Products Pipelines

Tom Bannigan

President Products Pipelines Group
Products Pipelines and Facilities

Miles of Pipe ~ 8,000
Terminals – 52
Tank Capacity - MMbbls
Terminal ~ 30
Pipelines ~ 14
2007 Throughput ~ 2MM bbls/day

The map shows the network of products pipelines and facilities, including:
- Pacific Northern Plantation Cypress Central Florida
- TRANSMIX FACILITIES
- KM HEADQUARTERS

Key indicators:
- (2,3,8) indicates the number of facilities in the area.
2007 Volumes/Markets – Refined Products

Total down .4% versus 2006

- Excluding Plantation – up .8% which compares to EIA 2007 growth estimate of .9% for gasoline, distillate and jet fuel

Significant markets – 2007 over 2006

- Pacific up 1.1%
  - Excluding Watson, CA to Calnev short haul movements – up 1.5%
  - Arizona up 5.2%, North CA up .4%, South CA down .5% (primarily San Diego)

- Central Florida Pipeline up 2.0%
  - Orlando (on road) up 4.8%, Orlando Airport up 11.5%

- Calnev down 2.3%
  - 68% of volume shortfall was intrastate volumes to Barstow, CA (down 11.7%)
  - Las Vegas commercial down 2.2%, McCarran Airport up 1.7%

- Plantation down 3.5%
  - Baton Rouge to Collins short haul and Bengal Pipeline impact
Revenue Drivers

- Organic Volume Growth
- Expansions
- FERC Index
- Associated Terminals (higher rate of revenue growth)
- Targeted Tariff Incentives (In competitive markets)
Demand Factors

DEMAND STIMULI

- Population Demographics
- Urban Congestion
- Length of Commute
- U.S. Vehicle Fleet Size Continues to Increase

POTENTIAL DEMAND CONCERNS

- Elasticity of Demand vs. Product Price
- More Efficient Vehicles (Hybrids/AFV’s and new CAFE standards)
  - % of US Fleet
  - Fleet turnover
- Biofuels and Congressional Mandates (replaces traditional fuel volumes but may actually increase demand because of energy content)
Historical Demand and 2008-09 Estimates

U.S. PRODUCT CONSUMPTION

EIA Growth Estimates

<table>
<thead>
<tr>
<th>Product</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mogas</td>
<td>0.8%</td>
<td>1.1%</td>
</tr>
<tr>
<td>Distillate</td>
<td>1.2%</td>
<td>1.2%</td>
</tr>
<tr>
<td>Jet Fuel</td>
<td>1.2%</td>
<td>1.6%</td>
</tr>
<tr>
<td>Total</td>
<td>0.9%</td>
<td>1.2%</td>
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</tbody>
</table>

Source: EIA Table 4a. U.S. Petroleum Supply and Consumption
## Historical FERC Tariff Index Regime

**Start**

<table>
<thead>
<tr>
<th>PPI FG – 1</th>
<th>PPI FG</th>
<th>PPI FG + 1.3%</th>
</tr>
</thead>
</table>

