safety and cost savings by detecting unexpected increased pore pressure ahead of the bit, DOE said. It also provides new operational capabilities by allowing operators to visualize and steer towards more optimal targets when drilling deep formations, it added.

DOE said funding for the project came from FEO's oil and gas program. Field testing was performed at the University of Texas's Devine seismic test site and DOE's Rocky Mountain Oilfield Testing Center near Casper, Wyo. The project was managed by the FEO's National Energy Technology Laboratory. ✦

Drilling set on first CBM tract in Indonesia

A test well on Indonesia's first coalbed methane exploration and development production sharing contract is to spud by September 2009.

PT Medco Energi Internasional Tbk operates the 58,349-ha Sekayu Block is in the South Sumatra basin. Medco has estimated that the first commercial CBM production will start in 2011.

Other participants in Sekayu include Batavia Energy Inc. and CBM Asia Development Corp., Vancouver, BC.

The government granted 15 CBM PSCs between May 2008 and August 2009 that represent $96 million in exploration commitments in the next 3 years.

Indonesia's CBM resource is estimated at 453 tcf in place, of which 183 tcf is attributed to the South Sumatra basin. An estimate earlier this decade put the resource at 337 tcf (OGJ, Oct. 22, 2001, p. 40). OGJ estimated Indonesia's proved gas reserves at 106 tcf (see table, OGJ, Dec. 22, 2008, pp. 22-23). ✦

Idaho exploratory drilling planned

Canadian companies plan to drill for oil and gas in Idaho's Boise basin.

Bridge Energy Inc., a subsidiary of Bridge Resources Corp., Calgary, applied for permits to drill five wells to 4,500-7,000 ft starting in the fourth quarter of 2009. The company said the wells will target three shallow gas and deeper oil reservoirs at 2,000-7,000 ft.

"Several older wells flowed gas to surface at measured rates up to 400 Mcfd, and two of the four deeper wells in the basin recorded live oil shows," said Bridge Resources.

The new wells will be the first based

on modern reprocessed seismic, the company said. Idaho has no oil or gas production.

Bridge Resources and Paramax Resources Ltd. each hold a 50% interest in more than 105,000 gross acres, almost 75% of it in fee, in Idaho and Oregon. ✦

Drastic improvements needed in shale gas

Efficiency improvements of at least an order of magnitude are needed in US shale gas plays because field costs will not stay at the levels to which they have dropped since late 2008, said a speaker Aug. 26 at the Summer NAPE E&P Forum in Houston.

Now that the industry has mastered combination of horizontal drilling and multiple frac stages, the rate of technology growth seems to be slowing, said William Coates, president, Schlumberger Oilfield Services, North America. Taking more measurements in each well may be the key.

Drilling and completion capital costs are not going to stay low, and field service costs may begin to increase within a few months, said Coates.

The proliferation of frac jobs to as many as several dozen per well is inefficient, and most operators don't take enough measurements in the vertical or horizontal portions of shale gas wells once they have completed their initial reservoir characterization drilling, he said. The move from science mode to gas manufacturing is too abrupt.

Companies should set a goal of obtaining the same ultimate recovery by "doing less," Coates urged. They must find ways to cut the drilling time of a typical shale well to 7 days from 28, for example, by attaining the capability for a single bit run for the vertical part of the hole and one bit run for the curve and lateral.

Landing the lateral at the depth of the sweet spot at any given well location could result in twice to three times the ultimate recovery if an operator spent an extra $100,000 on measurements, Coates estimated.

Other steps toward efficiency could come in the use of friction reducers and biocides to halve the amount of water required for fracs, laying fiber optic cable outside casing to measure vibration to learn which frac stages are producing, and learning how to conduct fewer inefficient fracs by using log-while-drilling measurements to select perforated intervals. ✦

Sinopec to spud Bomu prospect in Gulf of Guinea

Sinopec JDZ Block 2 Ltd. will spud an exploration well on the Bomu deepwater prospect on Block 2 in the Nigeria-Sao Tome & Principe Joint Development Zone (JDZ) in the Gulf of Guinea before the end of August, the company said.

Sinopec will drill the well to a TD of 3,536 m in 1,646 m of water using Transocean Inc.'s Sedco-702 semisubmersible.

"The well, named JDZ Bomu-1, will target a number of potential exploration targets at different depths in one of the several prospects identified from 3D seismic analysis and interpretation in JDZ Block 2," said partner ERHC Energy Inc. (see map, OGJ, Sept. 8, 2003, p. 38).

Final well results should be available in the fourth quarter.

The production-sharing contract for JDZ Block 2 was signed in March 2006, and the partners have been carrying out extensive subsurface studies and preparations for exploratory drilling.

Sinopec JDZ is leading a consortium that includes ERHC Energy Nigeria JDZ Block 2 Ltd., Addax Energy Nigeria Ltd., ONGC Narmada Ltd., Equator Exploration JDZ Block 2 Ltd., A & Hatman Ltd., Momo Deepwater JDZ Ltd., and Foby Engineering Co. Ltd. ✦

Egypt

Sea Dragon Energy Inc., Calgary, acquired a 10% working interest in the North West Gemsa development and exploration lease in Egypt's Gulf of Suez onshore area from Premier Oil Overseas BV for $12.5 million.

Vegas Oil & Gas operates the 250 sq km concession with 50% interest, and Circle Oil PLC has 40%.

The government issued a 20-year development lease around the October 2008 Al Amir-SE-1 discovery well that tested 3,388 b/d of 41° gravity oil and 4.25 MMscfd of gas. The Geyad-1X discovery in May 2009 tested 2,809 b/d and 3.04 MMscfd from a lower zone and 1,174 b/d and 1.324 MMscfd from an upper zone.

Production of 2,250 b/d of oil is to rise to 6,000-7,000 b/d with more facilities and gas commercialization is under study.

Somalia-Kenya

Raytec Metals Corp. took a farmout from Africa Oil Corp. that covers blocks in Somalia's Puntland state and Kenya. Both are based in Vancouver, BC.

Raytec will pay a disproportionate share of costs of planned work programs in 2009-10.

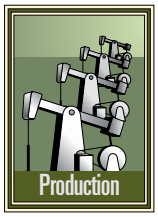
The agreement covers a 15% interest in the Nogal and Dharoor production-sharing agreements in Somalia. The Nogal block is in the Nogal basin, and the Dharoor block is in the Al Medo basin.

It also covers a 10% interest in Block 9, a 25% interest in Block 10A, and a 20% interest in Block 10BB in Kenya. The blocks are in and west of the northern Anza basin.

OFFSHORE BONDS—1

Raising supplemental bonding ups small company liabilities

Mark J. Kaiser
Brian Snyder
Louisiana State University
Baton Rouge



Raising supplemental bond requirements damages the profitability of small independents while reducing liabilities for previous lease owners in the Gulf of Mexico.

The higher bonding requirements may happen as the US Minerals Management Service assesses an updated formula for calculating bonding requirements that have been in place since the early 1990s.

The MMS requires offshore oil and gas operators to procure bonds to ensure that they meet their regulatory obligations.

Companies in the gulf in 2008 held about $1.2 billion in bonds. Supplemental bonding ensures that operators meet their decommissioning obligations and in 2008 accounted for the largest bond type at $556 million, followed by area-wide development at $426 million.

Of the 120 operators that produced oil or gas in the gulf in 2008, 47 carry supplemental bonds and produce 2.5% of the gulf's oil and 11.7% of the gas.

A recent study[1] developed risk-adjusted bonding tableau for assisting the MMS in assessing decommissioning liability and supplemental bonding requirements.

This first part of a two-part series discusses potential effects of an increase in the required bond levels. It provides an overview of the supplemental bonding industry in the gulf and uses MMS data and interviews with industry participants.

Part 2 will discuss risk-adjusted alternatives for implementing the bonding mechanism.

Surety bonds

Oil and gas operating companies on the Outer Continental Shelf have an obligation to plug and remove all structures on a lease within 1 year of the end of production, unless the lease is unitized, in suspension, or the structures serve a useful function for other operations.

The MMS requires that companies

Rate determination

In the surety industry, rates generally range from 1 to 2.5%/year of the covered loss.[9] In the offshore surety industry, rates typically range from 1 to 3%/year but may be as high as 5%.[6] Offshore supplemental bonds often require collateral.

In the traditional insurance industry, insurers manage their risk by charging premiums or deductibles. In the surety market, rates are typically low and used primarily to pay the cost of doing business and deductibles are not an option.

As a result, sureties use increasing rates of collateral to decrease their risk. In some cases, sureties may require bonds to be 100% collateralized, either through cash deposits or through letters of credit. In this case, the surety serves not so much as an insurer, but as a banker or middleman, holding on to property (either cash or an LOC) and using its reputation and collateral to ensure that the principal's obligations will be met.

One way to obtain a rough estimate for the rate that a surety might charge a principal is to take the interest rate a company typically would be asked to pay on a loan, subtract the LIBOR rate, and take half of the remainder.

For example, if the LIBOR is 3%, and a company is charged 7% on its loans, then a surety might charge 2% of the insured losses.[3]

The Surety & Fidelity Assoc. of America has published rate tables as guidelines for the construction surety industry. These rates decrease from 2.5% for the first $100,000 of a bond to less than 1% for bonds over $5 million. These guidelines probably are too simplistic for offshore supplemental bonding because of risks involved and the fact that the success of an offshore oil company is linked closely with the geology and production potential of a lease site.

that do not meet a certain financial threshold provide a surety bond that ensures that funds are available for plugging and abandoning wells and removal operations at the end of the lease in the event of bankruptcy.[2]

Surety bonds are a method for enforcing contracts and are well suited for ensuring environmental compliance. There are several types of bonds used in the offshore oil and gas industry, which are also known as P&A bonds or supplemental bonds.

Surety bonds are agreements among three parties. These parties are the offshore operator (principal), which is obligated to conduct decommissioning activities in accordance with its lease agreement, the MMS, which acts as an agent of the landowner and is required to ensure successful operations (obligee), and an insurance company (surety), which ensures that money exists to complete decommissioning activities, regardless of the financial capacity of the principal.

The surety is only responsible for the insured amount, thus the bonds may not cover the total decommissioning costs.

The US Treasury department must certify the insurance company in order for it to write bonds and the US Treasury also gives it an underwriting limit, which is the maximum amount of liability that the surety can insure.

Surety bonds are good methods of ensuring compliance with regulations but only serve this purpose for companies that pose a bankruptcy risk. If a company has the means to comply with government regulations, it likely will do so. Otherwise the government, as the owner of mineral rights, could exclude the company from future land use and could sue the company to recover the decommission costs.

Thus, surety bonds are only efficient for firms that stand a risk of bankruptcy. As a result, MMS only requires small producers to procure supplemental bonds.

Bond market

Surety bonds are a type of insurance. Unlike more familiar forms of insurance, however, surety bonds transfer risk from the obligee to the surety, not from the principal to the insurer as in traditional insurance.

Surety bonds also often have indemnity clauses that allow sureties to collect money if they are forced to pay out the bond. Standard forms of insurance do not contain these clauses. It is, however, difficult to collect losses from companies that cannot fulfill a bonding obligation due to bankruptcy.

The premiums in the surety industry are not intended to cover losses to the same degree as premiums in the traditional insurance industry. That is, a large share of the premiums in the surety industry actually consists of fees for the underwriters. As a result, the surety industry expects less frequent losses than the insurance industry.

According to industry sources, about one-third of the premiums sureties collect are available for losses. The other two-thirds are associated with taxes, reinsurance, overhead, and salaries.[3] Thus, a surety company that charges 2% on a given sized liability has to collect about 150 annual premiums (on similarly sized liabilities) to cover a single loss.

For example, if a surety covers a $1 million liability and collects $20,000/year in premiums, about $6,666/year is for covering losses. Thus, a surety would need 150 premium payments of 2% on a $1 million liability to pay for a single loss. Surety bonds are sometimes thought of more as a line of credit than a type of insurance.

Premiums in the total surety market in the US exceed $3.5 billion/year.[4] Bonds written fulfill a large number of contractual and commercial obligations. Most large insurance companies have a surety department that underwrites construction contracts and other commercial sureties. The offshore oil and gas surety market in the gulf is a small fraction of the overall surety market, less than 1% if one assumes $556 million in supplemental bonds at 3% premium rate gives $16 million in premiums.

The supplemental surety bond market is itself a fraction, about 50%, of the offshore oil and gas surety market. The accompanying box shows how the industry determines rates.

Table 1 provides information on the supplemental bond market based on MMS data. In 2008, 73 operators held $556 million in supplemental bonds. The bond size averaged $7 million/company, and these 73 companies produced 2.5% of the gulf's oil and 11.7% of the gas.

Despite the small size of the mar-

2008 SUPPLEMENTAL BOND*

Table 1

No. of bonds	488
Total value of bonds, $ million	556
No of bonded companies	73
Average bond size per bonded company, $ million	7.04
Range of bond sizes per company	
Standard deviation, $ million	13.3
Minimum, $ million	37,500
Maximum, $ million	95.4
Amount bonded with trusts and treasury bonds, %	12.5
Gulf oil production* covered by supplementally bonded companies, %	2.5
Gulf gas production* covered by supplementally bonded companies, %	11.7
Supplemental bonds portion of total gulf bond liability, %	48

*Production based on data through August 2008.
Source: MMS

2008 GULF BONDING LEVELS

Table 2

Bond type	Total value, $ million	Individual value, $1,000	Number of bonds
Area-wide development	426	3,000	142
Area-wide exploration	8	1,000	8
Area-wide minimum	19.6	300	66
Area-wide pipeline	91.5	300	305
Lease specific development	47.5	500	95
Lease specific exploration	3.4	200	17
Lease specific minimum	7.8	50	156
Right of way	25.1	Varied	15
Right of use and easement	18.1	Varied	21
Supplemental	556.5	Varied	488
Total	**1,204**		**1,313**

Source: MMS

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ket, the health of sureties is critical for oil and gas activities in the gulf. The sureties that underwrite supplemental bonds are generally the same companies that underwrite other bonds used for other forms of financial security.

