PHMSA Large Excess Flow Valve Study
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AGA Background

- Founded in 1918
- Represents over 200 local energy companies that deliver natural gas throughout the U.S.
- There are nearly 70 million residential, commercial and industrial natural gas customers in the U.S.; 92% receive their gas from AGA members.

The AGA Operating Section

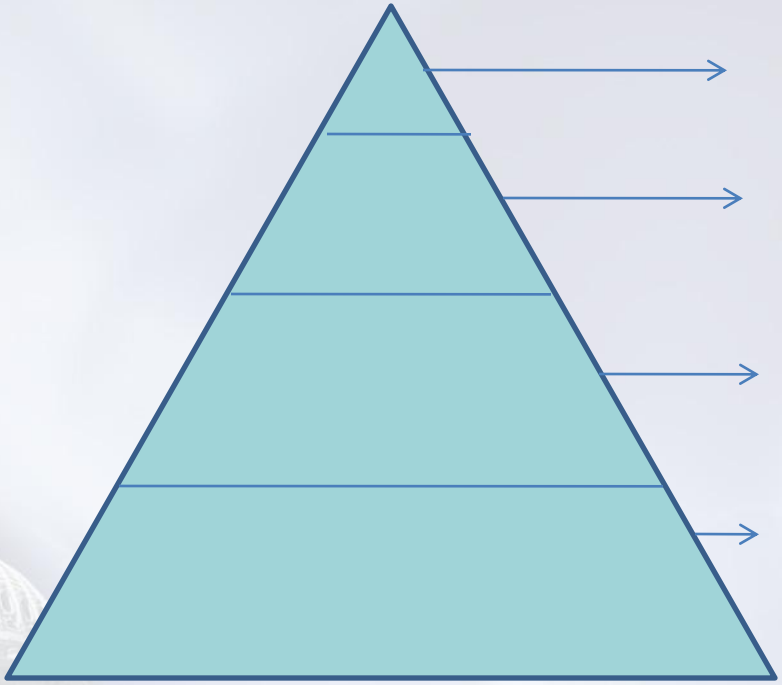
16 Technical and Advocacy Committees and a Managing Committee Focused on operational excellence in the safe, reliable and efficient delivery of natural gas

- Building Energy Codes & Standards
- Environmental Matters
- Gas Control
- Safety & Occupational Health
- Distribution Measurement
- Transmission Measurement
- Corrosion Control
- Underground Storage
- Utility & Customer Field Service
- Distribution Construction & Maintenance
- Distribution & Transmission Engineering
- Plastic Materials
- Supplemental Gas
- Natural Gas Security
- Operations Safety Advocacy
- Environmental Advocacy
- Managing Committee

DIMP Phase 1 Report Position on EFVs

- Concluded that excess flow valves (EFVs) can be a valuable risk mitigation tool
- When properly specified and installed, EFVs function as designed;
- EFVs successfully terminate gas flow in some accident conditions and only rarely malfunction to prevent flow.
- Guidance would be useful concerning the conditions under which EFVs are not feasible
- As part of its DIMP plan, an operator should consider the mitigative value of excess flow valves (EFV)s

EFV Safety Triangle



Service line break (large gas release)

Gas release and accumulation above the lower explosion limit

Gas release and detection below the lower explosion limited. Class 3 leaks

Gas emission that can be eliminated with tightening or lubrication
(Not considered a leak per DOT reporting)

AGA Position on Single Family Dwellings EFVs

- Supported Pipeline 2006 Safety Act mandate
- Urged member companies to voluntarily install EFVs, rather than wait for a final Distribution Integrity Management Final Rule
- Almost 100% of AGA members voluntarily installed residential EFVs
- Support PHMSA position on EFVs for branch services

AGA Position on Branch Services

- Support PHMSA position that installation is not required by the Pipeline Safety Act of 2006
- Operators should analyze their service line designs to determine the appropriateness of EFVs on branch services
- Branch services may require increase service line diameters for EFV installation
- Complexity increases when new home added to a service with an existing EFV.

AGA Position on Multi-family Dwellings

- The term multi-family dwelling is problematic because of the wide variation
  - Duplex with 3,000 sq ft is like a single family home
  - A four-plex of 6,000 sq ft requires special engineer for EFV installation
  - A 20-unit apartment complex can have many gas supply configurations

AGA Position on Commercial Facility EFVs

Technically feasible, but impractical in many cases for the reasons listed below.

- Minimal operator experience
- Design specs more complex for varying loads. (i.e.; 300, 400, 600, 700, 1800 cfh …)
- Increased loads from additional equipment may required upsizing of EFV
- Customer costs to change EFVs installed under paving
- Safety concerns from excavations
- Shutting down commercial services
- Are periodic inspections required for commercial and industrial EFVs? Are vaults required?

AGA Position on Industrial Facility EFVs

Technically feasible, but usually not practical for the reasons listed below.

- Minimal operator experience
- Extremely complex design specifications
- Increased loads from additional equipment may required new EFVs
- Safety concerns from EFV shutdown of chemical plant, steel mill, etc
- Shutdown decisions should be controlled by industrial facility operators
- Are periodic inspections required for commercial and industrial EFVs? Are vaults required?

DIMP GPTC Guidance on EFV Installation

- Gas Piping Technology Committee has members from industry, the public, government, and manufacturing
- GPTC follows the ANSI consensus process
- DIMP Guidance Appendix published May 2009
  (Before the final rule)
- AGA believes the GPTC guidance for risk-based expanded use of EFV is consistent with the NTSB safety recommendation

DIMP GPTC Guidance on EFV Installation

Threats		Examples of Possible A/A Actions
Primary	**Subcategory**	
CORROSION	External corrosion: •Bare steel pipe (CP)…	- Increase frequency of leak surveys…..
NATURAL FORCES	Outside force/weather: (e.g., earth movement, lightning, heavy rains/floods, temperature extremes, high winds) •Steel pipe •Plastic pipe •Cast iron pipe	- Relocate pipe from high risk locations. - Replace pipe in high risk locations. - Install slip or expansion joints for earth movement. - Install strain gages on pipe. - Install automatic shut-offs. - **Expand the use of excess flow valves.** - Conduct leak survey after significant earthquake or other event.

DIMP GPTC Guidance on EFV Installation

Threats		Examples of Possible A/A Actions
Primary	**Subcategory**	
EXCAVATION DAMAGE	• Third-party damage • Operator damage	- Conduct enhanced awareness education. - Request regulatory intervention. - Inspect targeted excavation and backfill activities. - Inspect for facility support. - Improve accuracy of line locating. - Participate in pre-construction meetings with project engineers and contractors in high-risk areas. - Use warning tape. - **Expand the use of excess flow valves**. - Improve system map accuracy and availability. - Recruit support of public safety officials (e.g., fire department). - Install additional line markers.

DIMP GPTC Guidance on EFV Installation

Threats		Examples of Possible A/A Actions
Primary	**Subcategory**	
OTHER OUTSIDE FORCE DAMAGE	Fire/explosion (primary)	- Provide first responder training. - Install curb valves. - Improve response capability. - **Expand the use of excess flow valves.**
	Vehicular	- Expand policy on when and how to install protection. - Increase frequency of patrols/inspections of high-risk facilities. - Evaluate the need to relocate hard-to-protect facilities. - **Expand the use of excess flow valves.**

AGA Position on Large EFV Study

- Review EFV technical information
- Consider typical operator expertise
- Avoid speculation about specific or possible incidents
- Review consensus position in GPTC DIMP guidance
- Consider costs and benefits
- Consider potential unintended consequences

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