TAPS Throughput Decline & Oil Tax Reform

TAPS Throughput Committee
Tuesday, January 22, 2013
Juneau, Alaska

Dan Sullivan, Commissioner
Alaska Department of Natural Resources

Bryan Butcher, Commissioner
Alaska Department of Revenue
• The Trans Alaska Pipeline, 11 pump stations, several hundred miles of feeder pipelines, and the Valdez Marine Terminal constitute the Trans-Alaska Pipeline System (TAPS).

• At 800 miles long, the Trans Alaska Pipeline is one of the longest pipelines in the world; it crosses more than 500 rivers and streams and three mountain ranges as it carries Alaska’s oil from Prudhoe Bay to Valdez.

• The U.S. Congress was instrumental in the approval and rapid development of TAPS. Congress approved construction of the pipeline with the Trans Alaska Pipeline Authorization Act of 1973.

• The principle focus of this Act is as relevant today as it was in 1973: “the early development and delivery of oil and gas from Alaska’s North Slope to domestic markets is in the national interest because of growing domestic shortages and increasing dependence upon insecure foreign sources.”
TAPS
- A Critical State & National Energy Asset -

• TAPS has transported over 16.3 billion barrels of oil and natural gas liquids since June of 1977. Production peaked at 2.2 million barrels per day in the late 1980s, representing 25% of U.S. domestic production.

• Since its peak, however, throughput has steadily declined; today, TAPS is 2/3 empty and declining at an average of 6% per year.

• TAPS throughput decline threatens economic disruption and the very existence of our pipeline.

• We must encourage industry to invest in exploration and development of conventional and unconventional resources on state and federal land, onshore and offshore.

• TAPS has plenty of capacity for increased throughput.

• Most near-term critical economic issue facing the state.

• Less oil in the pipeline year after year takes away revenue from future generations—the ultimate giveaway.

• Reconfiguration, 1.2 million barrels/day.
Source: Alaska Department of Revenue Fall 2012 Revenue Sources Book: http://www.tax.alaska.gov/programs/documentviewer/viewer.aspx?2682f
• TAPS throughput decline is the MOST URGENT issue facing the State’s economic future
• January 2011 TAPS shutdown

Petroleum News, February 27, 2011:
“Jan. shutdown puts TAPS close to brink:
Alyeska executives describe efforts to prevent freezing in pipeline after pump station oil leak in era of low oil throughput”

WSJ, May 11, 2011:
“Shrinking Oil Supplies Put Alaskan Pipeline at Risk”

“Now, dwindling oil production along Alaska's northern edge means the pipeline carries less than one-third the volume it once did—and the crude takes five times as long to get to its destination.

That leisurely flow means the oil is above ground longer and more exposed to Alaska's frigid weather; the crude sometimes arrives chilled to 40 degrees. As the flow and temperature continue to drop, experts say the risks of a clog or corrosion increase, as do the odds of ruptures and spills.”
Compared to most hydrocarbon basins, Alaska is relatively underexplored, with 500 exploration wells on the North Slope, compared to Wyoming’s 19,000.

Alaska’s North Slope Oil & Gas Potential

- USGS estimates that Alaska’s North Slope has more oil than any other Arctic nation
  - **OIL**: Est. 40 billion barrels of conventional oil (USGS & BOEMRE)
  - **GAS**: Est. over 200 trillion cubic feet of conventional natural gas (USGS)

- Alaska has world-class unconventional resources, including tens of billions of barrels of heavy oil, shale oil, and viscous oil, and hundreds of trillions of cubic feet of shale gas, tight gas, and gas hydrates
  - Positive methane hydrate test production
Alaska’s North Slope Oil & Gas Potential

Map of the North Slope region in Alaska, highlighting areas such as Prudhoe Bay, Beaufort Sea Area, and Barrow. The map also indicates the coastal plain and foothills.
U.S. ENERGY RENAISSANCE

- Global and U.S. hydrocarbon boom
- IEA World Energy Outlook 2012 – U.S. to overtake Saudi Arabia and Russia to become the world’s largest global oil producer by the second half of this decade.
- Financial Times, November 12, 2012 – “U.S. set to become biggest oil producer”
  - 2012 - $600 billion on exploration and production in oil and gas industry
  - 2013 projected - $650 billion on exploration and production in oil and gas industry
- Financial Times, December 27, 2012 – “Oil and gas – hey big spenders”
"The expansion has been spurred by record-breaking levels of investment, with about £40bn set to be ploughed into North Sea production in the next three years…"

"The surge in investment comes after the government relaxed the tax regime around North Sea development, prompting a record-breaking licensing round when the Department of Energy and Climate Change awarded 167 new licenses on 330 blocks last October."

"Budget 2012: North Sea oil tax reforms ‘to lead to £50bn investment’: An extra £50bn could be pumped into the North Sea oil and gas industry thanks to a new package of tax reforms."
Other Basins have Turned Decline Around

Apache Corporation: Forties Field Acquisition

- Field discovered in early 1970s by BP; purchased by Apache in 2003
- Contains estimated 4.2 to 5.0 billion barrels of oil in place
- Production peaked at over 500,000 Bpd, but by 2003, had declined to 40,000-45,000 Bpd
- Apache has “beaten the curve” by adding reserves, production, and value
- Have returned over 400% of their original 2003 investment
Secure Alaska’s Future—Oil

- **Secure Alaska’s Future—Oil** is the State’s comprehensive strategy to increase TAPS throughput to one million barrels a day
  
  I. Enhance Alaska’s global competitiveness and investment climate
  
  II. Ensure the permitting process is structured and efficient
  
  III. Facilitate and incentivize the next phases of North Slope development
  
  IV. Promote Alaska’s resources and positive investment climate to world markets

- **Governor Parnell’s 2013 State of the State:** “*Our problem is not below the ground. Our problem is above the ground.*”
  
  - The missing piece is meaningful tax reform
  
  - “Our state’s prosperity has always rested on natural resources. Tonight, that foundation is at risk, not because we are running out of oil, but because we are running behind the competition.”
Secure Alaska’s Future: Oil - North Slope Recent & Proposed Activity for Oil & Gas -

North Slope Oil and Gas Activity 2012
State of Alaska, Department of Natural Resources, Division of Oil and Gas, December 2012

- Shell
  - Drilled top hole for Burger A, first new well in Chukchi Sea OCS during fall 2012.
  - Noble Discoverer drillship will return for additional drilling on prospect in 2013.