### Effects of Indexing on Tariff of $1/Bbl in 1994

<table>
<thead>
<tr>
<th>Index Year</th>
<th>Multiplier</th>
<th>Index Value</th>
<th>$1 tariff</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 1, 1995 to June 30, 1995</td>
<td>1.002175</td>
<td>0.22%</td>
<td>$1.002</td>
<td>PPI - FG - 1%</td>
</tr>
<tr>
<td>July 1, 1995 to June 30, 1996</td>
<td>0.996415</td>
<td>-0.36%</td>
<td>$0.999</td>
<td>PPI - FG - 1%</td>
</tr>
<tr>
<td>July 1, 1996 to June 30, 1997</td>
<td>1.009124</td>
<td>0.91%</td>
<td>$1.008</td>
<td>PPI - FG - 1%</td>
</tr>
<tr>
<td>July 1, 1997 to June 30, 1998</td>
<td>1.016583</td>
<td>1.66%</td>
<td>$1.024</td>
<td>PPI - FG - 1%</td>
</tr>
<tr>
<td>July 1, 1998 to June 30, 1999</td>
<td>0.993808</td>
<td>-0.62%</td>
<td>$1.018</td>
<td>PPI - FG - 1%</td>
</tr>
<tr>
<td>July 1, 1999 to June 30, 2000</td>
<td>0.981654</td>
<td>-1.83%</td>
<td>$0.999</td>
<td>PPI - FG - 1%</td>
</tr>
<tr>
<td>July 1, 2000 to June 30, 2001</td>
<td>1.007598</td>
<td>0.76%</td>
<td>$1.007</td>
<td>PPI - FG</td>
</tr>
<tr>
<td>July 1, 2001 to June 30, 2002</td>
<td>1.037594</td>
<td>3.76%</td>
<td>$1.045</td>
<td>PPI - FG</td>
</tr>
<tr>
<td>July 1, 2002 to June 30, 2003</td>
<td>1.019565</td>
<td>1.96%</td>
<td>$1.065</td>
<td>PPI - FG</td>
</tr>
<tr>
<td>July 1, 2003 to June 30, 2004</td>
<td>0.987207</td>
<td>-1.28%</td>
<td>$1.052</td>
<td>PPI - FG</td>
</tr>
<tr>
<td>July 1, 2004 to June 30, 2005</td>
<td>1.031677</td>
<td>3.17%</td>
<td>$1.085</td>
<td>PPI - FG</td>
</tr>
<tr>
<td>July 1, 2005 to June 30, 2006</td>
<td>1.036288</td>
<td>3.63%</td>
<td>$1.124</td>
<td>PPI - FG</td>
</tr>
<tr>
<td>July 1, 2006 to June 30, 2007</td>
<td>1.061485</td>
<td>6.15%</td>
<td>$1.193</td>
<td>PPI - FG + 1.3%</td>
</tr>
<tr>
<td>July 1, 2007 to June 30, 2008</td>
<td>1.043186</td>
<td>4.32%</td>
<td>$1.245</td>
<td>PPI - FG + 1.3%</td>
</tr>
<tr>
<td>July 1, 2008 to June 30, 2009</td>
<td>1.051653</td>
<td>5.17%</td>
<td>$1.309</td>
<td>PPI - FG + 1.3%</td>
</tr>
</tbody>
</table>

**Note:** 2008 Plan based on Index of 4.67%
Effects of Indexing on Tariff of $1/bbl in 1994
Products Pipelines Revenues

Includes Pacific, Calnev, WCT, CFPL, KMST, Plantation (51%), Cochin, Cypress and Transmix Terminal Revenues Average 33% of Total

$ millions

2005 2006 2007 2008 Plan

Terminals
Pipelines
Terminals

Pacific, Calnev and CFPL

- Associated terminal revenues have experienced double digit revenue growth

- Drivers for growth
  - Ethanol storage and blending
  - Additive storage and blending
    - Lubricity
    - Red dye

- Expanding product slate
## 2008 Product Pipeline Plan

<table>
<thead>
<tr>
<th></th>
<th>Refined Products Pipeline Volumes – Million Barrels</th>
<th>Refined Products Pipeline Revenues - $million (a)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pacific</td>
<td>455.1</td>
<td>438.3</td>
</tr>
<tr>
<td>Calnev</td>
<td>51.9</td>
<td>49.4</td>
</tr>
<tr>
<td>Plantation (b)</td>
<td>209.3</td>
<td>195.5</td>
</tr>
<tr>
<td>CFPL (c)</td>
<td>42.5</td>
<td>41.5</td>
</tr>
<tr>
<td>Total</td>
<td>758.8</td>
<td>724.7</td>
</tr>
</tbody>
</table>

(a) Revenue includes associated terminals
(b) Includes 100% Plantation volume and 51.17% of revenue
(c) CFPL revenue is net of cost of sales
# Expanding to Meet Market Demand

