MINNESOTA
PUBLIC UTILITIES COMMISSION

MEMO

Date: March 18, 2019

To: Assistant Commissioner Katherine Blauvelt
Minnesota Department of Commerce, Division of Energy Resources

From: Commissioner John Tuma
Minnesota Public Utilities Commission

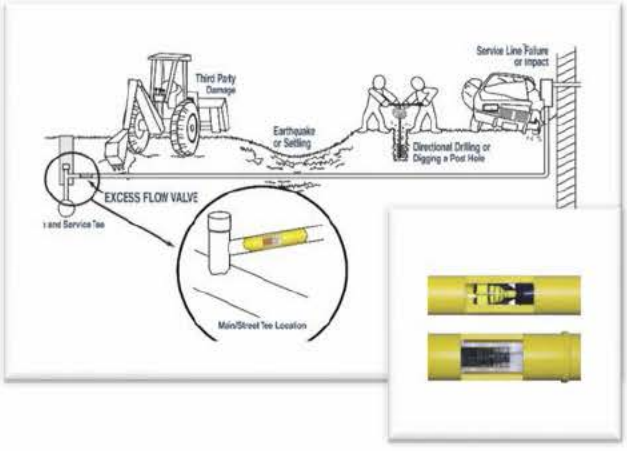
RE: Gas Utility Installation of Excess Flow Valves and Manual Service Line Shutoff Valves

As promised in our recent meeting I was going to provide you with a little background history on the Commission's recent order on August 20, 2018, in Docket No. G-999/CI-18-41 requiring modifications to all of our state's natural gas utilities practices and tariffs around the installation of excess flow valves (EFVs) and manual service line shutoff valves within the natural gas distribution system.

Description

First, it may be beneficial to get a better contextual understanding of the recent activities by getting an image of the role these two very basic critical safety devices play on our natural gas distribution system.

Excess Flow Valves – Excess Flow Valves (EFVs) are safety devices installed on natural gas distribution pipelines near the main as the distribution line branches off to a customer's residence or business. EFVs can reduce the risk of explosions in distribution pipelines by automatically recognizing and stopping excessive, unplanned gas flows.



Manual Service Line Shutoff Valves – Commonly known as Curb Valves, they are also installed near the main prior to the distribution line branching to a customer, but are different from EFVs in that it requires an operator to open an access hatch and manually close the valve prior to any service on the line or in the case of an emergency.

History

The establishment of the present federal regulations around EFVs and Curb Valves arose out of a conflict between two federal agencies along with a couple congressional interventions. The National Transportation Safety Board (NTSB) is an independent Federal agency charged by Congress with investigating every civil aviation accident in the United States and significant accidents in other modes of transportation – railroad, highway, marine and *pipeline*. The NTSB does not set pipeline safety standards, but rather investigates the causes of major pipeline instances, but in that investigatory authority they sometimes will recommend to regulatory agencies possible changes to regulations. The natural gas pipeline safety standards are set by the Pipeline and Hazardous Materials Safety Administration (PHMSA) within the US Department of Transportation.

As a result of repeated investigations of natural gas explosions, the NTSB started to advocate for the use of EFVs on gas service lines for schools and other buildings where large numbers of people gather starting in the early 1980s. Despite the recommendations, PHMSA's predecessor did not create any regulations requiring EFVs. Consequently, the NTSB included expanded use of EFVs on their August 1990 list of Most Wanted Safety Improvements. On March 6, 1996, as a result of its investigation of a June 9, 1994, natural gas explosion in Allentown, Pennsylvania, the Safety Board wrote to the governors of all 50 states and the District of Columbia asking that they require gas distribution operators to install EFVs in all new or replaced gas service lines when operating conditions are compatible with commercially available valves (Safety Recommendation P-96-3). Of the States that replied, most advised that they intended to follow the lead of RSPA (PHMSA's predecessor) and they had no plans to require the installation of EFVs despite multiple events where EFVs could've saved lives according to the NTSB.

PHMSA's predecessor did issue a final rule regarding EFVs on February 3, 1998, that gave the option to gas distribution operators to install EFVs on new or replaced single-residence service lines. If the local distribution company did not install EFVs they could inform customers of the availability and benefits of EFVs and install them if the customer agrees to pay for their installation and maintenance. This action led to very little penetration of EFVs onto the distribution lines.

Sadly, it took another tragedy in South Riding Virginia on July 7, 1998, to finally start galvanizing regulatory action concerning EFVs. David and Andrea Jacobs, along with their two children Amy (12) and Elijah (6), were spending the first night in their new dream home. Unbeknownst to them natural gas started to collect in their basement seeping into the space that held the sump pump. Just after midnight the gas ignited completely flattening the home. The two children were blown out the front windows of their second-floor bedroom flying some 75 feet through the air landing in the neighbor's lawn across the street, amazingly only suffering minor injuries. Their father David was critically injured in the wreckage. Tragically, their mother Andrea was killed in the explosion.

