California Public Utilities Commission

Status of Compatible Emergency Response Standards For Gas Operators Report

Pursuant to Senate Bill 44 and Public Utilities Code Sections 956(d)(1) and (d)(2)

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EXECUTIVE SUMMARY

California Public Utilities Code sections §§ 956(d) (1) and (d) (2), established by Senate Bill (SB) 44 (Corbett) on October 7, 2011, require the California Public Utilities Commission (Commission) to report to the Legislature on the status of establishing compatible emergency response standards to ensure that owners and operators of intrastate gas pipelines jurisdictional to the Commission have emergency response plans that adequately prepare them to minimize injury to human life and property during natural disasters or emergencies. The emergency response plans provide the State Fire Marshal and the chief fire official of the applicable local government with instructions on how to access and utilize the National Pipeline Mapping System (NPMS) to improve local pipeline emergency response capabilities.

On February 24, 2011, the Commission opened an Order Instituting Rulemaking (R.) 11-02-019 as a "forward-looking effort to establish a new model of natural gas pipeline safety regulation applicable to all California pipelines" (R.11-02-019, at 1). As part of that effort, The Assigned Commissioner, Commissioner Michael Peter Florio, directed the Commission's Safety and Enforcement Division (SED)[1] to begin an examination of how Commission-regulated natural gas operators[2] currently interact with emergency response authorities and to identify how these interactions can be improved.

SED's mission is to ensure that regulated services are delivered in a safe, reliable manner. SED works diligently on the safety of existing natural gas pipeline infrastructure and identifies areas where public safety requires effective cooperation between natural gas operators and emergency responders. In September 2011, SED conducted a two-day workshop on Natural Gas Emergency Response Planning at the Commission's San Francisco office. The agenda for the workshop was broadly distributed to federal, state, and local fire, law enforcement and emergency response agencies and associations. Approximately 40 industry and public safety experts, government officials, Commission staff, and members of the public attended in person with others viewing

[1] At the time of the opening of the R. 11-02-019, the Safety and Enforcement Division was called Consumer Safety and Enforcement Division (CPSD). The Division was renamed in January of 2013.

[2] The Commission regulates natural gas utility service for approximately 10.7 million customers that receive natural gas from Pacific Gas and Electric (PG&E), Southern California Gas (SoCalGas), San Diego Gas & Electric (SDG&E), Southwest Gas, and several smaller natural gas utilities.

via an Internet webcast. The workshop facilitated communications between gas utilities and first responders and explored ways current processes could be improved to allow for better interaction and coordination during emergencies. Through comments and recommendations made at the workshop, SED identified three critical areas for improvement in emergency response standards:

- Infrastructure and Mapping
- Communications
- Training

These areas are described in further detail in this status report and are being implemented by the Commission in R.11-02-019 and other relevant proceedings.

The Commission is committed to working with the other agencies in California, as well as the general public, to establish a leading emergency response program that can serve as a model for other states. By partnering with the State Fire Marshal, the California Emergency Management Agency (Cal EMA), local fire and law enforcement, emergency response agencies and associations, and members of the public, the Commission is able to lead the utilities in how to best support emergency response efforts and play a key role in ensuring the safety of communities in California. This reports is a brief summary of the initial steps undertaken by the Commission, with ongoing efforts being made to drastically change the approach to safety and integral emergency response process.

STATUTORY AUTHORITY

The Commission regulates the safety of approximately 107,000 miles of intrastate propane and natural gas distribution main pipelines and 9,800 miles of natural gas transmission pipelines in California pursuant to the provisions of Public Utilities Code (PU Code) and certification submitted pursuant to Section 60105 of Title 49 of the United States Code and approved by the United States Secretary of Transportation. On October 7, 2011, SB 44 added Chapter 4.5 (commencing with Section 950) to Part 1 of Division 1 of the PU Code, requiring the Commission to establish compatible emergency response standards to ensure that owners and operators of intrastate pipelines jurisdictional to the Commission have emergency response plans that adequately prepare them towards minimizing injury to human life or property during natural disasters or facility malfunctions.