## Expansion Projects Approved and Underway

<table>
<thead>
<tr>
<th>Project</th>
<th>Description</th>
<th>In Service</th>
<th>Cost - $MM</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pacific</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eugene Ethanol Blending</td>
<td>Facility and tank modifications to provide 10% blending</td>
<td>2008</td>
<td>3.0</td>
</tr>
<tr>
<td>Fresno Terminal Expansion</td>
<td>Add 80 MB tank and two lane truck loading rack</td>
<td>2008</td>
<td>11.0</td>
</tr>
<tr>
<td>Colton Terminal Expansion</td>
<td>Add two 80MB tanks</td>
<td>2008</td>
<td>8.5</td>
</tr>
<tr>
<td>Miramar Marine Corp Air Station</td>
<td>Build four 80MB tanks, 8 inch pipeline and assoc. facilities</td>
<td>2009</td>
<td>25.0</td>
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<tr>
<td>Colton Terminal Expansion</td>
<td>Add two 80MB tanks and two lane loading rack</td>
<td>2011</td>
<td>17.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td>64.5</td>
</tr>
<tr>
<td><strong>Calnev Pipeline Expansion</strong></td>
<td>233 miles of new 16 inch pipeline</td>
<td>2011</td>
<td>425.8</td>
</tr>
<tr>
<td><strong>West Coast Terminals</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Willbridge Ethanol Blending</td>
<td>Increase ethanol storage and handling capability</td>
<td>2008</td>
<td>3.0</td>
</tr>
<tr>
<td>Carson Terminal Expansion</td>
<td>Add seven 80MB tanks and associated piping</td>
<td>2009-2011</td>
<td>68.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td>71.8</td>
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<tr>
<td><strong>Central Florida Pipeline</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tampa/Orlando Ethanol</td>
<td>Tank modifications, rail siding, truck racks and blend equip</td>
<td>2008-2009</td>
<td>25.5</td>
</tr>
<tr>
<td>Tampa Airport</td>
<td>New tank and pipeline to airport</td>
<td>2008</td>
<td>25.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td>50.5</td>
</tr>
<tr>
<td><strong>Southeast Terminals</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Connection to Colonial Pipeline</td>
<td>Construct new receipt point at Richmond, VA</td>
<td>2008</td>
<td>1.7</td>
</tr>
<tr>
<td>North Augusta Terminal Expansion</td>
<td>Install new truck loading rack</td>
<td>2008</td>
<td>1.3</td>
</tr>
<tr>
<td>Five Terminal Ethanol Blending</td>
<td>Provide automatic ethanol blending at terminals in Virginia, Georgia and North Carolina</td>
<td>2008</td>
<td>2.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td>5.1</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td></td>
<td></td>
<td>617.7</td>
</tr>
</tbody>
</table>
Arizona East Line Expansion Complete

ELX June 2006 / EPX December 2007

- **ELX**
  - On budget of $210 MM
  - Two months delay in service date (June, 2006)

- **EPX**
  - Final cost of $153 MM is $8.5 MM over budget reflecting project scope changes
  - Placed in service on schedule (December 2007)

East Line capacity approximately 215,000 B/D

- Approximately 145,000 B/D capacity from El Paso to Phoenix

West Line capacity approximately 204,000 B/D

2007 volumes; 255,000 B/D (+5.2%)

Infrastructure can support further incremental horsepower expansions from east and west
CALNEV Expansion

$23.7 MM in incremental expansion projects completed
- Increased capacity to 157,000 B/D

Mainline Expansion (16” pipeline)
- $425.8 MM
- In service April 2011
- Permitting/Engineering Design underway
- Initial capacity 200,000 B/D
  - Can be increased to over 300,000 B/D with additional horsepower
- FERC approved URC rate structure for new investment
TAMPA Pipeline Project

- $25 MM 9-mile 8” pipeline to Tampa airport and 120,000 BBL Tank
- 20-year volume commitment from airline consortium
- Tank construction underway
- Pipeline route subject to City of Tampa franchise approval
- Expect franchise decision in February – however neighborhood opposition to the project is complicating approval process
- Tank in service November 2008
- Pipeline in service subject to franchise approval
California Renewable Fuel Opportunities (Near-term)

California Increase from 5.7% to 10% Ethanol Blend Rate mandate

Effective 1/1/2010

$8 MM investment in storage and blending infrastructure

Improvements to offloading and storage at certain of our thirteen terminal facilities
Pacific Northwest Biofuels Opportunities (Near-term)

Oregon 10% blend mandate
- City of Portland – converted 1/1/08
- 9 adjacent counties (to Portland) converted 1/15/08
- Southern Oregon (Eugene) – converts 4/15/08

Washington State - 2% state wide average mandate - 11/30/2008
- State wide average likely to be met by 10% blend rate in major urban areas (Seattle, Spokane)

Infrastructure investments at Portland and Eugene, OR and Seattle, WA
- Estimated $10 MM
CFPL Ethanol (Near-term)

Tampa/Orlando markets – approximately 20,000 B/D of ethanol demand at 10% blend rate

Not mandated by state – attractive market economics and logistics, existing marine and rail infrastructure and 200,000 BBLS of storage that can be readily converted to ethanol service

Open season for storage and blending fully subscribed by marketers, producers and gasoline blenders

Multi-year term contracts executed

$25 MM in tank modifications and new builds, blending and offloading investments

Phased in-service dates (April 2008 – 2009)
KMST Ethanol (Near-term)

Implement storage/blending capability by April 2008

- Five terminal locations – Richmond and Chesapeake VA, Selma (Raleigh) and Greensboro, NC and Athens, GA
  - Favorable infrastructure for accelerated implementation
  - Adding blend capability to conventional gasoline
  - Will secure term contracts