General lease bonds

The MMS requires operators and lessees to obtain surety bonds to cover a variety of contractual obligations. These bonds may be either area-wide (covering a company's area-wide operations) or lease-specific. Unlike supplemental bonds, the bonds have a standard value for all lessees and operators cannot exempt out of the bonding requirements.

In general, the bond value increases with increasing development. All lessees must initially furnish $50,000/lease bonds ($300,000 area-wide) with bond requirements increasing to $200,000 ($1 million area-wide), and $500,000 ($3 million area-wide) during exploration and development, respectively.

The regulations require bonds of $300,000 for operators of pipeline right-of-ways and $500,000 for right of use easements.[5]

Tables 2 and 3 summarize the gulf surety bond industry in 2008. Gulf companies held about $1.2 billion in bonds. The values are dynamic and will change as companies lease new areas, trade assets, and add or remove infrastructure.

In 2008, supplemental bonding was the largest bond type at $556 million, followed by area-wide development at $426 million (Table 2). All other bond categories contributed 18% of the total bond amount.

Fifty surety companies hold $1.2 billion in bonds (Table 3). The largest sureties in the gulf include RLI Corp., Travelers Casualty & Surety Co. of America, and US Specialty Insurance Co. (IndemCo), which combined hold 63% of the market.

There are 448 bonded companies with average total bond coverage of $2.7 million. Because of area-wide bonding, large operators are not particularly burdened by bonding requirements.

Meeting obligations

MMS estimates the decommissioning costs for each lease and requires that if at least one working interest owner is not financially capable, operators either acquire surety bonds, set up escrow accounts, or acquire US Treasury bonds to meet their decommissioning liabilities.[2]

LARGEST SURETIES IN GULF*

Table 3

Surety	Total bonded, $1,000	Market share, %
RLI	394,160	32.75
Travelers	207,645	17.25
IndemCo	154,775	12.86
SAFECO	86,750	7.21
Fidelity & Deposit	43,550	3.62
Liberty Mutual	34,750	2.89
Bank of NY	34,750	2.89
St. Paul Fire	30,700	2.55
Lexon	28,100	2.33
US Treasury	24,908	2.07
Total	**1,040,088**	

*For all bond types in 2008.
Source: MMS

The breakdown in 2008 for meeting the obligations was 87% surety bonds, 11% trust accounts, and slightly more than 1% US Treasury bonds.

Operators use trusts or treasury bonds if their liabilities are too extensive to be covered by the available sureties or while they are in the process of obtaining surety bonds.

MMS does not allow letters of credit, but companies often use LOCs as collateral for surety bonds.[6] LOCs differ from surety bonds in that the bank issuing an LOC usually requires the principal to have the value of the LOC in its account at all times. Surety bonds typically do not have this requirement.

Regulations allow large, financially stable companies to receive waivers for supplemental bonds. Companies with waivers in the gulf include all majors, large independents, and several other companies that account for 97.5% of the oil production and 88% of gas production during the first 6 months of 2008.

MMS also may exclude a company from supplemental bonding requirements if it has a guarantee by a third party that meets these standards, which often occurs when a company is a subsidiary of a larger company. As a result, the only companies that require supplemental surety bonds are relatively small ones with relatively low, usually less than $20 million, total liabilities.[6]

Of the 120 operators that produced oil or gas in the gulf between January and October 2008, 47 carry supplemental bonds. In addition to these 47 companies, another 26 had supplemental bonds but were not producing. These companies may be developing property or were pipeline operators.

Table 4 shows the 30 companies with the largest supplemental bond liabilities on the OCS. Together, they account for 87% of the total supplemental bond liability of $556 million.

From the surety perspective, there are both positive and negative effects of the MMS exemption rules. The fact that large companies exempt out of supplemental bonding removes a large part of the market and means that only companies needing these bonds are those for which insolvency is a real concern. The large companies exempted from supplemental bonds, however, hold enormous liabilities, liabilities that the current supplemental bond companies could not underwrite.

If a company defaults and cannot cover its decommissioning liabilities and there are no previous leaseholders on the lease, the regulations obligate the surety either to decommission the site or pay MMS the full value of the bond.

The surety may decide that it can decommission the site through a private contractor for less than the full value of the bond.[7] In any case, the surety liability will not exceed the amount of the bond.

Bonding companies

Travelers, RLI, and IndemCo dominate the US offshore supplemental bond market (Table 5).

Travelers, with the largest market

share, is by far the largest company with the most assets. About two thirds of its bonds are for one company, Nexen Inc., with the remainder split among three other companies. Thus, Travelers has a small number of clients and a market share primarily associated with companies that may be too large for other market participants to insure.

IndemCo is a small Houston-based insurance company that specializes in writing surety bonds for the energy industry. It is a subsidiary of HCC Insurance Holding Inc., a large multinational insurance company with assets of $8.2 billion.

IndemCo has $100 million in supplemental bonds. Offshore supplemental bonds make up a small, about 5%, share of IndemCo's total business and are a tiny fraction of HCC's total liabilities.[3]

RLI is the only other company that regularly writes offshore supplemental bonds and probably has the largest share of the supplemental bond business. RLI writes several bonds outside the energy industry and specializes in niche surety markets.

RLI is a medium-sized insurance company and holds $140 million in offshore supplemental bonds, which is a small fraction of its total business.

During the first half of the decade, several companies moved out of the surety industry in general and the mineral surety industry more specifically. This occurred because of a general tightening of the surety industry following the insurance losses associated with the Sept. 11, 2001, terrorist attacks and the bankruptcies of Kmart Corp. and Enron Corp.[8]

The loss of capital associated with these events triggered a conservatism in the insurance industry that led large insurers to move out of high-risk sureties of the mineral and energy industry.

Part of the reason for the small number of insurers in the offshore supplemental bond market is the skill needed to underwrite policies. The viability of an offshore operator is associated with the number, size, and production of its offshore leases and associated liabilities. A traditional surety agency may examine the financial records of an offshore operator and find no way to underwrite a bond, whereas an agency with offshore supplemental bonding experience may pay less attention to company's traditional financial records and focus on the production data and operating cost when determining a company's financial viability.

Additionally, a surety bond is a line of credit based, in part, on the character of the principal, and having a personal knowledge of companies has value. As a result, underwriters with a thorough knowledge of the offshore oil and gas industry have an advantage over those without such experience.

A surety company's available capital and the US Treasury, which certifies sureties to bond projects for the federal government, limit the liabilities that it can underwrite. Thus, sureties have to reinsure themselves to reduce their own liability and continue to underwrite bonds.

Sureties have to convince reinsurers that their liabilities are worth the risk; that is, they have to sell their underwriting abilities, their ability to estimate risk, to reinsurers.

The complexity and skill required to underwrite supplemental bonds mean that only those underwriters with a strong understanding of the offshore oil and gas industry will obtain reinsurance for their liabilities.

Changing requirements

Increasing the requirements of supplemental bonds will raise the liability of a company without changing its financial status. This will make it difficult for sureties to bond new applicants or to increase the bonding amounts for current bondholders.

As a result, sureties likely will require collateral; in some cases they will require collateralization of 100% of the increase. This will mean that small independent production companies will have to provide large amounts of cash, which may or may not be possible.

Even if sureties do not require operators to collateralize their increased bonds, the premium will increase. This will lower a company's profit and reduce its available capital for investing in exploration or development.

It is plausible that some of these companies will be unable to secure bonds and thus will be unable to operate. Importantly, these small production companies generally fill their own niches and compete mostly with one

TOP GULF OPERATORS REQUIRING SUPPLEMENTAL BONDS* Table 4

Company	Bonding, $ million	Bond type	Surety
Nexen Petroleum Offshore	95.5	Surety	Travelers
Pisces Energy	51.5	Surety	Lexon and US Specialty
KNOC USA	37.5	Surety	Fidelity & Deposit
Freeport-McMoRan	34.8	Trust	Bank of NY
Merit Management Partners	28.5	Surety	Travelers
PANACO	21.7	Trust	Hibernia and Wells Fargo
Helis Oil & Gas	21.7	Surety	RLI and US Specialty
Flextrend Development	19.8	Surety	Travelers
Samson Contour Energy	15.4	Surety	Travelers
Petrobas America	13.7	Surety	RLI
Mariner Gulf of Mexico	13.3	Surety	RLI
Apex Oil & Gas	13.1	Surety	RLI
Medco Energi	12.4	Surety	US Specialty
Prime Offshore	8.2	Surety	RLI and US Specialty
Royal Production	8.1	Surety	RLI
Anglo-Suisse Texas	8.0	Surety	US Specialty
CV Energy	8.0	Surety	Safeco
Petsec Energy	7.8	Surety	RLI
Pyramid GOM	7.4	Surety	US Specialty
Sojitz Energy	7.0	Surety	US Specialty
PRS Offshore	6.4	Surety	RLI
Virgin Offshore	6.3	Surety	RLI
Samson Offshore	6.2	Surety	Travelers
Leed Petroleum	5.7	Surety	US Specialty
CIECO Energy Venture	5.2	Surety	RLI
Ridgelake Energy	4.7	Surety	RLI
Conn Energy	4.4	Trust	Bank One Louisiana
B T Operating	4.3	Surety	RLI
ATP Oil & Gas	4.2	Surety	RLI
Peregrine Oil & Gas	4.0	Surety	RLI

*Data for 2008.
Source: MMS

another, not with large multinational oil companies.

Many of these small companies buy leases after larger companies no longer obtain a sufficient rate of return or for other reasons want to divest property. As a result, if too many small producers find themselves unable to operate in the gulf, there is no ready replacement and production from this group of operators could suffer.

Small companies currently are the primary customers of the supplemental bond market. If fewer small production companies operate on the OCS, sureties would have less business.

Increasing the supplemental bond costs, however, would also cause a smaller proportion of companies to qualify for MMS exemptions. This could force additional companies to need supplemental bonds, which may increase the size of the supplemental bond market.

It is important to note that previously exempt companies may no longer have the value to liability ratio that they had before and thus may be no less of a risk than the smaller companies they replaced.

If the total bond value increases, then either the companies currently writing these bonds could add capacity or other surety companies could enter the market. It seems unlikely that new companies would join the industry, given that risks of underwriting would only increase with increasing liabilities. Instead, it seems more likely that the sureties already writing these bonds would try to accommodate these larger liabilities. This obviously would increase their revenues from increased premiums.

The size of any one liability that it can underwrite places the limit on the supplemental bond industry. Estimates of the total liability vary, but it is thought that the underwriting capacity of the entire industry has a $50 million limit for a particular company.[3 6 7] This is consistent with the data in Table 4 that suggest that only Travelers can insure large liabilities. Thus, an operator with current $15 million liabilities may readily obtain a bond, but if its P&A liabilities increase to $60 million, it may have difficulty in obtaining a bond due to the small size of the surety industry. These operating companies might have to establish trusts instead.

Alternatively, increasing the MMS bonding requirements may have a small effect on the bonding industry or the independent producers. Before the hurricane seasons of 2004 and 2005, RLI estimated liabilities independent of the MMS formula. That is, its underwriters made their own decommissioning cost estimates and used it as the company's liability if that figure was less. Toppled platforms, however, greatly increase the costs of removal and P&A operations. As a result, RLI now assumes MMS bonding requirements represent its actual liability.

If bonding requirements increase dramatically, then sureties might again estimate liabilities independently. One reason sureties may reduce decommissioning costs relative to MMS projections is that decommissioning operations undertaken by large producers typically are more expensive than similar operations by independents.[1 6]

Mitigation

Oil and gas price increases allow small and medium-sized companies to generate more revenue and to qualify more easily for noncollateralized or partially collateralized bonds. Even if they do not qualify for noncollateralized bonds, high commodity prices may make it easier for them to produce the cash needed for collateral. This could mitigate the effects of an increase in bond costs and allow small operators to continue production on the OCS with higher bonding levels.

Conversely, volatility in commodity prices such as that experienced through 2008 might make it difficult for operators to budget for increased bond costs.

One way in which regulators could mitigate the effects of increasing bond requirements is by phasing in the increases over a period of time. For example, the regulation could allow a company that is required to increase its bond to $15 million from $5 million to increase the bond size in $2.5 million increments during 4 years. This would give companies time to produce the cash needed for collateral and would give sureties the time to add capacity.

Regulators could also change the requirements for supplemental bond exemptions to make them either more or less strict. They could do this by changing the current ratio of value to liabilities, changing the allowable debt-to-equity ratio, or changing the total required value of the company.

If MMS made these regulations stricter so that fewer companies qualified for exemptions, this could have a positive effect on the supplemental bond industry, as it would force companies with less risk to obtain surety

SURETY COMPANY 2008 MARKET SHARE IN GULF

Table 5

Company	Type of instrument	Amount bonded, $1,000	Market share, %
Travelers	Surety bond	147,745	26.55
RLI	Surety bond	139,970	25.15
IndemCo (US Specialty)	Surety bond	100,150	17.99
Zurich (Fidelity & Deposit)	Surety bond	38,650	6.94
Bank of NY	Trust account	34,750	6.24
Lexon	Surety bond	3,850	4.29
Wells Fargo	Trust account	20,000	3.59
St. Paul Fire	Surety bond	13,800	2.48
SAFECO	Surety bond	11,700	2.10
US Treasury	Treasury bond	7,558	1.36
National Union Fire	Surety bond	7,250	1.30
Greenwich Insurance	Surety bond	3,600	0.65
United Pacific Insurance	Surety bond	1,850	0.33
Bank One of Louisiana	Trust account	1,839	0.33
Hibernia National Bank	Trust account	1,720	0.31
Amwest Surety Insurance	Surety bond	1,150	0.21
Seaboard Surety	Surety bond	600	0.11
Westchester Fire	Surety bond	350	0.06
Universal Surety	Surety bond	38	0.01
Total		**556,569**	**100**

Source: MMS

bonds. These companies likely would be charged lower rates than smaller, riskier companies, but this would provide a source of relatively low risk accounts with which supplemental sureties could pay for losses.