Through Article XII of the California Constitution and §701 of the PU Code, the Commission has broad regulatory authority. Section 701 authorizes the Commission to "supervise and regulate every public utility in the State […] and do all things, whether specifically designated in [the Public Utilities Act] or in addition thereto, which are necessary and convenient in the exercise of such power and jurisdiction."

Title 49, Code of Federal Regulations (49CFR), Part 192 specifies regulations for gas operators to prepare and implement written emergency plans, liaison with local first responders, and for the large gas operators, to prepare and implement written Public Awareness Programs which provide information, including the availability of NPMS to first responders on an annual basis. These requirements, contained in 49CFR §§ 192.615 and 192.616, are referenced and adopted by the Commission's General Order 112-E and are part of state law. The Gas Safety and Reliability Branch of SED inspects operators to confirm compliance with these requirements.

BACKGROUND AND DISCUSSION

Gas pipelines serve a vital role in transporting natural gas and propane used as fuel to heat homes and businesses, manufacturing and for electric generation purposes. Due primarily to their abundance, reliability of supply, and lower impact on the environment than other fossil fuels, propane and natural gas have been, and continue to be, major components in the development and prosperity of the State of California. Therefore, it is imperative that California's intrastate gas transportation systems be maintained and operated to provide continual, reliable supplies of fuel commodities in a manner that ensures the safety of the public. This also requires that if and when accidents do happen, emergency responders should have the information and knowledge necessary to provide a well-planned, coordinated response where the resources of the first responders and pipeline operators are most effectively used to limit injuries, loss of life, and property damage.

On September 9, 2010, a Pacific Gas and Electric Company (PG&E) owned and operated 30-inch natural gas transmission line ruptured and ignited in San Bruno, California, causing the death of eight people, injury of many others, and destruction of an entire neighborhood. Preliminary findings from investigations that began as the incident in San Bruno was unfolding raised concerns about PG&E's early knowledge of the role of its pipeline facilities in the incident, the length of time it took the company to isolate the location of the failure and stop gas flow, the knowledge the first responders had of other nearby gas pipeline facilities, and the coordination between the first responders and PG&E in obtaining real-time information to enable first responders to access the damaged areas.

SB 44, introduced on December 8, 2010, and enacted as **the Natural Gas Pipeline Safety Act of 2011** by the California Legislature on October 7, 2011, requires the Commission to open an appropriate proceeding or expand the scope of an existing proceeding by July 1, 2012, to establish compatible emergency response standards, defined by SB 44 as "…emergency response standards…that are in addition to, or more stringent than, the minimum safety standards…the commission is authorized to adopt…" pursuant to federal government's adopted minimum levels.

CPUC PROCEEDINGS TO ADDRESS COMPATIBLE EMERGENCY RESPONSE STANDARDS

In response to the PG&E pipeline rupture in San Bruno on September 9, 2010, the Commission took a number of timely steps to both investigate the incident and quickly apply lessons learned in order to prevent this kind of tragedy from happening again. One of those steps was opening of a new rulemaking to set new rules for the safe and reliable operation of natural gas pipelines in California. On February 24, 2011, the Commission opened Order Instituting Rulemaking (R.) 11-02-019 as a "forward-looking effort to establish a new model of natural gas pipeline safety regulation applicable to all California pipelines," to consolidate and coordinate efforts establishing new regulations applicable to all California gas pipelines jurisdictional to the Commission.

The scope of rulemaking R. 11-02-019 is expansive and its objectives included consideration and implementation from the Independent Review Panel that investigated the San Bruno incident. Among its objectives, this proceeding sought to confirm the integrity of gas pipelines, examine the need for the installation of automated valves, and "expand the Commission's emergency and disaster planning coordination with local officials."