The NTSB investigation found the explosion likely would not have occurred if an EFV had been installed on the service line leading to the Jacobs' home. They had determined that the flow prior to the buildup of gas and explosion were 5 times that which would have tripped most EFVs on the market at the time. As a result of its investigation, on June 22, 2001, the NTSB issued Safety *Recommendation* P-01-2, recommending that PHMSA "*require* that EFVs be installed in all new and renewed gas service lines, regardless of a customer's classification (*i.e.,* not just lines serving single-family residences), when the operating conditions are compatible with readily available valves."

By the end of 2005 PHMSA developed only a report extolling the "mitigative value of EFVs". As a result, in 2006 Congress intervened by passing the Pipeline Inspection, Protection, Enforcement, and Safety Act (2006 Act), which required the Department of Transportation to promulgate minimum standards for integrity management programs for distribution pipelines. The 2006 Act mandated minimum standards requiring the installation of EFVs on all newly installed or replaced service lines serving single-family homes. In 2009, the Pipeline and Hazardous Materials Safety Administration (PHMSA) within the Department of Transportation finally amended pipeline safety regulations, specifically 49 C.F.R. § 192.383, to include the EFV mandate from the 2006 Act (2009 Rule).

In January 2012, Congress followed up by enacting the Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011. The 2011 Act mandated that PHMSA require installation of EFVs on new and replaced lines beyond single-family homes if economically, technically, and operationally feasible.

In October 2016, PHMSA again amended 49 C.F.R. § 192.383 to require that natural gas utilities install an EFV on an existing service line if a customer requests one, and left it up to the "operator's rate-setter" to determine how the costs of installation should be allocated. PHMSA also required natural gas utilities to notify customers of their right to request an EFV, including specific requirements for the notice. Lastly, PHMSA expanded the requirement to install EFVs to include new or replaced lines serving multifamily homes and small commercial customers.

Up until this time, EFV tariffs had not been closely scrutinized by the Commission since they were viewed as a safety device within the sphere of PHMSA and the Minnesota Office of Pipeline Safety (MNOPS). With the new 2016 language clearly leaving it to state utility commissions to determine the cost of installation, on January 29, 2018, the Minnesota Commission chose to commence an

extensive investigation into each of our gas utilities tariffs and customer notices as it related to EFVs (Docket No. G-999/CI-18-41). It was also determined by the Commission that curb valves could play a significant role in safety similar to the installation of EFVs and included them in the investigation.

This investigation was spurred on by the tragic explosion at Minnehaha Academy on August 2, 2017. The final NTSB report is not complete yet, but the preliminary report indicated that the extensive explosion was caused because a "full flow natural gas line at pressure was opened". This is the very exact situation EFVs and curb shut off valves were intended to prevent.

Similarly, a home in the older Railroad Island neighborhood of St. Paul exploded on November 23, 2018, in a fashion similar to that which occurred at South Riding Virginia two decades earlier.

Commission Action

Upon completion of the investigation of each of the utilities tariffs and notice plans the Commission issued an order on August 20, 2018. The Commission ordered each of the state's larger gas utilities to do the following –

- The utilities shall modify their EFV customer notices to clarify that once an EFV is installed, there is no cost to the customer to maintain it.
- Upon an EFV being installed upon a customer's request, the customer shall pay only for the costs of excavation and surface restoration related to the installation of the EFV.

- Within 120 days of this order, the regulated natural gas utilities shall report the status of EFV and curb valve installation, per customer class, throughout their service territories, recognizing that this might not be the entire service territory. The report shall include an estimate of the percentage of the utility's service territory that has EFVs and curb valves installed, and the utility's plan and timeline for completing the installation of EFVs and manual service line shutoff valves for the remainder of the utility's service territory.
- As part of the reports described above, each gas distribution utility that does not already have EFVs and manual service line shutoff valves on the entirety of its system shall establish a plan to identify and hold face-to-face meetings with the decision-makers of the following customers:
    - K-12 public districts with school buildings in the utility's service territory;
    - K-12 non-public schools with school buildings in the utility's service territory;
    - Public and private universities and colleges;
    - Hospitals; and
    - Multi-unit residential and nursing facilities
    - Within 120 days of this order, each gas distribution utility is required to establish and file a plan to have face-to-face meetings with the decision-maker of the customers identified above, eligible under the Federal standard for EFVs, regarding the purpose of EFV and manual service line shutoff valves, along with the utility's installation policy, and estimated costs. After receipt of this compliance filing, the Commission's Executive Secretary will establish a schedule for comments and Commission approval.
    - The utility may propose in this compliance filing another method for limiting the visits to non-public schools, universities and colleges, and multi-unit residential and nursing facilities based on a size metric. The gas utility may propose as part of the plan, a recovery mechanism for the additional requirements of this order, which may include deferring costs to a regulatory account to be addressed in its next rate case or through its GUIC or another appropriate rider.
- The Commission's orders and future notices on the compliance filings in this docket shall be mailed to the Minnesota Association of School Administrators, Minnesota School Boards Association, Minnesota Association of Independent Schools, President of the University of Minnesota, Chancellor of the Minnesota State Colleges and Universities, the Minnesota Private College Council, Minnesota Hospital Association, Minnesota State Fire Chiefs Association, and League of Minnesota Cities.