Tighter limits on exemptions also would increase the number of companies needing supplemental coverage, especially the number of companies needing coverage near the limits of the market.

Lowering the exemption standards so that more companies were exempt from bonding would reduce the increase in capacity that the surety industry would need to build; however, it would also increase the government's risk of being forced to decommission a site at its own expense.

Prior leaseholders

Raising supplemental bond requirements damage the profitability of small independents while reducing liabilities to the previous owners of the lease.

Producers often sell leases down the food chain, but they cannot entirely pass all decommissioning liability to a new owner. That is, MMS can hold a former lease owner liable for platforms it did not even place on the OCS if the new lease owner goes bankrupt. Thus, increases in supplemental bonding requirements will protect both MMS and former leaseholders from having to pay for decommissioning. ✦

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The authors

Mark J. Kaiser (mkaiser@lsu.edu) is professor and director, research and development, at the Center for Energy Studies at Louisiana State University. His primary research interests are related to policy issues, modeling, and econometric studies in the energy industry. Kaiser joined LSU in 2001. He has a PhD in industrial engineering and operations research from Purdue University.

Brian F. Snyder is a research associate at the Center for Energy Studies at Louisiana State University. His interests are in the environmental impacts of the energy industry as well as issues of supply and cost in the oil and gas industry. Snyder joined the center in 2007 and is a doctoral candidate in ecology at the University of Georgia.

Global recession dampens refining catalyst demand

Warren R. True
Chief Technology Editor—LNG/Gas Processing

Leena Koottungal
Survey Editor/News Writer

Refinery demand for processing catalysts will continue to flatten over the remainder of 2009 and into 2010 as the global recession winds out and energy prices remain soft. Operators, however, will continue to seek the greater efficiencies in energy use and productivity that processing catalysts permit.

Requirements for cleaner fuels and pressures from stiffer environmental regulations will continue to support catalyst use, even as product prices and demand sag over the remaining months of recession.

High-severity operations are benefiting from improvements in reforming catalysts, while process units are able to run longer before going into turnaround.

As refiners carry out the global move toward higher diesel production while reducing sulfur content, higher severity hydrotreating catalysts are helping to control costs and improve operational efficiencies, while petroleum-product markets begin to recover in 2010 and after.

Revised outlook

Late last year, in its most recent published global overview of the worldwide catalyst market, Freedonia Group Inc., Cleveland, predicted overall catalyst demand among chemical, petroleum refining, and polymer companies would rise at 6%/year to $16.3 billion in 2012. Volume demand would grow at 2%/year to 5.3 million tonnes.

For refining catalyst trade, Freedonia forecast a growth of 5.9%/year through 2017. Demand would reach more than $5.6 billion in 2012 and more than $7.6 billion in 2017.

Catalyst demand in petroleum refining, said the report, would be "quite strong due to healthy volume growth in hydroprocessing catalysts and higher refined product output" in Africa, the Mideast, and Asia-Pacific. Global efforts to reduce air pollution by lowering sulfur content in motor vehicle fuels will "boost catalyst loadings," as will the ongoing shift toward heavier grades of crude oil, and development of unconventional petroleum resources such as Canada's tar sands.

That was then, however—October 2008; this is now.

In response to questions from Oil & Gas Journal, Freedonia Group's Ned Zimmerman offered a qualifying assessment, based on events since midthird-quarter 2008.

With the advent and deepening of the global economic downturn in late 2008, he said, contraction in manufacturing in many parts of the world sig-

nificantly lowered chemical, polymer, and refined-product volumes, which then directly affected worldwide catalyst demand. The drop in catalyst volumes depressed average prices as well, although a drop in commodity and platinum-group metal prices from their 2008 highs "helped ease the pain."

Freedonia Group, said Zimmerman, have lowered expectations for future world economic growth that informed the late 2008 report. Those expectations have contributed to prospects for slower growth in world oil consumption and world refined-products production.

In general, Freedonia Group now expects somewhat slower average annual global growth in refinery catalyst demand through 2012 in most regions, with the biggest difference occurring in North America due to the size of its market and reduced expectations of US oil consumption.

The situation in the US reflects not only slower forecast average annual economic growth but also shifting fuel efficiencies of the motor vehicle fleet, changing motorists' driving habits, and the potentially greater impact of biofuels on the US motor fuel needs.

Reduced North American refined-product consumption will also affect such other regions as the Middle East and Asia-Pacific, said Zimmerman. In both regions, countries have been building surplus refining capacity, at least some of which has been targeted toward North America.

On the whole, refining catalyst volumes by 2012 will likely increase from their 2007 base, although growth will be quite slow. This pace in turn would reduce value growth of the market as well. Growth in value terms is harder to project, he allowed, as averaging pricing tends to be much more volatile.

From the perspective of refining catalysts types, fluid catalytic cracking and alkylation catalysts will be the most severely affected by the slowdown in North America. Demand growth for hydroprocessing, reforming, and other catalysts will also be slower than previously expected but not nearly to the same degree.

OGJ subscribers can download free of charge the 2009 OGJ international refining catalyst compilation at Oil & Gas Journal's web site (www.ogjonline.com) by scrolling down to "Additional information," clicking on OGJ subscriber surveys, catalyst compilation, then logging in with a user name and password.

Stricter environmental standards, particularly for reduced sulfur content in distillate fuels, will help support hydroprocessing catalyst demand, he said. This will occur in many regions of the world, not just in North America, which is why hydroprocessing catalysts will fare much better than most other refining catalysts.

Also supporting hydroprocessing catalyst demand will be efforts to extend low-sulfur fuel requirements to off-road vehicles and to ships operating in the coastal waters of many countries.

Activity

The following recounts some major activity among refining-catalyst suppliers and refinery operators since the last OGJ review of catalyst suppliers (OGJ, Oct. 1, 2007, p. 52).

Operations

In September 2008, Abu Dhabi Oil Refining Co. (Takreer) selected UOP LLC, a Honeywell company, to supply technology and engineering services for expansion at its Ruwais refinery. The refinery will produce propylene, unleaded gasoline, naphtha, LPG, aviation turbine fuel, kerosine, gas-oil, bunker fuel, and other hydrocarbon derivatives (OGJ Online, Oct. 10, 2008).

The refinery, to start up in 2014, will use UOP technologies for production of low-sulfur distillate and gasoline, said UOP. Its Unicracking process with its Distillate Unionfining process will upgrade heavy feedstocks to produce ultralow-sulfur diesel.

UOP's Merox process will remove sulfur from saturated LPG streams, and its BenSat process will manage benzene content in the gasoline pool.

The refinery will also include a hydrotreating unit that will use the UOP Naphtha Hydrotreating process and Distillate Unionfining unit to produce low-sulfur kerosine. The unit is the largest kerosine-fed hydrotreating unit ever licensed by UOP, said the announcement.

In addition, through a 2006 alliance with Albemarle Corp., Baton Rouge, UOP is providing catalysts for the new Takreer units.

In June 2008, UOP joined with Rentech Inc., Los Angeles, to offer technology for production of cleaner fuels, specialty waxes, and chemicals.

The nonexclusive agreement between UOP and Rentech will provide refiners, petrochemicals, and synthetic-fuel producers the ability to convert synthesis gas to ultraclean fuels, specialty waxes, and chemicals. The plan aligns Rentech's process to convert synthesis gas from biomass and fossil resources and hydrocarbons with UOP's hydrocracking and hydrotreating processes that process and upgrade hydrocarbons to fuels and chemicals, said the company.

In February 2008, Hunt Refining Co. selected UOP to supply technology, basic engineering services, and equipment as part of Hunt's plan to double its gasoline and diesel output for the Southeastern US.

Hunt had installed two new units

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at its Tuscaloosa, Ala., plant that use UOP's CCR Platforming process and its Unicracking process. The units increase crude throughput by more than 30% to 69,000 b/d and double production of gasoline and diesel, according to a UOP announcement.

Hunt also converted an existing UOP Fixed-Bed Platforming process unit to a UOP Par-Isom process unit to enable a gasoline product to meet expected benzene regulations. The US Environmental Protection Agency had mandated that refineries adhere to 0.62%/year benzene content in gasoline by 2011.

Construction on the new units began in 2008. They are scheduled to come on line this year with the revamp scheduled for completion in 2010.

UOP said its CCR Platforming is a continuous catalytic reforming process used to produce high-octane gasoline from naphthenes and paraffins. Unicracking technology upgrades light cycle oil feedstocks to produce ultralow-sulfur diesel and naphtha. The Par-Isom technology processes light naphtha to produce high-octane gasoline blending components with low benzene content.

In December 2007, Newfoundland & Labrador Refining Corp. selected UOP to supply technology, basic engineering services, and equipment for a new fuel refinery to be built in the Placentia Bay area of Newfoundland and Labrador (OGJ, Apr. 7, 2008, p. 24).

Start-up of the complex is scheduled for 2011. The plant will process 300,000 b/d Middle Eastern crudes for the production of transportation fuels for North America and Europe. The NLRC facility is the first new refinery constructed in North America since 1984.

It will employ UOP technologies to produce low-sulfur, high-quality clean fuels, said the announcement. Technologies include UOP's Unicracking and Unionfining processes to remove sulfur and upgrade distillate materials for production of clean fuel. UOP's CCR Platforming and its Penex process will produce high-octane, clean-burning gasoline.

Additionally, NLRC will use UOP's Chlorsorb system, which absorbs chlorides off regenerated catalyst from the CCR Platforming process to enhance efficiency of chloride management and reduce emissions.

New ventures

In October 2008, Albemarle signed a technology cooperation agreement with UOP and Petroleo Brasileiro SA to accelerate commercialization of UOP's catalytic crude-upgrading process technology.

Under terms of the agreement, the three companies now collaborate to demonstrate the technology as a cost-effective option to upgrade heavy crude oils and bitumen-derived crude.

The process, said the Albemarle announcement, reduces viscosity of crude, allowing it to travel easily through pipeline transport with the use of external diluting agents. The CCU process provides an additional alternative to address problems inherent with heavy crude and logistics associated with increasingly remote drilling sites.

Petrobras has demonstrated the CCU technology in its pilot plants, said a Petrobras manager.

In July 2008, Albemarle announced it would offer its Nebula catalyst in hydrocracking and hydrotreating applications as part of the Hydroprocessing Alliance, a cooperation with UOP mentioned earlier.

The alliance offers catalyst for reloads and revamps of hydrocracking and hydrotreating units for fuels applications. UOP and Albemarle formed the Hydroprocessing Alliance in 2006 to support production of clean transportation fuels worldwide.

Nebula, said the Albemarle announcement, is a material jointly discovered with ExxonMobil Research and Engineering Co. and codeveloped with Albemarle. It is a base-metal catalyst with higher activity than conventional hydrotreating catalysts, said the company.

In addition, Nebula enables production of ultralow-sulfur diesel with no additional capital investment and can enhance hydrotreating unit revamps to reach higher throughputs or achieve higher product quality standards. It has been used in more than 40 applications since its introduction in 2001, said the company announcement.

Also in July 2008, Neste Oil Oyj, Finland, awarded Albemarle an order to produce catalysts exclusively for Neste for use in its NExBTL renewable diesel process. Albemarle's contract included scheduled deliveries of the catalysts for 2008, 2009, and 2010.

Neste Oil and Albemarle had worked together for several years to develop catalysts for the NExBTL renewable-diesel process, said the announcement. Neste Oil operates one NExBTL plant in Porvoo, Finland, a second diesel plant there started up in July 2009. Neste Oil is also currently building world-scale NExBTL plants in Singapore and Rotterdam.

In March 2008, W.R. Grace & Co. announced plans to increase manufacturing capacity at its Lake Charles, La., plant.

The expansion was to enable increased production of specialty aluminas, a raw material in Grace's fluid cracking and hydroprocessing catalysts, which refineries use to produce fuels. Start-up is expected this year.

The Lake Charles plant, a Grace Davison manufacturing unit, produces silica and alumina-based catalysts. It is the largest producer of fluid cracking catalysts in the world, according to the company.

Technologies

In May of this year, Albemarle launched the first fluid catalytic cracking product from the company's newest manufacturing technology process known as "Onyx." The catalyst is specifically designed for application to gas-oil feeds to increase naphtha yields by as much as 3% while reducing coke.

The technology involves a manufacturing process that results in "enhanced

pore structure and optimized active site distribution," says the company. The catalyst technology uses a matrix composition.

In March, BASF Catalysts launched a technology that, it said, enables refiners to use their current gasoline-oriented FCCUs to meet the increased global demand for diesel fuel.

BASF's HDXtra catalyst "helps increase diesel yields by maximizing production" of the light-cycle oil produced from the FCC unit. The LCO can be blended or further upgraded to augment the refiner's production of high-quality diesel fuel. This technology, combined with optimized operating conditions, according to the company, enables refiners to increase LCO yield by up to a 10% volume increase, with nearly half of the benefit attributable to catalyst selectivity.

HDXtra combines high matrix activity with good coke selectivity, said the company. The catalyst also uses moderate zeolite activity, which "better controls the amount of LCOs cracking into gasoline while also offering low H-transfer activity, which preserves more hydrogen in LCOs for minimal cetane penalty."