While there is a wide range of issues being addressed in this proceeding that are beyond the scope of this report, the key scope items are as follows:

- Development of Pipeline Safety Enhancement Plans, which focus on the testing and replacement of aging pipeline infrastructure
- Development of Gas Safety Plans, which document utility policies and procedures regarding safety and include emergency response planning
- Improvement and expansion of Commission rules governing pipeline safety

A brief summary of activities in these three areas is provided below in order to set the overall context for the emergency planning process.

R. 11-02-019: Pipeline Safety Enhancement Plans

On June 16, 2011, the Commission issued Decision (D.) 11-06-017 requiring all gas transmission pipeline operators to file implementation plans to test or replace gas pipelines that could not be adequately confirmed as having been pressure tested to modern standards. The operators were also required to include plans for the installation of automated valves, and related telemetry equipment, to provide real-time knowledge related to pressures and flows on their systems, and to enable operators to isolate line ruptures occurring in densely populated, high consequence areas.

All intrastate gas transmission pipeline operators subject to D.11-06-017 filed implementation plans and hearings have been held to discuss the utility proposals contained in their respective plans. In regard to automated valves, it is the Commission's intent that transmission pipeline operators be able to quickly stop gas flow from pipeline leaks or ruptures. The Commission also expects operators to improve their ability to pinpoint the locations of significant line events, calculate and determine when gas flows will cease, and be able to convey this information to first responders. The PG&E Pipeline Safety Enhancement Plan was approved December 20, 2012, and the Commission is in the process of making decision on the Pipeline Safety Enhancement Plans filed by other utilities. For Southern California Gas Company (SoCalGas) and San Diego Gas and Electric Company (SDG&E) this process is occurring through their Triennial Cost Allocation Application A. 11-11-02.

R. 11-02-019: Gas Safety Plans

On April 19, 2012, the Commission issued D.12-04-010, which required all gas utilities to file, no later than June 29, 2012, Gas Safety Plans detailing how the gas utilities address each element of PU Code §§ 961 and 963. Recognizing the overlap in the detailed objectives of the various Legislative directives related to gas pipeline safety, D.12-04-010 grouped the objectives into five overall topics. The requirements of SB 44 are addressed by the topic of Emergency Response which covers: emergency response procedures, including equipment and personnel, required by 49 CFR 192.615; timely response to reports of hazardous conditions and emergency events; and preparing for and responding, including training and coordination between operators and first responders, to earthquakes and other major events.

The Commission received the Gas Safety Plans from all the gas utilities. On December 20, 2012, the Commission issued D.12-12-019 and accepted the Gas Safety Plans based on the reviews of the plans conducted by SED. However, as recommended by SED, the Commission directed all the gas utilities to continue working with SED to address deficiencies noted by its review and resubmit their plans by June 30, 2013. Through its review, SED will affirm that all gas utility operators' emergency response plans comply with the Commission's established compatible emergency standards.

R. 11-02-019: Enhancement of Pipeline Safety Rules

The primary focus of the initial phases of the proceeding R. 11-02-019 has been the development of Pipeline Safety Enhancement Plans and of the Gas Safety Plans described above. Next, the proceeding will consider revision to the Commission rules that apply to gas pipeline operators, specifically to the General Order 112-E. The detailed scope for this phase will be set by the Assigned Commissioner Scoping Ruling.

Resolution Establishing the Gas Citation Program

On December 7, 2011, the Commission issued Resolution ALJ-274, which delegates specified authority to certain Commission staff to issue citations to all gas corporations to enforce compliance with General Order 112-E. In Resolution ALJ-274, the Commission stated that it found the provisions of the Resolution consistent with the mandates and intent of Assembly Bill 56, SB 216, SB 705, SB 879, and SB 44 which address: "…emergency shut-down and pressure reduction procedures, emergency response communication procedures, and require the Commission to establish compatible emergency response standards in consultation with various agencies and the first responder community."

