Public Safety and Emergency Planning

Andrew Lu
VP, Operations & Engineering Services
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AGA
American Gas Association

Overview of American Gas Association

- AGA was founded in 1918 and represents over 200 investor-owned utilities who deliver natural gas to more than 73 million customers in the United States.
- Our Operating Section is comprised of 16 technical committees and a Managing Committee
- Mission of the Operating Section: **AGA's Operations and Engineering group provides products and services that support member companies in achieving operational excellence in the safe, secure, efficient, reliable and environmentally friendly delivery and use of natural gas. The group advocates on behalf of the membership - promoting a favorable business, regulatory, legislative and operating environment for natural gas utilities.**

General Thoughts

- PHMSA just promulgated the final rule for Rupture Mitigation Valves on April 8. AGA believes the rule meets the intent of Congress in the Pipeline Safety Reauthorization legislation.
- The concept of using automated shutoff valves on the transmission system is not new to the natural gas industry. AGA members have been proactively installing automated valves on new and full replacements since 2012 under its Commitment to Enhancing Safety.
- https://www.aga.org/globalassets/safety--standards/commitment_to_enhancing_safety_february2016.pdf

General Thoughts (continued)

- Automated valves have also been installed prior to 2012 on transmission pipelines systems at gate stations and on select pipeline segments.
- Retroactively installing a RCV or ASV on an existing pipeline is much more complex and costly than installing one on a new pipeline.
- There is an additional cybersecurity risk that RCVs introduce that manual valves do **not have**.
- ASVs and RCVs only work when a rupture is downstream of a valve.

§ 192.935 What additional preventive and mitigative measures must an operator take?

(a) General requirements. An operator must take additional measures beyond those already required by Part 192 to prevent a pipeline failure and to mitigate the consequences of a pipeline failure in a high consequence area. An operator must base the additional measures on the threats the operator has identified to each pipeline segment. (*See* § 192.917) An operator must conduct, in accordance with one of the risk assessment approaches in ASME/ANSI B31.8S (incorporated by reference, *see* § 192.7), section 5, a risk analysis of its pipeline to identify additional measures to protect the high consequence area and enhance public safety. Such additional measures include, but are not limited to, installing Automatic Shut-off Valves or Remote Control Valves, installing computerized monitoring and leak detection systems, replacing pipe segments with pipe of heavier wall thickness, providing additional training to personnel on response procedures, conducting drills with local emergency responders and implementing additional inspection and maintenance programs.

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(c) Automatic shut-off valves (ASV) or Remote control valves (RCV). If an operator determines, based on a risk analysis, that an ASV or RCV would be an efficient means of adding protection to a high consequence area in the event of a gas release, an operator must install the ASV or RCV. In making that determination, an operator must, at least, consider the following factors - swiftness of leak detection and pipe shutdown capabilities, the type of gas being transported, operating pressure, the rate of potential release, pipeline profile, the potential for ignition, and location of nearest response personnel.

The incremental benefit from rupture control valves has been studied previously….

- GAO Report from 2013:

https://www.gao.gov/assets/gao-13-168.pdf

"Better Data and Guidance Needed to Improve Pipeline Operator Response"

- PHMSA Report from 2012, published by Oak Ridge National Lab:

https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/docs/technical-resources/pipeline/16701/finalvalvestudy.pdf

"Studies for the Requirements of Automatic and Remotely Controlled Shutoff Valves on Hazardous Liquids and Natural Gas Pipelines with Respect to Public and Environmental Safety"

Costs of Retro-installation

- Described on pages 22-23 of AGA publication (corresponding to pages 32-33 of PDF)
  - -$100K to $1.5M for replacement of a manual valve
  - -$200K to $2.0M where there is no manual valve
- Several variables influence the actual cost, which range greatly for different pipelines

A Legitimate Cybersecurity Risk

- The industry is challenged with protecting its control systems from cyberterrorists.
- SCADA systems are particular targets for a cyber attack.
- The possibility of losing control of remote control valves is a genuine fear for pipeline operators.
- Manual valves and ASVs do not have a cyber risk.

Thank You for your attention.

Questions?