NGA Pre-Winter 2018 Update
Tennessee Gas Pipe Line Company

November 7, 2018
- ~11,750 miles of pipe
- Active supply/delivery meters ~700
- Storage capacity ~109 Bcf
- Direct connected power ~24,650 MW
TGP System Wide Throughput

Deliveries by Zone

<table>
<thead>
<tr>
<th>Year</th>
<th>ZONE 1</th>
<th>ZONE 2</th>
<th>ZONE 3</th>
<th>ZONE 4</th>
<th>ZONE 5</th>
<th>ZONE 6</th>
<th>ZONE L</th>
<th>2018 YTD (throughSep)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>687</td>
<td>871</td>
<td>972</td>
<td>139</td>
<td>1,106</td>
<td>1,072</td>
<td>1,106</td>
<td>9,597</td>
</tr>
<tr>
<td>2016</td>
<td>654</td>
<td>664</td>
<td>723</td>
<td>165</td>
<td>1,369</td>
<td>1,047</td>
<td>1,369</td>
<td>954</td>
</tr>
<tr>
<td>2017</td>
<td>687</td>
<td>871</td>
<td>972</td>
<td>186</td>
<td>1,474</td>
<td>8409</td>
<td>1,474</td>
<td>2,234</td>
</tr>
</tbody>
</table>

Legend:
- ZONE 6
- ZONE 5
- ZONE 4
- ZONE 3
- ZONE 2
- ZONE 1
- ZONE L
- 2018 YTD (throughSep)
### TGP Top Flow Dates

#### System Wide Deliveries

<table>
<thead>
<tr>
<th>Rank</th>
<th>Gas Day</th>
<th>MDth/d</th>
<th>Bcf/d</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1/2/2018</td>
<td>12,045</td>
<td>11,638</td>
</tr>
<tr>
<td>2</td>
<td>1/4/2018</td>
<td>11,752</td>
<td>11,356</td>
</tr>
<tr>
<td>3</td>
<td>1/1/2018</td>
<td>11,572</td>
<td>11,180</td>
</tr>
<tr>
<td>4</td>
<td>1/6/2018</td>
<td>11,536</td>
<td>11,155</td>
</tr>
<tr>
<td>5</td>
<td>1/17/2018</td>
<td>11,516</td>
<td>11,120</td>
</tr>
<tr>
<td>6</td>
<td>1/5/2018</td>
<td>11,499</td>
<td>11,118</td>
</tr>
<tr>
<td>7</td>
<td>1/16/2018</td>
<td>11,379</td>
<td>10,992</td>
</tr>
<tr>
<td>8</td>
<td>1/13/2018</td>
<td>11,334</td>
<td>10,944</td>
</tr>
<tr>
<td>9</td>
<td>1/30/2018</td>
<td>11,309</td>
<td>10,924</td>
</tr>
<tr>
<td>10</td>
<td>12/15/2016</td>
<td>11,284</td>
<td>10,870</td>
</tr>
</tbody>
</table>

#### Storage Withdrawals

<table>
<thead>
<tr>
<th>Rank</th>
<th>Gas Day</th>
<th>MDth/d</th>
<th>Bcf/d</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1/23/2014</td>
<td>1,809</td>
<td>1,762</td>
</tr>
<tr>
<td>2</td>
<td>1/22/2014</td>
<td>1,728</td>
<td>1,683</td>
</tr>
<tr>
<td>3</td>
<td>2/11/2014</td>
<td>1,707</td>
<td>1,661</td>
</tr>
<tr>
<td>4</td>
<td>2/10/2014</td>
<td>1,670</td>
<td>1,626</td>
</tr>
<tr>
<td>11</td>
<td>1/4/2018</td>
<td>1,612</td>
<td>1,566</td>
</tr>
</tbody>
</table>

#### Additional Data

<table>
<thead>
<tr>
<th>Rank</th>
<th>Gas Day</th>
<th>MDth/d</th>
<th>Bcf/d</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1/17/2018</td>
<td>2,480</td>
<td>2,383</td>
</tr>
<tr>
<td>2</td>
<td>8/11/2016</td>
<td>2,402</td>
<td>2,304</td>
</tr>
<tr>
<td>3</td>
<td>8/28/2018</td>
<td>2,398</td>
<td>2,302</td>
</tr>
<tr>
<td>4</td>
<td>8/12/2016</td>
<td>2,300</td>
<td>2,210</td>
</tr>
<tr>
<td>5</td>
<td>1/16/2018</td>
<td>2,282</td>
<td>2,197</td>
</tr>
</tbody>
</table>
## TGP Winter Zones 5 & 6 Flows

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LDC</td>
<td>1,183</td>
<td>1,284</td>
<td>1,376</td>
<td>+7%</td>
</tr>
<tr>
<td>Power</td>
<td>326</td>
<td>266</td>
<td>246</td>
<td>-8%</td>
</tr>
<tr>
<td>Pipeline</td>
<td>1,480</td>
<td>1,488</td>
<td>1,560</td>
<td>+5%</td>
</tr>
<tr>
<td>Interconnects</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>2,989</td>
<td>3,038</td>
<td>3,181</td>
<td>+5%</td>
</tr>
</tbody>
</table>