SED WORKSHOP ON NATURAL GAS EMERGENCY PLANNING

On September 26-27, 2011, SED conducted a two-day workshop on Natural Gas Emergency Response Planning at the Commission's San Francisco office. The workshop facilitated communications between gas utilities and first responders and explored ways current processes could be improved to allow for better interaction and coordination during emergencies. Parties

from R.11-02-019, along with the State Fire Marshal, the Cal EMA, the Federal Department of Transportation's Pipeline and Hazardous Materials Safety Administration (PHMSA), local fire and law enforcement, emergency response agencies and associations, and members of the public were invited to participate in the technical workshop. Approximately 40 representatives from industry, government, and members of the public, attended the workshop in person or participated via a webcast.

The SED workshop began with presentations from Commission staff, Natural Gas Utilities from Northern and Southern California, and emergency responders. PG&E, SoCalGas, and SDG&E presented an overview of their respective natural gas system and perspective on emergency plans. The Commission staff presented an overview of the Commission's role in natural gas safety and first responders detailed their concerns related to emergency response. The presentations established a common baseline of understanding for the open discussion that ensued on the second day of the workshop.

Through discussions, comments, and recommendations received from the workshop, SED identified three areas for improvement in emergency response: Infrastructure and Mapping, Communications, and Training.

Area for Improvement: Infrastructure and Mapping

Emergency responders require maps and other information sufficient to identify the "critical utility infrastructure" (including natural gas infrastructure) present at a specific emergency site. "Critical Utility Infrastructure" is not a defined term in the existing regulations. Its use by various workshop participants reflects recognition that while some information is essential, too much information (about comparatively minor utility facilities or that includes extensive sub-levels of detail) is neither necessary nor helpful and may be confusing.

Accurate infrastructure maps of natural gas pipelines are critical in emergency response logistics. First responders at the workshop indicated that they are aware of the existence of NPMS, but generally agree that more detailed information is necessary for first responders. Ensuring the security of disclosed information is a valid concern and may preclude public distribution of certain data. Further, the "need to know" may not rise to the same level for all first responders

(fire response may require information at a level of detail that is not required for police response, for example).

Some first responders suggested that detailed pipeline locations and characteristics for gas transmission pipelines as well as other high priority facilities, including large diameter water mains or communications facilities, be reported into a central database, accessible to local emergency service agencies in a standardized format displayed on a variety of computing platforms. The information provided should identify training requirements to ensure effective use of the central database and security requirements to ensure only authorized users have access. In addition, the procedures should require a solution for when the central database is not immediately accessible. SED agrees that while the concept of a single, clearinghouse for such information (one that includes not only natural gas but all other critical utility infrastructure) is desirable, such an effort will take significant time and resources to develop and must be useful in the field. SED recommends that in addition to pursuing such an effort, the Commission should also act promptly on all reasonable recommendations regarding natural gas infrastructure information currently within its jurisdiction.

Area for Improvement: Communication

Emergency responders need knowledgeable, trained, natural gas utility employees to arrive onsite on a timely basis when a natural gas emergency arises; neither statute nor regulation defines "timely". This issue has risen to the forefront due not only to the San Bruno incident, but also to other natural gas emergencies that have occurred after business hours or on a national holiday. At present, while natural gas operators have employees that are on call on a 24/7/365 standby basis throughout their service territories, these employees are generally not currently required to live within their service area or assigned territory and may have a significant response time to incidents.

Natural gas operators receive, classify, and respond to notices of gas leaks through various means. Not all leaks present the same hazard or require the same level of emergency response. Because neither Commission General Order 112-E nor the federal regulations define "timely", Workshop participants recommended review of the cost and practicality of requiring natural gas utilities to provide immediate expert-level guidance and advice via a direct toll-free telephone

number for emergency responders on a 24/7/365 basis until a qualified utility employee arrives on scene.

SED recognizes that natural gas operator service territories cover large distances. As a result, it may be unreasonable to mandate a fixed response time to govern every utility facility and all possible emergencies. In addition, a myriad of factors, such as traffic congestion, the severity and number of emergencies occurring simultaneously, labor contract terms, and financial cost associated with round-the-clock crews can affect response to a natural gas emergency.

