Natural Gas LDC Operations Efficiency

November 2017
Introduction

Large utilities with multiple natural gas local distribution companies (LDCs) are challenged with realizing the true cost benefits of leveraging best practices available across their systems

- In the last few decades, the energy sector has seen slow economic and demand growth and, in some cases, declining energy sales, leading many utilities to seek growth through acquisition
- As non-fuel costs and infrastructure replacement requirements continue to increase for gas LDCs, the need to identify operational efficiencies persist

Cost-reduction efforts often struggle because companies cannot easily compare operations and identify improvement opportunities across different LDCs or jurisdictions

- Standardization of gas LDC processes can create significant value, but how does a utility begin this effort?
  - How does the utility design an approach that allows visibility into each LDC’s workload and comparison across them?
  - How does the approach “objectively” identify the best practices that exist, promote adoption, and achieve operational improvements across the companies?
  - How does the utility make this approach sustainable and repeatable?
- Companies that are able to do this successfully and repeatedly can immediately cut costs, increase margins, and position themselves to be the most competitive going forward

ScottMadden understands this challenge and has partnered with clients to deliver a repeatable process that allows a utility to identify and implement efficiencies and best practices across its gas LDCs.
Workload-Based Assessment

Philosophy of approach
- Workload drives cost, signals process differences, and is free of labor rate differences
- If you want to improve efficiency, you must improve workload volumes (units) or efficiency (unit rates)
- Normalizing workload with work volumes allows true benchmarking

An effective workload-based assessment includes several key tenets:
- Define the workload categories; compare categories across all LDCs to identify and resolve differences
- Identify and sanction differences in workload due to true volume drivers
- Use unit rates to identify the best practices among the LDCs
- Apply a line management/peer group ownership model; have decisions and recommendations created by teams that own the function, not third-party analysis
- Raise issues for challenge to break through local preference
- Separate identification of opportunities from decisions on how to best use benefits
- Review and challenge recommendations at multiple levels

Example – Workload Categories

<table>
<thead>
<tr>
<th>Main Construction and Replacement</th>
<th>Preventive Maintenance</th>
</tr>
</thead>
<tbody>
<tr>
<td>New construction</td>
<td>Leak surveys</td>
</tr>
<tr>
<td>• Mains</td>
<td>• Transmission main</td>
</tr>
<tr>
<td>• Services</td>
<td>• Distribution main</td>
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<tr>
<td>Replacement</td>
<td>• Services</td>
</tr>
<tr>
<td>• Mains</td>
<td>• Outside meters</td>
</tr>
<tr>
<td>• Services</td>
<td>• Inside meters</td>
</tr>
<tr>
<td>Restoration/paving</td>
<td>Valve inspection</td>
</tr>
<tr>
<td>Project management</td>
<td>Distribution regulator station inspection</td>
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<tr>
<td>Construction oversight</td>
<td>Cathodic protection inspections</td>
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<td></td>
<td>• Field testing</td>
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<td></td>
<td>• Rectifier checks</td>
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<td>Bridge crossing inspections</td>
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<td></td>
<td>Damage prevention</td>
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<td></td>
<td>Frost survey</td>
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<td></td>
<td>Right-of-way patrol</td>
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Supervision/Management

Administrative
Approach

ScottMadden has developed a comprehensive approach to identify best practices and efficiency opportunities across natural gas LDCs.

The workload-based assessment process is based on ScottMadden’s philosophy that long-term savings cannot be achieved without first making real changes to workload (volumes or efficiency rate)

- The approach includes a series of key workshops, with fact-finding assignments between each workshop, and relies on the teams—compromised of representatives from each LDC—to evaluate workload and identify efficiency opportunities
- This process leverages functional owners and creates a learning environment for the teams
Vertically Integrated Utility Case Study

In 2017, a large, vertically integrated utility with multiple natural gas LDCs used this ScottMadden approach to perform a gas efficiency study. The teams, comprised of representatives from each of the LDCs and central functional area management, achieved the following:

- Identified saving opportunity of more than 10% – all based on associated changes to workload volumes and efficiency through process and technology changes
- Developed initiative charters as part of implementation planning
- Presented to senior management for review and challenge
- Gained senior management decision on which recommendations to move forward with, as well as decisions on how to use improvements—harvest savings or redeploy to more important activities

Opportunities helped the client to:

- Gain alignment on utility standards and how to close the gaps within the LDCs
- Achieve cost reductions, efficiencies, and operational improvements across all LDCs
- Develop consistency in strategic goals and facilitate meaningful tracking and measuring of KPIs
- Efficiency examples:
  - Preventive Maintenance – Improved main and services surveys, leveraging new process and technology
  - Corrective Maintenance – Right staffing of crews for optimal performance
  - Engineering – Gas planning alignment through technology and standards
  - Odor Response – Redefining the role of a first responder
  - Main Replacement – Enhancements on construction contractor management
  - Gas Plant – Enhancing preventive maintenance routines and practices
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