In July 2008, Albemarle announced development and production of a new catalyst that can help improve the performance of hydrodesulfurization units by up to 35% over the then most active catalysts in the hydroprocessing marketplace.

The new product, Ketjenfine 770 hydrodesulfurization catalyst, would enable ultralow-sulfur diesel refiners to improve operating margins by increasing catalyst cycle length, increasing throughput, or running cheaper, lower quality feedstocks, all without additional, new capital expenditure, according to the company's announcement.

In November 2007, UOP announced it had expanded its slate of technologies to help refiners produce clean gasoline from heavier crude oil. UOP's slurry hydrocracking process is designed to upgrade bitumen and heavy crudes to lighter distillates. It is based on a technology originally developed by Natural Resources Canada and was further developed and proven commercially viable, said UOP, at the Petro-Canada plant in Montreal over 15 years starting in 1985. ✦

NELSON-FARRAR COST INDEXES

Refinery construction (1946 basis)
(Explained in OGJ, Dec. 30, 1985, p. 145)

	1962	1980	2006	2007	2008	May 2008	Apr. 2009	May 2009
Pumps, compressors, etc.	222.5	777.3	1,758.2	1,844.4	1,949.8	1,923.0	2,015.7	2,013.8
Electrical machinery	189.5	394.7	520.2	517.3	515.6	515.0	515.0	514.6
Internal-comb. engines	183.4	512.6	959.7	974.6	990.9	980.8	1,018.7	1,018.7
Instruments	214.8	587.3	1,166.0	1,267.9	1,342.1	1,338.2	1,389.3	1,392.5
Heat exchangers	183.6	618.7	1,162.7	1,342.2	1,354.6	1,374.7	1,253.8	1,253.8
Misc. equip. average	198.8	578.1	1,113.3	1,189.3	1,230.6	1,226.4	1,238.5	1,238.7
Materials component	205.9	629.2	1,273.5	1,364.8	1,572.0	1,669.1	1,261.2	1,266.1
Labor component	258.8	951.9	2,497.8	2,601.4	2,704.3	2,669.4	2,785.5	2,799.2
Refinery (Inflation) Index	237.6	822.8	2,008.1	2,106.7	2,251.4	2,269.3	2,175.8	2,185.9

Refinery operating (1956 basis)
(Explained in OGJ, Dec. 30, 1985, p. 145)

	1962	1980	2006	2007	2008	May 2008	Apr. 2009	May 2009
Fuel cost	100.9	810.5	1,569.0	1,530.7	1,951.3	2,435.3	854.1	839.0
Labor cost	93.9	200.5	204.2	215.8	237.9	221.1	264.3	254.0
Wages	123.9	439.9	1,015.4	1,042.8	1,092.2	1,065.9	1,152.6	1,131.6
Productivity	131.8	226.3	497.5	483.4	460.8	482.1	436.1	445.6
Invest., maint., etc.	121.7	324.8	743.7	777.4	830.8	837.4	797.0	800.7
Chemical costs	96.7	229.2	365.4	385.9	472.5	478.0	386.6	386.9
Operating indexes								
Refinery	103.7	312.7	579.0	596.5	674.1	714.7	562.8	559.2
*Process units**	103.6	457.5	870.7	872.6	1,045.1	1,211.8	657.2	650.1

**Add separate index(es) for chemicals, if any are used. See current Quarterly Costimating, first issue, months of January, April, July, and October.*

These indexes are published in the first issue of each month. They are compiled by Gary Farrar, OGJ Contributing Editor.

Indexes of selected individual items of equipment and materials are also published on the Costimating page in the first issue of the months of January, April, July, and October.

Regional supply competition pressures US natural gas prices

Rusty Braziel
Rocco Canonica
Bentek Energy
Evergreen, Colo.

Gas-on-gas supply competition is accelerating in the US gulf region and competition with Rocky Mountain natural gas supplies on the Rockies Express pipeline will only accelerate this process, leading to lower overall gas prices for quite some time.

The 1.8-bcfd Rockies Express East natural gas pipeline (REX-East) began service into Lebanon, Ohio, June 28, 2009, opening the first direct route between the Rockies producing region and historically higher priced natural gas markets in Ohio and the Northeast.

REX shippers took advantage of the new capacity almost immediately, moving gas away from the markets they had been serving in the Midwest to higher priced markets farther east. Regional price differentials shifted in response to the changes in gas flows.

Completion of the final leg of REX-East in November 2009—making it possible to ship Rockies supplies 200 miles further east to Clarington, Ohio, and additional interconnections with the Northeast market—will likely have similar effects. There is simply not enough capacity to move both the new Rockies gas and the supplies that have traditionally served the region eastward to the major centers of demand.

REX INTERCONNECT FLOWS

Interconnect	Capacity	July REX deliveries, MMcfd	Under contract
REX West (Phase II)			
NGPL; Jefferson, Neb.	540	162	350
NNG; Gage, Neb.	200	157	193
ANR; Brown, Kan.	600	15	290
PEPL; Audrain, Mo.	1,068	29	521
Total		**363**	
REX East (Phase IIIa)			
Ameren; Moultrie, Ill.	140	0	0
NGPL; Moultrie, Ill.	615	98	21
Trunkline; Douglas, Ill.	175	149	23
Midwestern; Edgar, Ill.	652	284	20
PEPL; Putnam, Ind.	175	69	0
REX East (Phase IIIb)			
DTI; Lebanon, Ohio	600	312	583
TCO; Lebanon	280	106	180
TETCO; Lebanon	980	312	787
TGT; Lebanon	140	0	0
Vectren; Lebanon	140	0	0
ANR; Lebanon	560	0	0
Total		**1,330**	

Background

REX is a three-part project, with Phase I extending from the Greasewood-Meeker, Colo., area in the Piceance basin to interconnections with Wyoming Interstate Pipeline and Colorado Interstate Gas at the Wamsutter hub in Sweetwater County, Wyo., and then eastward to the Cheyenne hub in northeastern Colorado. Phase I was completed in February 2007.

Phase II, called REX-West (shown in red in Fig. 1), moved gas from the Cheyenne hub to Panhandle Eastern Pipeline, near Mexico, Mo. (Audrain County), and also interconnected with Northern Natural, Natural Gas Pipeline Co. of America, and ANR Pipeline Co. This segment of the project, completed during the early months of 2008, provided a new, cheaper supply source to markets in the Midwest.

Transportation cost and pricing advantages of REX shippers vs. traditional suppliers in the Midcontinent led Midwest buyers to take volumes from REX and reject traditional supplies from Midcontinent producing basins and Canada. Regional prices responded, changing gas prices and bases in several regions, particularly the Midcontinent, where pricing points were under downward pressure for much of 2008 and early 2009.

New REX supplies also displaced traditional gas supplies in California and Canada, resulting in much higher-than-average storage levels in both areas during the initial months of the 2009 injection season.

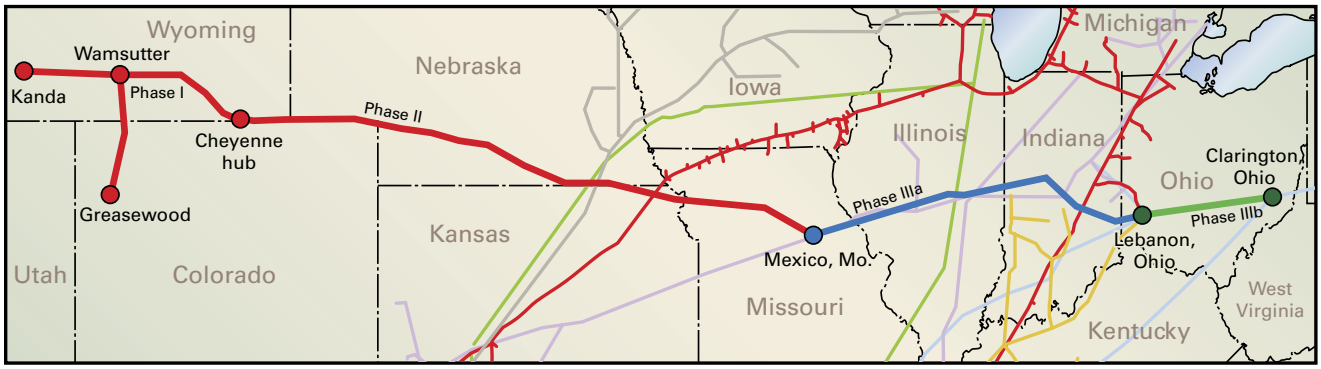
These market developments were transient, with REX-East shifting volumes away from the four pipelines feeding Midwest markets in July 2009.

The shift

Fig. 2 shows the nine Phase IIIa (REX-East to Lebanon) interconnects on the way to Lebanon. At Lebanon, REX-East connects to Dominion, Columbia Gas (TCO), Vectren, Texas Eastern, Texas Gas Transmission, and ANR. Within days of reaching Lebanon, REX gas deliveries shifted away from the Midcontinent

ROCKIES EXPRESS PIPELINE

Fig. 1



pipelines east towards the new delivery locations made available by the REX-East project.

Fig. 3 shows daily flows and capacities on the four REX-West interconnects, with the red line indicating capacity and the green area showing the fall-off in daily flows as REX-East opened the gates to western Ohio. July 2009 deliveries to the REX-West (Phase II) interconnections fell by about 74%, or 1.1 bcfd, on average vs. average flows in June 2009. The most notable declines were on ANR at Brown, Kan., and PEPL at Audrain County, Mo., both of which dropped about 91%.

The sharp decline in REX deliveries to Midcontinent pipelines has opened up space on these pipelines for formerly displaced production to resume flowing north to markets in the upper Midwest. This has increased regional Midcontinent prices because suppliers face less competition due to the movement of REX gas farther east to markets in Ohio and the Northeast.

Total delivery throughput on REX also has increased to almost the pipeline's full 1.8 bcfd capacity in July from about 1.5 bcfd in June. Of that volume, about 0.5 bcfd is still being dropped off at the REX-West interconnections upstream, with about 1.3 bcfd moving eastward into the Ohio market at Lebanon.

The accompanying table shows where the gas is now flowing: to new REX-East delivery locations. The new interconnections receiving the most gas include DTI and TETCO at Lebanon. Both have received >300 MMcfd from REX on average since July 1. Midwestern (284 MMcfd) also has received significant supplies because it provides access to other pipelines serving the Ohio and Northeast markets, including Tennessee and Texas Gas. Trunkline (149 MMcfd) and Columbia Gas (106 MMcfd) also have received large volumes from REX.

Most of the supplies moving to these interconnections are destined for higher-priced markets farther east. Ohio markets have started displacing traditional supply on several pipelines. Maintenance on several regional pipelines has somewhat clouded the effect, but the shift away from traditional supply and toward Rockies gas still is evident.

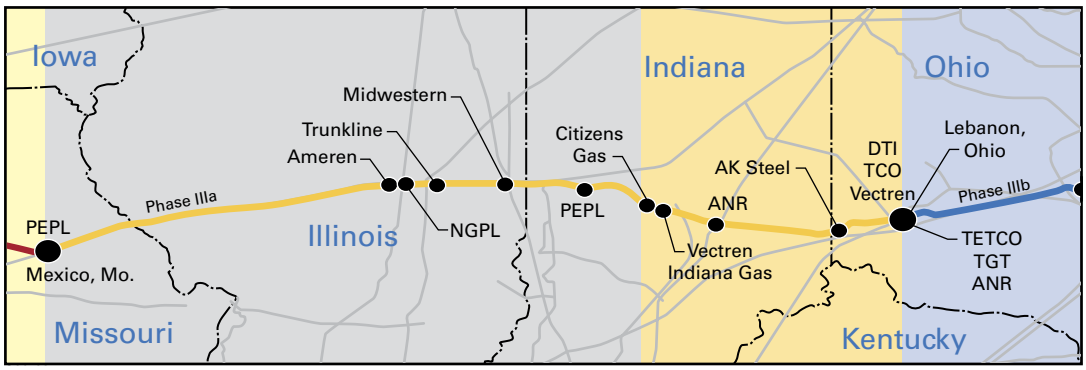
Just as REX-West displaced gas from pipelines feeding the Midwest, REX-East has started displacing gas from traditional suppliers into the Ohio Valley market. Pipeline capacity constraints east of the Lebanon hub effectively limit incremental takeaway capacity to about 0.1 bcfd. Almost all of the additional supplies into Lebanon therefore must displace other supplies, most notably from the Southeast-US gulf region.

During July, the new 312 MMcfd of REX supplies into Dominion (DTI) primarily displaced receipts from TGT. Receipts of LNG from the Cove Point terminal also declined sharply once REX-East reached Dominion. While this may primarily result from factors associated with the global LNG market, REX-East also appears to be playing a role.