Responses from the Utilities

On February 28, 2019, the Minnesota Department of Commerce, Division of Energy Resources, did an excellent job of summarizing the responses of each of the utilities existing deployment of EFVs and curb shut off valves. (See link below)

Each of the utilities will be commencing a strategy to communicate with customers in the near future on their EFV and Curb Valve Tariffs, but the utilities made it clear that they are not going to institute any additional efforts to install the safety devices on existing facilities beyond the federal regulations. Therefore, customers fully understanding and making informed decisions on the safety devices is going to be critical. In particular, for customers such as schools and other buildings where large numbers of people gather. The cost to install an EFV is right around $1000 with the actual component only costing around $50. Most of the cost is in the labor and excavation cost to install on an existing line. This may be prohibitive for most residential customers, but from a safety perspective, it might be essential for buildings where large numbers of people gather such as schools, day cares, hospitals etc.

Therefore, a state agency like DOC, that is far more suited than the Commission, may find it within their mission to promote the installation of EFVs and curb valves. It would be wise to do this at the same time utilities are obligated to provide notice to their customers over the next couple of years pursuant to the Commission order. Having a dedicated public servant reaching out and acting as an advocate for the public interest in this area may save lives by hopefully avoiding any other Minnehaha Academy tragedies. Despite the 2011 Act mandating the installation of EFVs and curb valves on new and replaced lines beyond single-family homes if economically, technically, and operationally feasible, the actual installation for our utilities is generally less than 10% of these customers.

Further, there is also the possibility of creating a matching grant program that would encourage the installation of these safety devices for public entities like hospitals and schools. This further incentive would likely drive greater penetration on the distribution system by helping to reduce cost barriers for public entities. The Commission has carefully designed each of the tariffs so that customers are only paying for truly additional cost when installing an EFV or curb valve. The Commission also made sure that cost of the valves are socialized and essentially capped the cost of the excavator. Nonetheless, such a grant program could make a significant difference and could be funded through the regular utility assessment mechanism for the Department of Commerce. That would hopefully make it easier to get a legislative appropriation than trying to tap the general fund if DOC were to seek grant funding in the next legislative session.

Let me know if you have any questions.

References

NTSB Final report NTSB South Riding Virginia on July 7, 1998. Adopted June 1, 2001: https://www.ntsb.gov/investigations/AccidentReports/Reports/PAR0101.pdf

Washington Post article of the South Riding Virginia explosion on July 7, 1998: https://www.washingtonpost.com/archive/politics/1998/07/08/blast-in-new-home-kills-woman/5ef75bcd-c549-4a80-8494-e5a7adf10680/?utm_term=.b26396296fdd

NTSB Preliminary Report Pipeline Gas Explosion Minnehaha Academy August 2, 2017: https://www.ntsb.gov/investigations/accidentreports/pages/DCA17MP007-prelim-report.aspx

Federal Registry. A Rule by the Pipeline and Hazardous Materials Safety Administration on 10/14/2016 for 49 CFR 192.383 : https://www.federalregister.gov/documents/2016/10/14/2016-24817/pipeline-safety-expanding-the-use-of-excess-flow-valves-in-gas-distribution-systems-to-applications

The August 20, 2018 Commission *Order Finding that Excess Flow Valves Comply with Federal Regulations and Taking Other Actions* (Docket No G999/CI-18-41): https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&documentId={D0735765-0000-C415-9346-FB6AD744A50E}&documentTitle=20188-145857-01

Comments of the Minnesota Department of Commerce, Division of Energy Resources in Docket No. G999/CI-18-41(February 28, 2019): https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&documentId={C0F93469-0000-C316-B279-3997449FC457}&documentTitle=20192-150727-01