<table>
<thead>
<tr>
<th><strong>Docket Number</strong></th>
<th>19-IEPR-09</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Project Title</strong></td>
<td>Southern California Energy Reliability</td>
</tr>
<tr>
<td><strong>TN #</strong></td>
<td>228352</td>
</tr>
<tr>
<td><strong>Document Title</strong></td>
<td>Reliability of the Natural Gas System in Southern California</td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td>Presentation by Rod Walker, Walker &amp; Associates</td>
</tr>
<tr>
<td><strong>Filer</strong></td>
<td>Raquel Kravitz</td>
</tr>
<tr>
<td><strong>Organization</strong></td>
<td>Walker &amp; Associates</td>
</tr>
<tr>
<td><strong>Submitter Role</strong></td>
<td>Public</td>
</tr>
<tr>
<td><strong>Submission Date</strong></td>
<td>5/21/2019 2:59:14 PM</td>
</tr>
<tr>
<td><strong>Docketed Date</strong></td>
<td>5/21/2019</td>
</tr>
</tbody>
</table>
BACKGROUND

- Thirty-four years of natural gas industry experience
  - Atlanta Gas Light Company (now Southern Company Gas)
  - Two Municipal gas systems
  - Consulting –Due diligence and assessment of over 50 gas utilities
  - Aliso Canyon Independent Review Team
  - CCST Storage Report writer
  - CEC Hydraulic Modeling Project support
  - Expert Witness-Rhode Island

- Engineering & Operations
  - System Design, Planning and Modeling
  - Replacement Programs
  - Reliability/System Improvements

- Management
  - Responsible for safe, reliable and economical natural gas service
• Reliability not mandated, regulated nor tracked in the natural gas industry unlike electric industry.
• Left up to each gas company to plan and implement improvements to ensure reliability of gas system to customers
• Trends recently show wide disparity of reliability in this country:
  • Critical infrastructure out of service for long period of time (SoCal Gas)
  • Significant customer outages (National Grid-Rhode Island)
  • Major pipeline back in service within weeks in middle of winter (Enbridge)
  • Major gasoline pipeline break back in service within a week (Colonial)
  • Operational Flow Orders (OFOs) usually found in peak times i.e. winter are occurring more frequently due to reliability issues (nationwide)
A GOOD OPERATOR KNOWS THEIR SYSTEM AND IS SEEKING TO CONSTANTLY IMPROVE ITS SAFETY AND RELIABILITY REGARDLESS OF WHETHER THE ACTIONS ARE REQUIRED

• Integrity Management
  • Set of regulations instituted after the San Bruno and Bellingham explosions in late 1990s
  • Planning and remediation work that gas utilities should have been doing all along
  • Initial baseline assessment required then reassessment every 7 years
  • Sophisticated internal “pigging” tools leave no reason for an operator not knowing the condition of their gas pipeline network

• Planning/Modeling
  • Pipeline data (historical and recent work history, inspections, leak, cathodic protection data) used to evaluate condition of pipeline for repair or replacement
  • Asset management approach being used more by gas companies to anticipate asset end of life to properly planning replacements
  • Hydraulic modeling used to check systems’ ability to handle peak events and system improvements
  • Plan ahead as improvements take time; build in redundancy
California is different than the rest of the country.

Rest of the Country-pipeline companies own pipelines and storage and local gas distribution companies own the gas distribution network

California-Gas distribution company owns them all

Issues with SoCal Gas Critical Infrastructure continue

- Line 235-2, out of service, ruptured 10/17; root cause external corrosion; return tentative 6/19
- Line 4000, out of service, delays in 2018, validation dig work to continue once line 235-2 back in service
- Line 3000, in service reduced pressure due to pipeline safety issues
- Aliso Canyon-2015 leak; well issues; slated for shut-down

Old pipelines with continuing issues reaching end of life

No redundancy for critical infrastructure i.e. only 1 pipeline (instead of 2) in same pipeline corridor for continuity of operations during planned or unplanned maintenance
• Why were these issues with the pipelines not discovered until recently (after the Aliso Canyon leak)?
  • Integrity Management requirements started in 2001; operator should have known the condition of the pipelines and made plans for repair or replacement
  • It appears that inline inspection tools were not used until 2010 when they were available 20 years prior and were competent to find issues
• Pipelines taking too long to bring back into service
  • National average is weeks/months not years for similar repair issues
  • Get pipelines back in service now
  • Limit repairs/replacement to hazardous issues
  • Expedite repairs to get back into service while planning for permanent replacements
  • Set validation digs off the informal inline inspection tool report vs. waiting for formal report
  • Permitting conditions should be accepted more quickly
• Hold SoCal Gas accountable for a definite back in service date; need transparent detailed weekly reports so public can know where project is on schedule weekly
• Take pipelines out of rate base that are not active until they are returned to service
• Inject LNG from Costa Azul to augment gas supply
• Reliability focus should be on pipelines not the Aliso Canyon storage field which has masked infrastructure issues in the past
• Does the State have the staff to adequately ensure SoCal Gas can meet its obligations to provide reliable, safe and economical natural gas service in California?
• Should SoCal Gas undergo a Management Audit to identify what area are working and what areas need improvement as performed routinely in other states i.e. Pennsylvania?