Similarly, once REX-East gas arrived on TETCO, about 157 MMcfd of supply

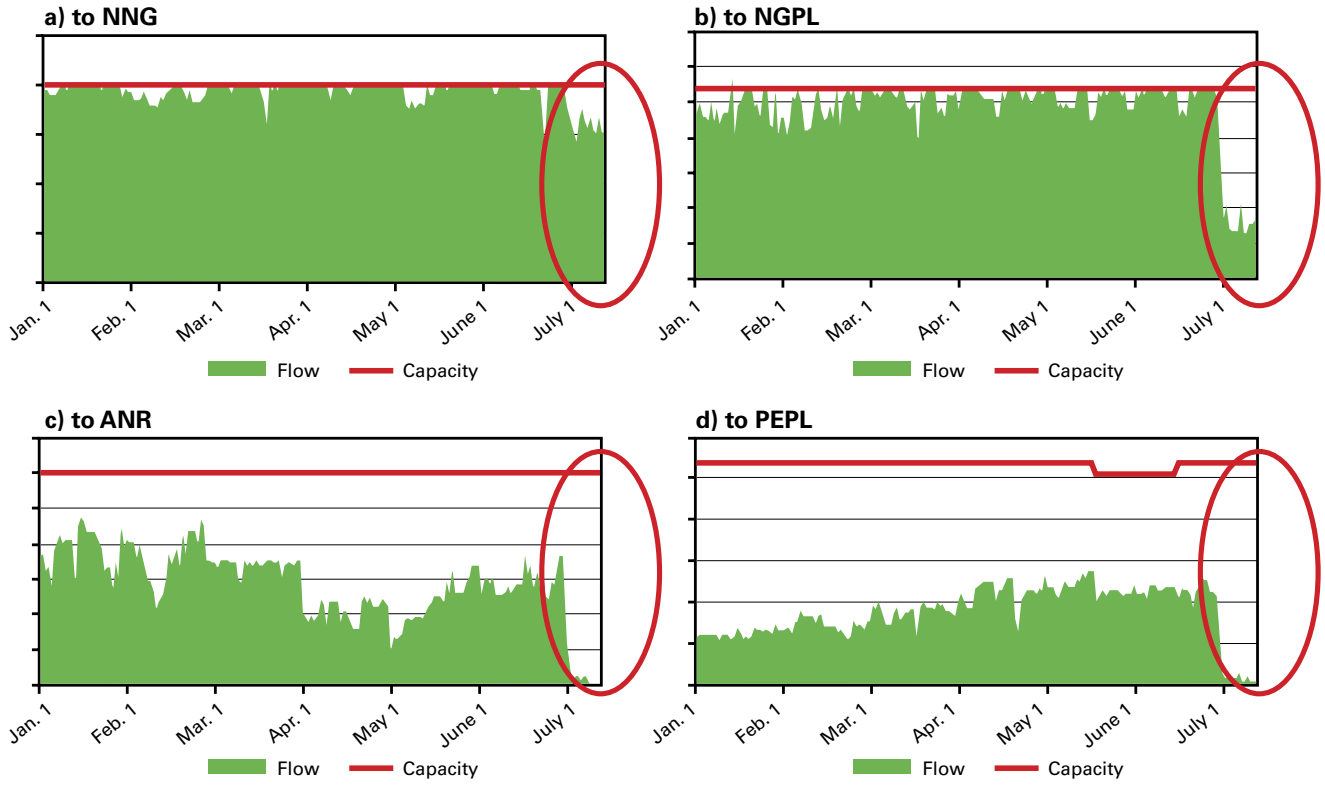
REX-EAST TO LEBANON, OHIO

Fig. 2



REX DELIVERIES, 2009

Fig. 3



from Gulf South, 111 MMcfd from ANR, 113 MMcfd from Panhandle and 99 MMcfd from TGT were displaced. Traditional sources of supply for these pipelines were basins in the Southeast-US gulf including offshore Gulf of Mexico and the Barnett Shale.

Pricing implications

REX-East has had a number of market effects.

The shift in gas deliveries to Ohio markets has put substantial downward pressure on Ohio spot market basis (regional price less the Henry Hub benchmark). Dominion South Point basis in July averaged only 15¢ more than Henry Hub cash, which was 14¢ less than the injection season average through the end of June, and 25¢ less than the year-to-date average through the end of June.

Similar declines occurred at the other Ohio market locations, including TETCO M2, where July basis was down to +30¢ for the injection season to date through June. Columbia Gas basis fell to only +9¢ compared with +13¢ in June, and +20¢ for the injection season through the end of June.

The exact opposite has taken place in the Midcontinent. As REX supply has moved away from Midcontinent pipelines and to Ohio delivery points, space has become available on Panhandle, NGPL, ANR, and NNG to allow more Midcontinent production to flow north, lifting basis at all Midcontinent locations.

Regional July basis was up an average of 50¢ compared with June and 64¢ compared with year-to-date levels through the end of June. Similar adjustments have occurred in the forward market where Panhandle basis for August delivery has been steadily rising and far exceeds basis levels seen for the same contract month in both 2008 and 2007.

The shift in REX gas displacements to the Southeast-US gulf from the Midcontinent also has pressured gulf prices and basis. For example, as of early August 2009, Texas Gas Zone SL August basis had dropped to −12¢ from only −6¢ for the August 2008 contract at the same time of the year. Trunkline August basis slipped to −13¢ compared with −4¢ last year for the August 2008 contract. Much of the pressure on outright prices at the Henry Hub has resulted from competition between Southeast-US gulf supplies and new supplies from the Rockies.

The future

REX-East into Lebanon is only a preview of what can be expected when the pipeline arrives at Clarington, Ohio, a larger hub with more connectivity to pipelines traditionally moving gas from the Southeast-US gulf region into huge Northeast demand centers. REX's transportation cost structure will prompt its shippers to continue to take their gas as far east as possible, into markets accessible at Clarington. Incremental gas supply, however, will have difficulty

reaching downstream markets in the Northeast during winter heating season because of downstream pipeline capacity constraints.

The downward price pressure will push Ohio prices low enough for both REX shippers and Southeast-US gulf suppliers to shift their volumes to markets in Michigan and Chicago, flattening prices between the three markets (Ohio, Michigan, and Chicago). This effect is already occurring.

Much of the competitive pressure will likely land on producers in the various unconventional shale plays located within or feeding the Southeast-US gulf region. While REX exerts displacement pressure on long-haul gulf pipelines, shale-gas producers will try to send much more supply eastward to the same markets. ✦

The authors

E. Russell ("Rusty") Braziel is vice-president, marketing and sales, and chief technology officer for Bentek. He was previously vice-president of business development for Williams Cos., vice-president of energy marketing and trading for Texaco, and president of Altra Energy Technologies. Braziel holds BBA and MBA degrees in business and finance from Stephen F. Austin University, Nacogdoches, Tex.

Rocco Canonica joined Bentek in 2007 and is part of a team analyzing supply, demand, and prices in US natural gas and power markets. Prior to joining Bentek he was managing editor at Intelligence Press Inc. for 12 years, overseeing IP's series of gas and power market newsletters, including Natural Gas Intelligence and Power Market Today, as well as its maps and natural gas storage and LNG databases. Prior to that Canonica was an associate editor at Oil Daily Co. He has degrees in journalism, philosophy, and classical studies from Auburn University and Old Dominion University.

Equipment/Software/Literature

Tool offers clearer picture of formations

The new GEM elemental analysis tool offers rapid and precise evaluation of formations with complex mineralogies.

As the newest addition to the company's portfolio of formation evaluation technologies, the GEM tool offers operators a complete elemental analysis solution for complex reservoirs and complements this firm's existing cuttings evaluation service performed while drilling. When combined with real-time data acquisition software, it offers customers on site and remote visualization of formation elemental data quickly and accurately.

The tool improves the measurements of magnesium in carbonates and aluminum in clays and shale. It measures manganese, a common constituent of carbonates and sheet silicates. Use of these three additional elements—magnesium, aluminum, and manganese—to determine mineralogy is designed to help improve estimates of porosity, saturation, permeability, detection of swelling clays, and rock mechanical properties. The firm says that operators can obtain more accurate estimates of their reserves, design optimal completion and stimulation programs, and maximize production. GEM's attachable cooling system and insulating flask allow the tool to run for long periods downhole, operating in conditions of as much as 350° F. and 20,000 psi.

Combining the sensitivity of the GEM tool in the vertical sections of wells with the LaserStrat cutting evaluation service in the horizontal sections is designed to provide operators with an understanding of reservoir mineralogy for the entire well. The two services can also be used in conjunction to improve geosteering of horizontal sections.

Source: **Halliburton,** 5 Houston Center, 1401 McKinney St., Suite 2400, Houston, TX 77010.

Seal, new size safety valve available

Newly launched metal-to-metal (MTM) technology and an additional size Torus insert safety valve are available to the industry.

The patented MTM seal consists of flexible material contained inside a metal shell. The structure creates a complete metal barrier in the well, and when fully energized, protects it from downhole conditions.

Meanwhile, the firm has added a second size of its safety valve, which is suited for high pressure, high temperature developments and dewatering gas wells, adding a 4½ in. size to the existing 2⅞ in. version. Improving on a basic flapper type safety valve design, the Torus allows for a central conduit to pass through the core where the conduit may be hydraulic (minicoil or capillary string), electrical, or fiber optic. This allows for the installation of artificial lift or downhole monitoring in existing wells without the requirement of a full workover.

Source: **Caledyne Ltd.,** Unit A, Hydropark, Tern Place, Denmore Rd., Bridge of Don, Aberdeen AB23 8JX, Scotland.

Services/Suppliers

Transocean Ltd.,

Zug, Switzerland, has named Steven L. Newman, president and COO, to succeed Robert L. Long, who will retire as CEO in first quarter 2010. Newman was appointed president and COO in May 2008. Previously, he served as executive vice-president of performance; executive vice-president and COO; senior vice-president of human resources, information process solutions, and treasury; and vice-president of performance and technology. Joining the company in 1994, Newman also held international field and operations management positions, including project engineer, rig manager, division manager, region marketing manager, region operations manager, and region manager. Long served with Transocean for more than 30 years, including presiding over the merger of GlobalSantaFe with Transocean.


Newman


Long

Transocean is the world's largest offshore drilling contractor and a leading provider of drilling management services worldwide.

ABS Nautical Systems (NS),

Houston, has appointed Karen Hughey president and COO. She replaces Jack Kitchura, who is retiring. Previously, Hughey was ABS vice-president of application development. NS also named Robert Kessler director, global account manager, for the ABS division's new account management department. Kessler will move to Houston from London, where he previously served as regional sales and operations manager for NS in Europe and the Middle East. Dimitri Stroubakis, who has spent the past 2 years as executive assistant to ABS senior management in Houston, will relocate to Piraeus, Greece, as NS director in Europe. Stroubakis will have overall supervision of NS activities in Europe. The existing NS office in Hamburg will report through Stroubakis, with Piraeus becoming the center for future NS management in Europe. Fernando Lehrer will move from his current position as director of maritime services for ABS Consulting to take up the newly created position of director, product development, at NS.


Hughey


Stroubakis

ABS Nautical Systems is one of the leading providers of fleet management software packages available to the marine and offshore industries. It offers a fully integrated, modular approach to managing all of the principal operational expenses associated with a vessel or offshore rig, ranging from maintenance and repair, to regulatory requirements, purchasing and inventory, and crew management and payroll.


Lehrer

PennEnergy jobs

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Imports of crude and products

	Districts 1-4		District 5		Total US		
	8-14 2009	8-7 2009	8-14 2009	8-7 2009	8-14 2009	8-7 2009	*8-15 2008
	1,000 b/d						
Total motor gasoline	909	899	33	75	942	974	794
Mo. gas. blending comp.	627	724	11	23	638	747	685
Distillate	179	140	0	22	179	162	73
Residual	208	299	0	5	208	304	501
Jet fuel–kerosine	25	57	42	19	67	76	95
Propane–propylene	68	80	2	3	70	83	111
Other	50	(112)	62	37	112	(75)	667
Total products	**2,066**	**2,087**	**150**	**184**	**2,216**	**2,271**	**2,926**
Total crude	**7,232**	**8,538**	**881**	**992**	**8,113**	**9,530**	**10,991**
Total imports	**9,298**	**10,625**	**1,031**	**1,176**	**10,329**	**11,801**	**13,917**

*Revised.
Source: US Energy Information Administration
Data available in OGJ Online Research Center.

Purvin & Gertz LNG netbacks—Aug. 21, 2009

Receiving terminal	Liquefaction plant					
	Algeria	Malaysia	Nigeria	Austr. NW Shelf	Qatar	Trinidad
	$/MMbtu					
Barcelona	5.82	3.82	5.04	3.72	4.37	4.96
Everett	2.28	0.77	1.95	0.86	1.01	2.55
Isle of Grain	2.36	1.51	1.97	1.52	1.53	1.95
Lake Charles	0.56	–0.74	0.43	–0.58	–0.41	0.99
Sodegaura	4.14	6.27	4.40	5.98	5.30	4.15
Zeebrugge	4.86	3.00	4.28	2.84	3.43	4.32

Definitions, see OGJ Apr. 9, 2007, p. 57.
Source: Purvin & Gertz Inc.
Data available in OGJ Online Research Center.

Crude and product stocks

District	Crude oil	Motor gasoline		Jet fuel, kerosine	Fuel oils		Propane–propylene
		Total	Blending comp.[1]		Distillate	Residual	
	1,000 bbl						
PADD 1	14,160	55,545	37,128	12,547	68,304	13,341	4,701
PADD 2	85,779	51,739	25,036	7,949	32,627	1,183	30,752
PADD 3	175,779	69,073	39,212	16,074	45,878	16,954	32,626
PADD 4	15,905	5,735	1,674	613	2,987	250	[1]1,839
PADD 5	52,009	27,662	22,242	9,337	11,821	3,878	—
Aug. 14, 2009	**343,632**	**209,754**	**125,292**	**46,520**	**161,617**	**35,606**	**69,918**
Aug. 7, 2009	**352,029**	**211,931**	**126,440**	**46,443**	**162,267**	**34,614**	**69,485**
Aug. 15, 2008[2]	**305,937**	**196,620**	**100,918**	**40,925**	**132,068**	**36,863**	**50,763**

[1]Includes PADD 5. [2]Revised.
Source: US Energy Information Administration
Data available in OGJ Online Research Center.

