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RELIABILITY OF THE NATURAL GAS SYSTEM IN SOUTHERN CALIFORNIA

IEPR Energy Reliability in Southern California Workshop,
Diamond Bar, CA

May 23, 2019

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 OVERVIEW

NO SPECIFIC REGULATIONS SPECIFY
MINIMUM RELIABILITY STANDARDS FOR
NATURAL GAS SYSTEMS

- 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)

RELIABILITY BEST PRACTICES

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 plan replacements
 - Hydraulic modeling used to check systems’ ability to handle peak events and system improvements
 - Plan ahead as improvements take time; build in redundancy

RELIABILITY ISSUES IN CALIFORNIA

CALIFORNIA'S NATURAL GAS SYSTEM IS DIFFERENT THAN THE REST OF THE COUNTRY

- 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

POINTS TO CONSIDER

QUESTIONS AND IDEAS TO ENSURE SAFE,
RELIABLE AND ECONOMICAL NATURAL
GAS SERVICE FOR CALIFORNIANS

- 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

OTHER POINTS TO CONSIDER

QUESTIONS AND IDEAS TO ENSURE SAFE,
RELIABLE AND ECONOMICAL NATURAL
GAS SERVICE FOR CALIFORNIANS

- 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?