Hub Ethanol Proposals

- Charlotte and Selma (Raleigh), NC
  - Will support unit train opportunities (existing storage and adjacent rail infrastructure in place)
  - Favorable pricing environment
  - Positioning for future mandate

Open season for each project; significant interest by producers and aggregators

- Expressions of interest due by the end of January
Transportation of Batched Ethanol by Pipeline

Batch denatured ethanol on CFPL’s 16” dedicated gasoline line

Technical considerations

- **Pipeline and Facility Integrity**
  - Seals/gasket and pump rotating elements
  - Corrosion prevention and monitoring of corrosion inhibitor effectiveness

- **Maintain product quality (gasoline and ethanol)**
  - Appropriate pipeline cleaning process prior to test batches

- **Regulatory Interaction – PHMSA engaged in effort**

- **Schedule**
  - Six months to modify the pipeline to receive ethanol
  - Test batch in third quarter
  - Commercial operation expected by end of year

- **Lessons learned here will allow us to evaluate other pipeline opportunities in Southeast and West Coast**

- **Feasibility of ethanol batching on other pipelines impacted by length of line, current multi-product mix and cost**
Summary Of New Energy Act Mandate

**INCREASES MANDATE**
- 9 Billion Gallons in 2008
- 36 Billion Gallons in 2022

**REQUIRES NEW FEEDSTOCK SOURCES**
- 21 Billion gallons of the new mandate in 2022 to be from “Advanced Biofuels” (non-conventional feedstocks such as cellulosic materials)

**AUTHORIZES WAIVERS TO REDUCE MANDATE** (under certain circumstances)
- Economic Harm
- Environmental Harm
- Inadequate Supply
- Technological Feasibility (cellulosic based)
Renewable Mandate Timeline

Ethanol Production Capacity and Demand

**PRODUCTION CAPACITY**
- 2007 EOY ~ 8.1 BGal/Yr
- 2008 EOY ~ 11.9 BGal/Yr (Estimated)
- Additional capacity infrastructure encouraged by higher mandates

**DEMAND**
- 2007 EOY ~ 7.3 BGal/Yr
- 2008 EOY ~ 10.1 BGal/Yr (Estimated)
- While 2007 Demand greatly outpaced the EPA2005 mandate (4.7 vs. 7.3E BGal/Yr), the 2007 Energy Independence Act eliminated much of the uncertainty of higher demands for the next few years

Source: Houston BioFuels Consultants, LLC
Technical Challenges of Expanded Mandate

GRANTS AIMED TO SOLVE KNOWN CHALLENGES

- Authorizes $500 million annually for FY08-15 for the production of advanced biofuels that have at least an 80 percent reduction in lifecycle GHG emissions relative to current fuels.

- Authorizes $25 million annually for FY08-10 for R&D and commercial application of biofuels production in states with low rates of ethanol and cellulosic ethanol production.

- Authorizes a $200 million grant program for FY08-14 for the installation of refueling infrastructure for E-85.
Logistical Implications of New Mandate

2.3 million bbls per day of biofuels to market at 36B gallons by 2020

- 1.0 million bbls per day conventional biofuels

Scale of non-conventional production centers/feedstocks?

Linking production centers with consuming markets

- Existing infrastructure

- Greenfield pipeline

Potential geographic diffusion of non-conventional cellulosic ethanol production

Pipeline, rail, barges, truck

Impact on imports of finished gasoline, blendstocks and ethanol
Renewable Opportunities Long-term

COMMERCIALY WELL POSITIONED FOR NEW MANDATE

- **EXISTING INFRASTRUCTURE**
  - Existing coast-to-coast participation in Biofuels
  - Coastal marine and river terminals well positioned for imports and exports
  - Many pipelines and terminals are distributed throughout western and southeastern agricultural areas that may produce non-conventional biofuels
  - Excess or optimized terminal capacity for biofuels
    - Product Pipelines Terminals have 30 MM BBLs of existing storage
  - Conversion of existing gasoline tankage versus new build costs
  - Existing pipeline infrastructure
    - Batching of ethanol
    - Dedicated pipelines
    - Use of existing ROW corridor

- **NEW GREENFIELD INFRASTRUCTURE**
  - Proven performance of current team
  - Ability to work with other Kinder Morgan segments to bring value in terms of project cost and execution
SFPP Rate Case Update

FERC Decision on 12/26/2007

- Upheld previous Grandfathering determination
- FERC affirms full ITA and SFPP implementation methodology
- Certain adjustments to cost of service
- Broadened entitlement to reparations for interim rates and additional time periods
- Rehearing will be sought (January 25, 2008)
- Settlement prospects