Refinery report—Aug. 14, 2009

District	REFINERY OPERATIONS		REFINERY OUTPUT				
	Gross inputs	Crude oil inputs	Total motor gasoline	Jet fuel, kerosine	Fuel oils		Propane–propylene
					Distillate	Residual	
	1,000 b/d						
PADD 1	1,289	1,283	2,367	56	387	131	55
PADD 2	3,149	3,109	2,077	186	800	21	231
PADD 3	7,393	7,268	2,680	701	1,989	373	695
PADD 4	579	573	340	32	170	12	[1]57
PADD 5	2,434	2,271	1,435	405	459	132	—
Aug. 14, 2009	**14,844**	**14,504**	**8,899**	**1,380**	**3,805**	**669**	**1,038**
Aug 7, 2009	**14,752**	**14,365**	**8,860**	**1,416**	**3,823**	**609**	**1,086**
Aug. 15, 2008[2]	**15,089**	**14,811**	**9,065**	**1,583**	**4,405**	**543**	**1,055**
	17,672 Operable capacity		**84.0% utilization rate**				

[1]Includes PADD 5. [2]Revised.
Source: US Energy Information Administration
Data available in OGJ Online Research Center.

Additional analysis of market trends is available through **OGJ Online**, *Oil & Gas Journal's* electronic information source, at http://www.ogjonline.com.

OIL&GAS JOURNAL online research center

OGJ crack spread

	*8-21-09	*8-22-08	Change	Change, %
	$/bbl			
SPOT PRICES				
Product value	79.40	123.18	–43.78	–35.5
Brent crude	71.48	110.11	–38.63	–35.1
Crack spread	7.92	13.07	–5.15	–39.4
FUTURES MARKET PRICES				
One month				
Product value	81.80	126.20	–44.39	–35.2
Light sweet crude	70.96	115.63	–44.67	–38.6
Crack spread	10.85	10.57	0.28	2.6
Six month				
Product value	82.05	127.73	–45.68	–35.8
Light sweet crude	75.53	117.48	–41.95	–35.7
Crack spread	6.53	10.25	–3.72	–36.3

*Average for week ending.
Source: Oil & Gas Journal
Data available in OGJ Online Research Center.

OGJ GASOLINE PRICES

	Price ex tax 8-19-09	Pump price* 8-19-09	Pump price 8-20-08
	¢/gal		
(Approx. prices for self-service unleaded gasoline)			
Atlanta	208.7	255.2	374.4
Baltimore	211.2	253.1	375.5
Boston	215.3	257.2	374.8
Buffalo	207.3	268.2	370.4
Miami	221.6	273.2	371.3
Newark	211.6	244.2	363.9
New York	202.2	263.1	372.8
Norfolk	210.8	249.2	368.1
Philadelphia	213.5	264.2	375.5
Pittsburgh	212.4	263.1	372.2
Wash., DC	225.8	264.2	372.6
PAD I avg	212.8	259.5	371.9
Chicago	216.8	281.2	401.6
Cleveland	217.8	264.2	366.7
Des Moines	215.2	255.6	360.7
Detroit	221.2	280.6	376.7
Indianapolis	207.8	267.2	366.7
Kansas City	201.6	237.6	360.6
Louisville	222.2	263.1	370.7
Memphis	201.3	241.1	359.7
Milwaukee	216.0	267.3	375.7
Minn.-St. Paul	216.6	260.6	367.7
Oklahoma City	194.8	230.2	355.5
Omaha	190.9	236.2	370.5
St. Louis	198.2	234.2	361.7
Tulsa	191.2	226.6	353.6
Wichita	197.2	240.6	356.6
PAD II avg	207.2	252.4	367.0
Albuquerque	205.8	242.2	359.9
Birmingham	207.8	247.1	362.1
Dallas-Fort Worth	210.8	249.2	353.1
Houston	205.8	244.2	350.3
Little Rock	202.0	242.2	361.4
New Orleans	208.8	247.2	363.4
San Antonio	212.8	251.2	360.4
PAD III avg	207.7	246.2	358.7
Cheyenne	221.6	254.0	370.5
Denver	222.5	262.9	398.4
Salt Lake City	214.1	257.0	397.3
PAD IV avg	219.4	257.9	388.7
Los Angeles	232.4	299.5	409.9
Phoenix	221.4	258.8	376.9
Portland	238.1	281.5	384.9
San Diego	234.4	301.5	407.9
San Francisco	241.6	308.7	418.8
Seattle	239.6	295.5	393.9
PAD V avg	234.6	290.9	398.7
Week's avg.	**213.5**	**259.1**	**373.0**
July avg.	**205.6**	**251.2**	**405.7**
June avg.	**214.6**	**260.2**	**404.2**
2009 to date	**172.8**	**218.4**	—
2008 to date	**308.6**	**352.4**	—

*Includes state and federal motor fuel taxes and state sales tax. Local governments may impose additional taxes.
Source: Oil & Gas Journal.
Data available in OGJ Online Research Center.

REFINED PRODUCT PRICES

	8-14-09 ¢/gal		8-14-09 ¢/gal
Spot market product prices			
Motor gasoline (Conventional-regular)		Heating oil No. 2	
New York Harbor	186.75	New York Harbor	181.84
Gulf Coast	183.00	Gulf Coast	181.09
Los Angeles	197.25	Gas oil	
Amsterdam-Rotterdam-Antwerp (ARA)	193.34	ARA	184.57
Singapore	200.79	Singapore	191.55
Motor gasoline (Reformulated-regular)		Residual fuel oil	
New York Harbor	200.25	New York Harbor	154.83
Gulf Coast	191.50	Gulf Coast	159.24
Los Angeles	201.25	Los Angeles	169.61
		ARA	167.23
		Singapore	162.41

Source: DOE Weekly Petroleum Status Report.
Data available in OGJ Online Research Center.

BAKER HUGHES RIG COUNT

	8-21-09	8-22-08
Alabama	3	8
Alaska	8	9
Arkansas	44	59
California	23	51
Land	22	49
Offshore	1	2
Colorado	44	117
Florida	2	2
Illinois	2	1
Indiana	1	2
Kansas	22	10
Kentucky	9	11
Louisiana	135	193
N. Land	89	86
S. Inland waters	7	25
S. Land	15	31
Offshore	24	51
Maryland	0	0
Michigan	0	2
Mississippi	12	12
Montana	1	14
Nebraska	0	1
New Mexico	43	83
New York	2	7
North Dakota	43	74
Ohio	8	11
Oklahoma	80	212
Pennsylvania	52	25
South Dakota	0	2
Texas	372	931
Offshore	4	9
Inland waters	0	1
Dist. 1	19	27
Dist. 2	11	39
Dist. 3	34	61
Dist. 4	32	95
Dist. 5	72	185
Dist. 6	50	125
Dist. 7B	12	25
Dist. 7C	16	72
Dist. 8	67	133
Dist. 8A	10	33
Dist. 9	18	41
Dist. 10	27	85
Utah	17	50
West Virginia	21	27
Wyoming	33	74
Others—HI-1; NV-1; VA-5	7	10
Total US	**985**	**1,998**
Total Canada	**164**	**457**
Grand total	**1,149**	**2,455**
US Oil rigs	280	395
US Gas rigs	695	1,594
Total US offshore	31	68
Total US cum. avg. YTD	**1,094**	**1,849**

Rotary rigs from spudding in to total depth.
Definitions, see OGJ Sept. 18, 2006, p. 42.

Source: Baker Hughes Inc.
Data available in OGJ Online Research Center.

SMITH RIG COUNT

Proposed depth, ft	Rig count	8-21-09 Percent footage*	Rig count	8-22-08 Percent footage*
0-2,500	45	8.8	86	3.4
2,501-5,000	70	71.4	137	50.3
5,001-7,500	111	23.4	240	15.8
7,501-10,000	205	6.3	459	2.8
10,001-12,500	211	12.7	491	1.8
12,501-15,000	137	—	345	—
15,001-17,500	126	—	150	—
17,501-20,000	51	—	92	—
20,001-over	32	—	33	—
Total	**988**	**12.1**	**2,033**	**6.4**
INLAND	14		33	
LAND	937		1,942	
OFFSHORE	37		58	

*Rigs employed under footage contracts.
Definitions, see OGJ Sept. 18, 2006, p. 42.

Source: Smith International Inc.
Data available in OGJ Online Research Center.

OGJ PRODUCTION REPORT

	[1]8-21-09	[2]8-22-08
	1,000 b/d	
(Crude oil and lease condensate)		
Alabama	18	19
Alaska	641	563
California	639	657
Colorado	60	65
Florida	5	5
Illinois	27	26
Kansas	101	109
Louisiana	1,398	1,246
Michigan	15	17
Mississippi	60	59
Montana	88	84
New Mexico	161	162
North Dakota	180	171
Oklahoma	175	141
Texas	1,312	1,330
Utah	58	62
Wyoming	147	145
All others	65	74
Total	**5,150**	**4,935**

[1]OGJ estimate. [2]Revised.
Source: Oil & Gas Journal.
Data available in OGJ Online Research Center.

US CRUDE PRICES

	8-21-09 $/bbl*
Alaska-North Slope 27°	65.67
South Louisiana Sweet	74.50
California-Kern River 13°	65.30
Lost Hills 30°	73.75
Wyoming Sweet	64.39
East Texas Sweet	69.75
West Texas Sour 34°	64.25
West Texas Intermediate	70.25
Oklahoma Sweet	70.25
Texas Upper Gulf Coast	63.25
Michigan Sour	62.25
Kansas Common	69.25
North Dakota Sweet	59.75

*Current major refiner's posted prices except North Slope lags 2 months. 40° gravity crude unless differing gravity is shown.
Source: Oil & Gas Journal.
Data available in OGJ Online Research Center.

WORLD CRUDE PRICES

$/bbl[1]	8-14-09
United Kingdom-Brent 38°	73.14
Russia-Urals 32°	72.35
Saudi Light 34°	71.93
Dubai Fateh 32°	71.67
Algeria Saharan 44°	73.33
Nigeria-Bonny Light 37°	74.83
Indonesia-Minas 34°	75.86
Venezuela-Tia Juana Light 31°	71.03
Mexico-Isthmus 33°	70.92
OPEC basket	72.56
Total OPEC[2]	72.47
Total non-OPEC[2]	71.37
Total world[2]	71.99
US imports[3]	69.73

[1]Estimated contract prices. [2]Average price (FOB) weighted by estimated export volume. [3]Average price (FOB) weighted by estimated import volume.

Source: DOE Weekly Petroleum Status Report.
Data available in OGJ Online Research Center.

US NATURAL GAS STORAGE[1]

	8-14-09	8-7-09	8-14-08	Change, %
	bcf			
Producing region	1,074	1,073	752	**42.8**
Consuming region east	1,681	1,635	1,540	**9.2**
Consuming region west	449	444	363	**23.7**
Total US	**3,204**	**3,152**	**2,655**	**20.7**
	May 09	**May 08**	**Change, %**	
Total US[2]	**2,367**	**1,836**	**28.9**	

[1]Working gas. [2]At end of period.
Source: Energy Information Administration
Data available in OGJ Online Research Center.

Imports of crude and products

	Districts 1-4		District 5		Total US		
	8-21 2009	8-14 2009	8-21 2009	8-14 2009	8-21 2009	8-14 2009	*8-22 2008
	1,000 b/d						
Total motor gasoline	1,042	909	60	33	1,102	942	1,368
Mo. gas. blending comp.	705	627	19	11	724	638	1,102
Distillate	132	179	0	0	132	179	123
Residual	212	208	134	0	346	208	384
Jet fuel–kerosine	41	25	57	42	98	67	67
Propane–propylene	64	68	4	2	68	70	138
Other	82	50	42	62	124	112	(44)
Total products	**2,278**	**2,066**	**316**	**150**	**2,594**	**2,216**	**3,138**
Total crude	**8,216**	**7,232**	**1,009**	**881**	**9,225**	**8,113**	**9,979**
Total imports	**10,494**	**9,298**	**1,325**	**1,031**	**11,819**	**10,329**	**13,117**

*Revised.
Source: US Energy Information Administration
Data available in OGJ Online Research Center.

Purvin & Gertz LNG netbacks—Aug. 28, 2009

Receiving terminal	Liquefaction plant					
	Algeria	Malaysia	Nigeria	Austr. NW Shelf	Qatar	Trinidad
	$/MMbtu					
Barcelona	5.82	3.74	5.03	3.64	4.37	4.96
Everett	2.09	0.55	1.79	0.64	1.05	2.36
Isle of Grain	2.13	1.26	1.96	1.16	1.67	1.93
Lake Charles	0.57	–0.95	0.44	–0.80	–0.61	0.94
Sodegaura	4.93	6.27	5.19	5.98	5.30	4.30
Zeebrugge	4.93	3.02	4.36	2.87	3.54	4.41

Definitions, see OGJ Apr. 9, 2007, p. 57.
Source: Purvin & Gertz Inc.
Data available in OGJ Online Research Center.

Crude and product stocks

District	Crude oil	Motor gasoline		Jet fuel, kerosine	Fuel oils		Propane–propylene
		Total	Blending comp.[1]		Distillate	Residual	
	1,000 bbl						
PADD 1	14,178	54,201	35,477	12,469	68,574	13,816	4,585
PADD 2	83,071	51,529	24,763	7,272	33,031	1,099	30,783
PADD 3	176,797	69,928	39,433	15,637	46,329	15,302	33,530
PADD 4	15,792	5,692	1,722	502	2,858	241	[1]1,932
PADD 5	53,922	26,704	21,171	9,570	11,592	3,984	--
Aug. 21, 2009	**343,760**	**208,054**	**122,566**	**45,450**	**162,384**	**34,442**	**70,830**
Aug. 14, 2009	**343,632**	**209,754**	**125,292**	**46,520**	**161,617**	**35,606**	**69,802**
Aug. 22, 2008[2]	**305,760**	**195,441**	**100,580**	**42,072**	**132,125**	**37,699**	**52,041**

[1]Includes PADD 5. [2]Revised.
Source: US Energy Information Administration
Data available in OGJ Online Research Center.