Volumes are MDth/d
TGP Winter System Wide Power Demand

Deliveries by Zone

<table>
<thead>
<tr>
<th>Year</th>
<th>Zone 0</th>
<th>Zone 1</th>
<th>Zone 2</th>
<th>Zone 3</th>
<th>Zone 4</th>
<th>Zone 5</th>
<th>Zone 6</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014-2015</td>
<td>2</td>
<td>652</td>
<td>143</td>
<td>35</td>
<td>21</td>
<td>187</td>
<td>1,040</td>
<td></td>
</tr>
<tr>
<td>2015-2016</td>
<td>5</td>
<td>650</td>
<td>130</td>
<td>9</td>
<td>14</td>
<td>160</td>
<td>1,132</td>
<td></td>
</tr>
<tr>
<td>2016-2017</td>
<td>0</td>
<td>619</td>
<td>194</td>
<td>14</td>
<td>0</td>
<td>136</td>
<td>1,095</td>
<td></td>
</tr>
<tr>
<td>2017-2018</td>
<td>0</td>
<td>698</td>
<td>336</td>
<td>36</td>
<td>0</td>
<td>110</td>
<td>1,324</td>
<td></td>
</tr>
</tbody>
</table>

% Change:
- Zone 0: +21%
- Zone 1: +9%
- Zone 2: +3%
TGP Pooling Points Zones 5 & 6

200 Leg East - Zone 5 Pool
Re-name the existing 200 Leg - Zone 5 pooling point and re-locate to the discharge of Sta. 237
“Super Pool” for all receipt points in 200 Leg - Zone 5 – excluding the Niagara Spur

200 Leg East - Zone 5 Pool
New pool located at the discharge of Sta. 254
Restricted to receipt points east of Station 245 on the 200 Leg to the end of Zone 5 at the NY/MA Border

200 Leg South - Zone 6 Pool
Re-name existing 200 Leg - Zone 6 pooling point and re-locate to the discharge of Sta. 261
“Super Pool” for all receipt points in 200 Leg -Zone 6

200 Leg North Pool – Zone 6
New pool located at the discharge of Sta. 267.
Restricted to receipt points east of Station 267 on the 200 Leg to the end of Zone 6
TGP Winter Season OFOs – Zones 5 and 6

### Action Alert Days In Effect
- **2015/2016**: 0
- **2016/2017**: 4
- **2017/2018**: 1

### Critical Day 1 Days In Effect
- **2015/2016**: 0
- **2016/2017**: 29
- **2017/2018**: 3

### Days In Effect
- **2015/2016**: 59
- **2016/2017**: 25
- **2017/2018**: 58

### Balancing Days In Effect
- **2015/2016**: 5
- **2016/2017**: 5
- **2017/2018**: 0

### Days In Effect
- **2015/2016**: 5
- **2016/2017**: 6
- **2017/2018**: 0
TGP Scheduling Tools

- No delivery nominations allowed to Dracut
- No receipt nominations allowed at Mendon until ID1 (compared to EPSQ volumes)
- No delivery nominations allowed at Wright/Shelton until ID1 (compared to EPSQ volumes)
- Invalid nominations not allowed
- Limitations of Storage Services/Linepack Services
- No meter bounces allowed at power plants downstream (may be invoked)
- EPSQ invoked on meters as needed
- New restriction locations as needed
- Imbalance Warnings
- Monthly OFOs
- Daily OFOs
- Hourly OFOs
DART Winter Reminders

1. New DART Capacity Release Upload Feature

2. New Restriction locations may be implemented
   1. NOTE: New locations are stated in Restriction Notice

3. Monitor EBB for System and Maintenance Updates

4. Contract pathing should be determined – know exception pathing

5. Be conscious of suppliers’ priorities

6. After nomination submission, review priorities in Capacity Split Screen

7. The new SA priority will keep previously scheduled status (PS) like other firm services

8. Supply points associated with pools can be found on the TGP home page in Location Information
TGP Winter Readiness - Operations

• Scheduled Maintenance
  • All routine compressor station maintenance in the Market Area shall be completed by early November. Examples include:
    • Station/Unit Protective Devices
    • Compressor maintenance
    • Boroscope Inspections
    • Device Calibration/Testing
    • Test run units (as applicable)
  • All routine pipeline and meter station maintenance in the Market Area shall be completed by early November. Examples include:
    • Annual Valve Maintenance
    • Auto Closure Checks
    • Boiler Maintenance
    • Device Calibration/Meter Tests (Ongoing)

• Winter Event Preparation
  • Check/Test run emergency equipment (i.e. generators, heaters, etc)
  • Field Operations will be on site at key compressor stations during significant winter events.