- Pinnacle Natural Resources
  - Plans Nuna 2 well and additional testing of Nuna 1 this winter to delineate potential 50 MMBOY Torek Fm discovery.
  - Production continues from Kuparuk and Northpad PAs.

- Repsol
  - Three-well exploration program planned this winter in between Cvilville River Unit and Kuparuk River Unit: Cvilville 1, 2, and 3 wells.

- ConocoPhillips/NETL
  - Igoki, Sukok 1 methane hydrate test well successfully produced via hydrate dissociation and depressurization mechanisms.

- Great Bear Petroleum
  - Drilled the first two vertical holes to evaluate shale play, Aver 1 and Menak 1, evaluating cores and logs before drilling laterals; revised plans to provide for long-term tests.

- Lind Energy
  - Preparing for 2013 winter drilling at Umiat field, mobilizing Kusiklik 5 rig via snow road from Pump Station 2 to drill up to 4 wells.

- Anadarko Petroleum
  - Conducted rig-less frac and test of Chandler 1 well in early 2012.

- Roads to Resources Program
  - EIS in progress to evaluate foothills west transport system to connect Umiat and Oulkik to road system and promote exploration of foothills plays.

- Division of Oil and Gas
  - Announced lease sales scheduled for November 2013, encompassing 14.7 million acres in North Slope, Beaufort Sea, and North Slope foothills sale areas.

- BP
  - Midnight Point S-Pad heavy oil pilot cold heavy oil production with sand (COSSP technology) in 4 Ugnu sandstone test wells.

- Eidos
  - Point Thomson pipeline lease and water use permits issued fall 2012 to allow development: first condensate production by winter of 2015-16.
• Governor reiterated his principles:
  o Tax reform must be fair to Alaskans
  o Encourage new production
  o Simple so that it restores balance to the system
  o Durable for the long-term
• Integrated team – DOR and DNR
• Consultants - EconOne
The team reviewed previous work by both the Legislature and the Administration.

Identified problems with the current tax system:
- Declining Production
- Competitive Environment
- Progressivity
- Tax Credits

Coordinated effort to understand impacts of production decline on TAPS/Revenues.
How Did Our Competition Fare When Prices Spiked?
Consultants have compared Alaska to other opportunities using detailed models and analyzing a variety of financial metrics.

The following example is for a 50 million barrel development in Alaska and comparable developments in the Lower-48, Canada and United Kingdom North Sea.

- Developed by a new entrant to the State.
- Compares net present value (NPV) per barrel of oil equivalent discounted 12%

<table>
<thead>
<tr>
<th>West Coast ANS Prices</th>
<th>NPV-12% ACES (Current)</th>
<th>NPV-12% Average L48 Unconventional</th>
<th>NPV-12% Norway</th>
<th>NPV-12% UK Post-1993 with Brownfield</th>
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<tbody>
<tr>
<td>$70</td>
<td>$1.78</td>
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<tr>
<td>$90</td>
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Example: at $100 a barrel, a company would earn $4.07 in Alaska but $5.53 in the Lower 48 and $8.25 in the U.K. North Sea.
Progressivity is complicated and unpredictable, both for the state and investors

- Tax rate increases by 0.4% for every $1 per barrel that the production tax value (price minus transportation costs minus lease expenditures) exceeds $30/barrel up to $92.50 per barrel, then 0.1% until the total tax rate equals 75%

- Calculated Monthly

- High marginal tax rates
OIL TAX REFORM
- PRODUCTION TAX CREDITS -

Fiscal Year

<table>
<thead>
<tr>
<th>Tax Credit Certificates Refunded</th>
<th>Credits Applied Against Production Tax Liability</th>
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<tbody>
<tr>
<td>Pre-2009 $109</td>
<td>$935</td>
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<tr>
<td>2009 $193</td>
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<tr>
<td>2010 $250</td>
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<tr>
<td>2013* $360</td>
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<td>2014* $400</td>
<td>$615</td>
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*Estimated pending final true-ups
** Fall 2012 Revenue Sources Forecast

Source: Alaska Department of Revenue
Identified growing concern in DOR and DNR that TAPS tariffs in our revenue modeling did not dynamically link throughput with tariff rates or capture any added capex or opex spending for low-throughput mitigation measures.

Current work NOT designed to find the optimal low-flow mitigation option or forecast specific operational outcomes and exact tariffs.

Preliminary Observations:
- Low flow mitigation capital and operating expenditures could increase tariffs by as much as $1 (18%) per barrel by 2019 and as much as $2.50 (33%) per barrel in 2022.
- Assuming price, production and tariff provided in the Fall 2012 Revenue Sources Book, a $1 increase in the TAPS tariff will decrease state oil and gas revenue by an average of $110 million.
1. Eliminate Progressivity and Credits Based on Capital Expenditures
2. Reform remaining credits to be carried forward to when there is production
3. Establish a “Gross Revenue Exclusion” for newer units and new participating areas in existing units (NEW OIL)
4. Hold Cook Inlet and Middle Earth Harmless