Refinery report—Aug. 21, 2009

District	REFINERY OPERATIONS		REFINERY OUTPUT				
	Gross inputs	Crude oil inputs	Total motor gasoline	Jet fuel, kerosine	Fuel oils		Propane–propylene
					Distillate	Residual	
	1,000 b/d						
PADD 1	1,150	1,153	2,419	62	410	91	51
PADD 2	3,227	3,205	2,129	189	850	35	234
PADD 3	7,487	7,296	2,725	634	2,081	319	692
PADD 4	581	575	304	25	189	10	[1]61
PADD 5	2,416	2,254	1,442	389	471	114	—
Aug. 21, 2009	**14,861**	**14,483**	**9,019**	**1,299**	**4,001**	**569**	**1,038**
Aug 14, 2009	**14,844**	**14,504**	**8,899**	**1,380**	**3,805**	**669**	**1,038**
Aug. 22, 2008[2]	**15,366**	**15,111**	**9,151**	**1,556**	**4,395**	**591**	**1,100**
	17,672 Operable capacity		**84.1% utilization rate**				

[1]Includes PADD 5. [2]Revised.
Source: US Energy Information Administration
Data available in OGJ Online Research Center.

Additional analysis of market trends is available through **OGJ Online**, *Oil & Gas Journal's* electronic information source, at http://www.ogjonline.com.

OIL&GAS JOURNAL online research center

OGJ crack spread

	*8-28-09	*8-29-08	Change	Change, %
	$/bbl			
SPOT PRICES				
Product value	79.06	127.99	–48.93	–38.2
Brent crude	72.37	114.85	–42.48	–37.0
Crack spread	6.69	13.14	–6.45	–49.1
FUTURES MARKET PRICES				
One month				
Product value	82.48	129.07	–46.59	–36.1
Light sweet crude	72.62	116.12	–43.50	–37.5
Crack spread	9.87	12.95	–3.09	–23.8
Six month				
Product value	82.25	128.42	–46.17	–36.0
Light sweet crude	75.90	117.93	–42.03	–35.6
Crack spread	6.35	10.49	–4.14	–39.5

*Average for week ending.
Source: Oil & Gas Journal
Data available in OGJ Online Research Center.

OGJ GASOLINE PRICES

	Price ex tax 8-26-09	Pump price* 8-26-09	Pump price 8-27-08
	¢/gal		
(Approx. prices for self-service unleaded gasoline)			
Atlanta	212.2	258.7	369.7
Baltimore	215.7	257.6	372.4
Boston	219.1	261.0	370.5
Buffalo	211.8	272.7	365.7
Miami	225.4	277.0	366.7
Newark	216.1	248.7	359.6
New York	206.1	267.0	369.2
Norfolk	215.3	253.7	364.3
Philadelphia	217.3	268.0	372.1
Pittsburgh	216.9	267.6	368.3
Wash., DC	229.6	268.0	367.8
PAD I avg	216.9	263.6	367.9
Chicago	216.6	281.0	397.8
Cleveland	218.3	264.7	362.8
Des Moines	215.1	255.5	356.8
Detroit	221.7	281.1	373.5
Indianapolis	207.6	267.0	362.8
Kansas City	202.1	238.1	356.8
Louisville	222.1	263.0	366.8
Memphis	201.8	241.6	355.8
Milwaukee	215.7	267.0	371.8
Minn.-St. Paul	217.1	261.1	363.8
Oklahoma City	195.3	230.7	351.8
Omaha	191.4	236.7	366.8
St. Louis	198.7	234.7	357.8
Tulsa	191.7	227.1	350.5
Wichita	196.7	240.1	352.8
PAD II avg	207.5	252.6	363.2
Albuquerque	207.6	244.0	359.2
Birmingham	210.3	249.6	360.0
Dallas-Fort Worth	212.6	251.0	348.3
Houston	208.3	246.7	345.4
Little Rock	203.8	244.0	359.1
New Orleans	211.3	249.7	361.7
San Antonio	214.3	252.7	358.1
PAD III avg	209.7	248.2	356.0
Cheyenne	223.2	255.6	365.4
Denver	224.2	264.6	394.7
Salt Lake City	215.4	258.3	391.7
PAD IV avg	220.9	259.5	383.9
Los Angeles	234.7	301.8	405.2
Phoenix	223.5	260.9	372.9
Portland	240.4	283.8	379.6
San Diego	236.7	303.8	403.2
San Francisco	243.7	310.8	414.9
Seattle	241.9	297.8	390.6
PAD V avg	236.8	293.1	394.4
Week's avg.	**215.4**	**261.0**	**369.2**
Aug. avg.	**209.9**	**255.5**	**375.3**
July avg.	**205.6**	**251.2**	**405.7**
2009 to date	**174.0**	**219.6**	—
2008 to date	**309.0**	**352.9**	—

*Includes state and federal motor fuel taxes and state sales tax. Local governments may impose additional taxes.
Source: Oil & Gas Journal.
Data available in OGJ Online Research Center.

REFINED PRODUCT PRICES

	8-21-09 ¢/gal		8-21-09 ¢/gal
Spot market product prices			
Motor gasoline (Conventional-regular)		Heating oil No. 2	
New York Harbor	192.40	New York Harbor	189.11
Gulf Coast	187.40	Gulf Coast	188.29
Los Angeles	195.90	Gas oil	
Amsterdam-Rotterdam-Antwerp (ARA)	191.92	ARA	191.69
Singapore	195.52	Singapore	188.10
Motor gasoline (Reformulated-regular)		Residual fuel oil	
New York Harbor	204.65	New York Harbor	164.21
Gulf Coast	193.40	Gulf Coast	167.79
Los Angeles	206.90	Los Angeles	171.49
		ARA	166.29
		Singapore	161.92

Source: DOE Weekly Petroleum Status Report.
Data available in OGJ Online Research Center.

BAKER HUGHES RIG COUNT

	8-28-09	8-29-08
Alabama	3	7
Alaska	9	9
Arkansas	45	59
California	22	51
Land	21	49
Offshore	1	2
Colorado	43	116
Florida	2	3
Illinois	2	1
Indiana	1	2
Kansas	22	9
Kentucky	9	11
Louisiana	135	182
N. Land	89	81
S. Inland waters	7	22
S. Land	14	26
Offshore	25	53
Maryland	0	0
Michigan	0	2
Mississippi	12	13
Montana	1	13
Nebraska	0	1
New Mexico	45	97
New York	2	7
North Dakota	48	74
Ohio	8	10
Oklahoma	79	215
Pennsylvania	53	26
South Dakota	1	2
Texas	376	958
Offshore	4	9
Inland waters	0	1
Dist. 1	17	28
Dist. 2	11	37
Dist. 3	37	62
Dist. 4	33	90
Dist. 5	71	198
Dist. 6	48	129
Dist. 7B	10	26
Dist. 7C	18	74
Dist. 8	70	141
Dist. 8A	10	33
Dist. 9	20	39
Dist. 10	27	91
Utah	17	50
West Virginia	20	27
Wyoming	34	76
Others—HI-1; NV-4; VA-5	10	10
Total US	**999**	**2,031**
Total Canada	**184**	**436**
Grand total	**1,183**	**2,467**
US Oil rigs	286	416
US Gas rigs	699	1,606
Total US offshore	32	70
Total US cum. avg. YTD	**1,091**	**1,854**

Rotary rigs from spudding in to total depth.
Definitions, see OGJ Sept. 18, 2006, p. 42.

Source: Baker Hughes Inc.
Data available in OGJ Online Research Center.

SMITH RIG COUNT

Proposed depth, ft	Rig count	8-28-09 Percent footage*	Rig count	8-29-08 Percent footage*
0-2,500	52	7.6	88	3.4
2,501-5,000	74	71.6	136	51.4
5,001-7,500	109	22.9	247	15.3
7,501-10,000	202	6.4	489	2.8
10,001-12,500	201	11.4	476	1.6
12,501-15,000	137	—	360	—
15,001-17,500	129	—	147	—
17,501-20,000	50	—	84	—
20,001-over	33	—	36	—
Total	**987**	**11.9**	**2,063**	**6.4**
INLAND	11		33	
LAND	942		1,970	
OFFSHORE	34		60	

*Rigs employed under footage contracts.
Definitions, see OGJ Sept. 18, 2006, p. 42.

Source: Smith International Inc.
Data available in OGJ Online Research Center.

OGJ PRODUCTION REPORT

	[1]8-28-09	[2]8-29-08
	1,000 b/d	
(Crude oil and lease condensate)		
Alabama	19	18
Alaska	644	544
California	646	659
Colorado	62	65
Florida	6	5
Illinois	27	26
Kansas	104	110
Louisiana	1,388	1,220
Michigan	17	17
Mississippi	60	59
Montana	85	84
New Mexico	160	162
North Dakota	189	180
Oklahoma	178	131
Texas	1,330	1,333
Utah	59	62
Wyoming	148	145
All others	66	74
Total	**5,188**	**4,894**

[1]OGJ estimate. [2]Revised.
Source: Oil & Gas Journal.
Data available in OGJ Online Research Center.

US CRUDE PRICES

	8-28-09 $/bbl*
Alaska-North Slope 27°	65.67
South Louisiana Sweet	73.25
California-Kern River 13°	64.20
Lost Hills 30°	72.65
Wyoming Sweet	63.24
East Texas Sweet	68.75
West Texas Sour 34°	63.25
West Texas Intermediate	69.25
Oklahoma Sweet	69.25
Texas Upper Gulf Coast	62.25
Michigan Sour	61.25
Kansas Common	68.25
North Dakota Sweet	58.75

*Current major refiner's posted prices except North Slope lags 2 months. 40° gravity crude unless differing gravity is shown.
Source: Oil & Gas Journal.
Data available in OGJ Online Research Center.

WORLD CRUDE PRICES

$/bbl[1]	8-21-09
United Kingdom-Brent 38°	71.42
Russia-Urals 32°	70.67
Saudi Light 34°	70.64
Dubai Fateh 32°	70.60
Algeria Saharan 44°	71.84
Nigeria-Bonny Light 37°	73.24
Indonesia-Minas 34°	75.34
Venezuela-Tia Juana Light 31°	70.06
Mexico-Isthmus 33°	69.95
OPEC basket	71.28
Total OPEC[2]	71.04
Total non-OPEC[2]	69.98
Total world[2]	70.58
US imports[3]	68.52

[1]Estimated contract prices. [2]Average price (FOB) weighted by estimated export volume. [3]Average price (FOB) weighted by estimated import volume.
Source: DOE Weekly Petroleum Status Report.
Data available in OGJ Online Research Center.

US NATURAL GAS STORAGE[1]

	8-21-09	8-14-09	8-21-08	Change, %
	bcf			
Producing region	1,079	1,074	773	**39.6**
Consuming region east	1,724	1,681	1,559	**10.6**
Consuming region west	455	449	370	**23.0**
Total US	**3,258**	**3,204**	**2,702**	**20.6**
	June 09	**June 08**	**Change, %**	
Total US[2]	**2,752**	**2,171**	**26.8**	

[1]Working gas. [2]At end of period.
Source: Energy Information Administration
Data available in OGJ Online Research Center.

PACE REFINING MARGINS

	June 2009	July 2009	Aug. 2009	Aug. 2008	– 2009 vs. 2008 – Change	Change, %
			$/bbl			
US Gulf Coast						
West Texas Sour	6.62	6.97	8.42	10.67	–2.25	–21.1
Composite US Gulf Refinery	9.78	9.00	10.34	10.16	0.19	1.8
Arabian Light	5.51	5.72	8.81	8.59	0.22	2.6
Bonny Light	3.35	3.32	3.48	5.13	–1.65	–32.2
US PADD II						
Chicago (WTI)	11.63	7.61	8.48	20.57	–12.09	–58.8
US East Coast						
NY Harbor (Arab Med)	3.22	4.50	7.51	8.26	–0.75	–9.1
East Coast Comp-RFG	5.54	5.21	6.84	6.94	–0.10	–1.5
US West Coast						
Los Angeles (ANS)	14.96	14.03	15.36	7.24	8.12	112.2
NW Europe						
Rotterdam (Brent)	1.52	1.27	1.50	4.76	–3.26	–68.4
Mediterranean						
Italy (Urals)	–0.74	–0.72	0.07	5.36	–5.29	–98.6
Far East						
Singapore (Dubai)	–0.46	0.79	1.49	–1.19	2.68	224.7

Source: Jacobs Consultancy Inc.
Data available in OGJ Online Research Center.

US NATURAL GAS BALANCE DEMAND/SUPPLY SCOREBOARD

	June 2009	May 2009	June 2008	June 2009-2008 change	Total YTD 2009	Total YTD 2008	YTD 2009-2008 change
				bcf			
DEMAND							
Consumption	1,523	1,499	1,608	–85	11,920	12,467	–547
Addition to storage	449	512	420	29	1,693	1,428	265
Exports	62	81	65	–3	559	538	21
Canada	31	50	30	1	384	323	61
Mexico	29	29	30	–1	158	192	–34
LNG	2	2	5	–3	17	23	–6
Total demand	**2,034**	**2,092**	**2,093**	**–59**	**14,172**	**14,433**	**–261**
SUPPLY							
Production (dry gas)	1,738	1,787	1,715	23	10,515	10,213	302
Supplemental gas	2	5	5	–3	30	24	6
Storage withdrawal	62	45	80	–18	1,760	2,133	–373
Imports	268	266	286	–18	1,864	2,005	–141
Canada	216	216	250	–34	1,606	1,823	–217
Mexico	1	1	3	–2	16	9	7
LNG	51	49	33	18	242	173	69
Total supply	**2,070**	**2,103**	**2,086**	**–16**	**14,169**	**14,375**	**–206**

NATURAL GAS IN UNDERGROUND STORAGE

	June 2009	May 2009	Apr. 2009	June 2008	Change
			bcf		
Base gas	4,260	4,253	4,252	4,230	30
Working gas	2,752	2,367	1,903	2,171	581
Total gas	**7,012**	**6,620**	**6,155**	**6,401**	**611**

Source: DOE Monthly Energy Review.
Data available in OGJ Online Research Center.

WORLDWIDE NGL PRODUCTION

	May 2008	Apr. 2008	5 month average production 2009	5 month average production 2008	Change vs. previous year Volume	Change vs. previous year %
			1,000 b/d			
Brazil	84	81	83	87	–4	–4.9
Canada	520	490	592	667	–75	–11.3
Mexico	382	379	373	368	5	1.2
United States	1,934	1,851	1,830	1,850	–20	–1.1
Venezuela	200	200	200	200	—	—
Other Western Hemisphere	200	212	207	198	9	4.3
Western Hemisphere	**3,320**	**3,212**	**3,283**	**3,370**	**–86**	**–2.6**
Norway	258	288	284	296	–12	–4.2
United Kingdom	148	143	146	178	–32	–18.2
Other Western Europe	10	10	10	10	—	4.0
Western Europe	**417**	**441**	**440**	**484**	**–44**	**–9.2**
Russia	426	405	408	420	–12	–2.8
Other FSU	150	150	150	150	—	—
Other Eastern Europe	15	15	15	16	—	–3.1
Eastern Europe	**591**	**570**	**573**	**585**	**–12**	**–2.1**
Algeria	338	338	341	353	–12	–3.5
Egypt	70	70	70	70	—	—
Libya	80	80	80	80	—	—
Other Africa	131	131	131	131	—	—
Africa	**619**	**619**	**622**	**634**	**–12**	**–1.9**
Saudi Arabia	1,411	1,377	1,350	1,440	–90	–6.3
United Arab Emirates	250	250	250	250	—	—
Other Middle East	836	835	835	876	–41	–4.7
Middle East	**2,497**	**2,462**	**2,435**	**2,566**	**–131**	**–5.1**
Australia	71	69	64	62	3	4.2
China	650	650	650	620	30	4.8
India	—	—	—	—	—	—
Other Asia-Pacific	169	169	169	180	–11	–6.2
Asia-Pacific	**890**	**888**	**883**	**862**	**21**	**2.5**
TOTAL WORLD	**8,333**	**8,193**	**8,236**	**8,501**	**–265**	**–3.1**

Totals may not add due to rounding.
Source: Oil & Gas Journal.
Data available in OGJ Online Research Center.

OXYGENATES

	June 2009	May 2009	Change	YTD 2009	YTD 2008	Change
			1,000 bbl			
Fuel ethanol						
Production	20,822	20,752	70	118,296	101,185	17,111
Stocks	13,903	13,999	–96	13,903	11,539	2,364
MTBE						
Production	1,561	1,578	–17	8,897	9,498	–601
Stocks	707	811	–104	707	1,727	–1,020

Source: DOE Petroleum Supply Monthly.
Data available in OGJ Online Research Center.

US COOLING DEGREE-DAYS

	July 2009	July 2008	Normal	2009 % change from normal	Total degree-days Jan. 1 through July 31 2009	2008	Normal	% change from normal
New England	111	230	180	–38.3	151	346	249	–39.4
Middle Atlantic	190	291	247	–23.1	302	485	387	–22.0
East North Central	133	238	245	–45.7	310	405	443	–30.0
West North Central	190	289	308	–38.3	442	490	574	–23.0
South Atlantic	390	421	425	–8.2	1,150	1,191	1,104	4.2
East South Central	334	414	412	–18.9	922	949	900	2.4
West South Central	583	549	545	7.0	1,584	1,506	1,403	12.9
Mountain	387	376	341	13.5	760	734	715	6.3
Pacific	283	247	188	50.5	428	445	344	24.4
US average*	**294**	**339**	**321**	**–8.4**	**693**	**749**	**696**	**–0.4**

*Excludes Alaska and Hawaii.
Source: DOE Monthly Energy Review.
Data available in OGJ Online Research Center.

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Commodity trading controls can yield unsavory surprises

New attempts to moderate energy-price movement with controls on commodity trading might, like much regulation of markets, yield unsavory surprises.

The US Commodity Futures Trading Commission is considering new controls on off-exchange trading of energy derivatives. And the Department of the Treasury has sent Congress a plan for trading reform.

Propelling this regulatory push is the belief that excessive speculation aggravates swings in energy prices and makes markets susceptible to manipulation.

Little about the effort—other than the proposed extension to energy of regulation now focused on agricultural commodities—is new, points out Michael Lewis of Deutsche Bank AG's London office.

Congress has tried to pass laws limiting commodities speculation for more than 100 years, Lewis writes in Deutsche Bank's Commodities Weekly of Aug. 14. The effort accelerated in the 1920s.

"In 1921, legislation was introduced to ensure grain futures trading was confined to regulated exchanges that allowed federal scrutiny," he writes. "In 1936, the Commodity Exchange Act was introduced to combat excessive price declines in grain and cotton prices, which were being blamed on speculators."

Legislation in 1947 provided for the publication of the names, addresses, and market positions of large traders. Commodity prices were rising after World War II.

Lewis lists other attempts to curb speculation, calling "the most draconian" a 1958 law banning trading of an onion futures contract on the Chicago Mercantile Exchange. Research published during the 1960s said onion prices were more stable before than after imposition of the ban, Lewis reports. The research later was challenged. But the ban didn't keep onion prices from swinging wildly in the 1970s.

In fact, Lewis says, the onion price record suggests "the presence of a futures market might actually reduce the price volatility of a commodity."

Of course the consequences of regulation often contradict intention. The push to regulate energy derivatives, for example, might cut activity on the New York Mercantile Exchange, Lewis warns, adding: "Perversely focusing on regulation to curb speculative activity may possibly increase the pricing power of OPEC over time at a time when the US government is attempting to do the exact opposite."

(Online Aug. 21, 2009: author's e-mail: bobt@ogjonline.com)

The Editor's Perspective

by Bob Tippee, Editor

Market Journal

by Sam Fletcher, Senior Writer

Crude finds 'comfortable' price range

The "most comfortable" range for crude prices would be $65-75/bbl—"$10/bbl below the minimum of what is the desired price in broad terms for the key producers" within the Organization of Petroleum Exporting Countries, said Paul Horsnell, a managing director and head of commodities research at Barclays Capital in London.

Horsnell does not expect crude prices to remain locked between $65-75/bbl. However, he said, "If prices moved outside the range, we would expect them to move back within it in a reasonably short time." Horsnell reported Aug. 26, "After the initial pullback in prices in early July, the range has held very firm indeed. Front-month Brent prices have remained completely within the $65-75[/bbl] range throughout every trading day since July 20, while front-month West Texas Intermediate has stayed within the range at all times since July 24."

During the most recent price rollback, he said, "WTI bottomed intraday at $65.23/bbl. Likewise, during the past week's move to the top of the range, the highest intraday price for front-month Brent [was] $74.97, while the highest for front-month WTI was $75 exactly."

The front-month October crude contract traded "in a perfect $70-75/bbl range" Aug. 24-28 on the New York Mercantile Exchange, said Olivier Jakob at Petromatrix, Zug, Switzerland. In that last full business week of the month, the contract failed to climb above $75/bbl, then tested but failed to break through the $70/bbl floor, finally finishing the week by closing at $72.74/bbl on the New York Mercantile Exchange—down a little more than $1/bbl for the week and "very close to the mid-range of $72.50/bbl," Jakob said. "From equity to currencies to oil, it seems that the focus of all markets is the lack of liquidity," Jakob said earlier that week. "In that environment, ranges are hard to break."

Horsnell sees "a strong fundamental reason" for the $65-75/bbl range to remain dominant this quarter. "The range brings the market to the threshold of meeting the price targets of key producers, but still leaves a discount," Horsnell said. It is "a significant enough" increase from second quarter prices to reflect improvements in market data and macroeconomic prospects "without sending a signal for supply-side pressure to be eased significantly." He added, "Likewise prices in that range would not appear to be discounted so much in the face of weak short-term data flow as to create any impetus for further tightening. All in all, looked at from a purely fundamental and policy basis, the $65-75 range looked to us like the Goldilocks range for the quarter."

Japanese politics

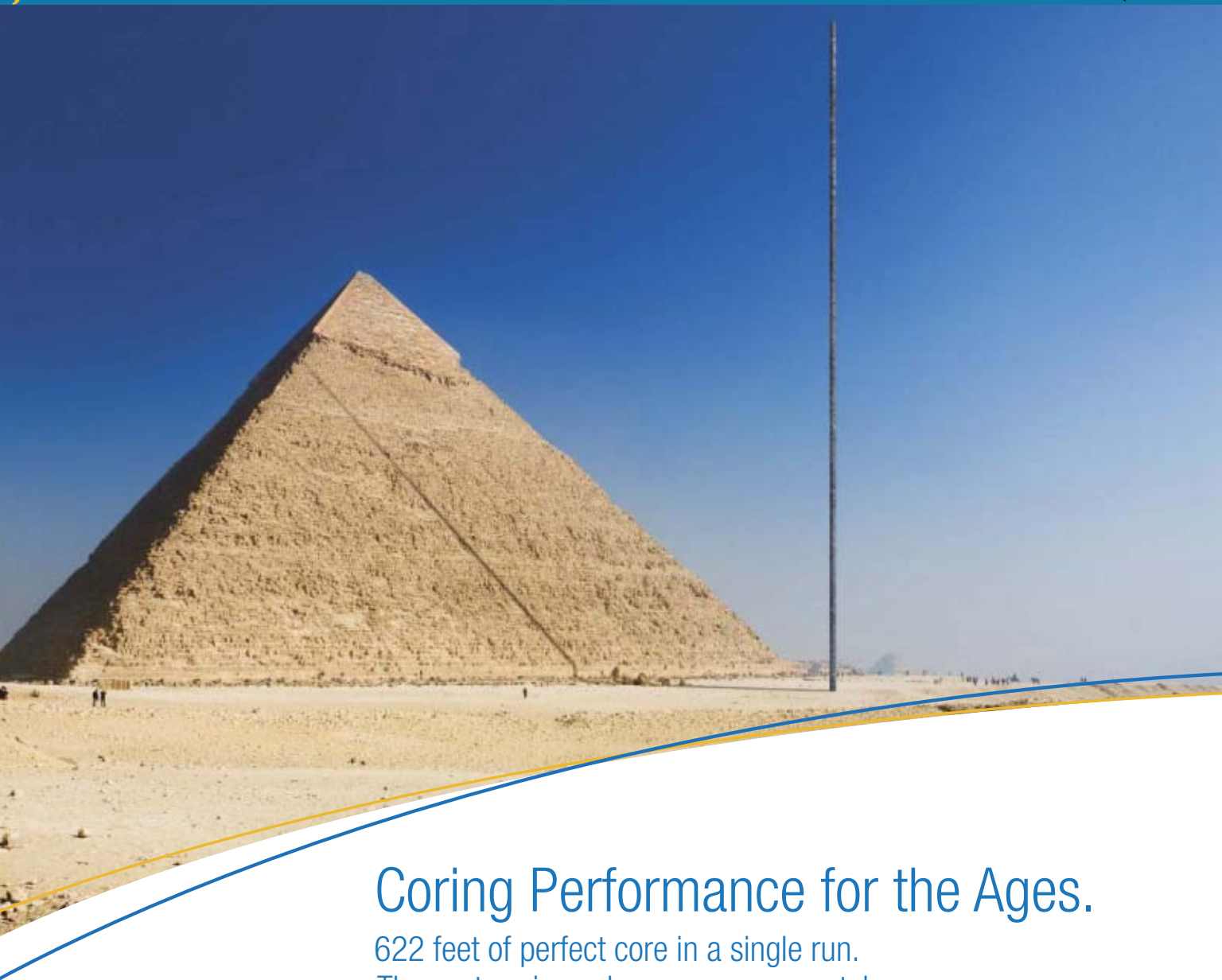
Crude and other commodities were down further in early trading Aug. 31, as weakness in Asian markets pressured US equities and a strengthening dollar undercut oil prices. "Markets in Japan, Asia's second-largest consumer of oil, were down upon news that Japanese manufacturers only increased output by 1.9% in July after posting a 2.3% increase in June," said analysts in the Houston office of Raymond James & Associates Inc.

They reported, "With the left-of-center Democratic Party set to form Japan's new government after its landslide victory on [Aug. 30], Japanese climate change policy is likely to become more ambitious, i.e., more aligned with Europe. Historically, Japan has been closer to the US in taking an ambivalent stance on climate issues. While Japan already has some of the world's highest levels of energy efficiency, there is room for more pro-renewables policies. Also, Japan is likely to play a more active role in the global climate talks leading up to the Copenhagen conference in December."

Jakob said, "The concern in the global economic picture is that while there has been some improvement in manufacturing activity, it is not yet certain that it will be followed by sustained consumer spending." He said, "With the European consumer already filled up on heating oil stocks and large layers of distillate stocks afloat on the water, the solver to this overhang would be a strong reduction of refinery runs in front of the winter. However, with the rebounding industrial demand, any strong reduction of refinery runs could seriously tighten the naphtha markets."

At the end of August, Norway's Frontline, the largest independent oil tanker shipping group, estimated 40-45 very large crude carriers (VLCCs), or 10% of the world fleet, were storing crude oil, down from a peak of 60 VLCCs that were storing crude in April. In New Orleans, analysts at Pritchard Capital Partners LLC said, "This gradual unwind appears to be flattening the crude curve and will most likely lead to lower volatility across the crude curve."

(Online Aug. 31, 2009; author's e-mail: samf@ogjonline.com)



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