SED recommends that the Commission consider establishing meaningful and realistic response times to reports of natural gas leaks. Such metrics could include faster response times in more highly populated areas, or during certain times of the day. SED also recommends requiring natural gas utilities to providing immediate expert-level guidance and advice via a direct toll-free telephone number for emergency responders on a 24/7/365 basis for the duration of the period until a qualified utility employee arrives on scene. The Commission is considering both of these recommendations in R.11-02-019 and seeks to have them implemented by January 1, 2015.

Participants at the workshop also agreed on the need to examine the benefits and consequences of requiring remote or automatic shutoff valves to provide a quick means of controlling gas flow during a significant pipeline leak or rupture event. Although no participant suggested specifics on the number of valves, or locations for their installations, several first responders emphasized the importance of the need for more accurate, real-time, estimates from gas utility operators for when gas flows would be controlled and allow first responders to access the area surrounding a failed pipeline location. SED supports this recommendation, which is consistent with the Commission's current efforts in considering operator proposals for the installation of remote and automatic shutoff valves in R.11-02-019.

Area for Improvement: Training

Natural gas operator employees, emergency responders and affected oversight agencies all benefit from collaborative training exercises. Although all jurisdictional operators are required to, and do conduct periodic training exercises for first responders, SED recommends that natural gas operators engage emergency response providers in their territories in discussions about how

to improve collaborative training that specifically incorporates natural gas emergency response. Utility focused exercises should be as challenging as possible to further improve response capabilities and to proactively identify and eliminate any potential weakness in response.

SED also recommends that all utility employees that respond to natural gas emergencies should be trained in the Incident Command System and the Standardized Emergency Management System. Natural gas utilities should develop and provide an annual training program to public safety agencies for pertinent topics such as gas system design, hazards, protective equipment, communication protocols, safety issues, and emergency response plans. In addition, natural gas utilities should continue actively participating in local or regional emergency service training exercises and drills, with first responders when possible, and continue seeking ways to increase first responders' participation in this training process.

PHMSA Pipeline Emergency Response Forum

In addition to the SED Workshop on Natural Gas Emergency Planning, on December 9, 2011, PHMSA also held a Pipeline Emergency Response Forum with the National Association of Pipeline Safety Representatives and the United States Fire Administration. The purpose of the forum was to convene a meeting of leaders in the emergency response community, government, and pipeline industry to solicit advice for the development of a strategy for improving emergency responders' ability to prepare for and respond to pipeline emergencies. SED and PHMSA also worked together in conducting audits of PG&E's Public Awareness Program and Emergency Procedures in 2011 and 2012. SED continues working with PHMSA and other emergency responders to improve emergency response.

RELATED GAS SAFETY ACTIVITIES OCCURRING AT THE FEDERAL LEVEL

On December 11, 2010, the National Transportation and Safety Board (NTSB) issued Safety Recommendation P-11-09, which suggested that PHMSA require operators of gas and hazardous liquid pipelines to "ensure that their control room operators immediately and directly notify the 9-1-1 emergency call center(s) for the communities and jurisdictions in which those pipelines are located when a possible rupture of any pipeline is indicated." In response, on October 10, 2012, PHMSA issued Advisory Bulletin 2012-0201, **Pipeline Safety: Communication During**

Emergency Situations, in which PHMSA reminded operators of natural gas pipeline facilities to maintain and utilize the ability to immediately and directly notify Public Safety Access Points (PSAPs) that serve in areas where an operator has indications of an emergency on its pipeline facilities. Such communication may help operators receive information from PSAPs that may allow them to confirm an emergency while providing the operator with an opportunity to assist or provide information to public safety personnel potentially responding to an event on the operator's pipeline facilities.

PHMSA is also considering the placement of automated valves on transmission lines. Based on the requirements of the Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011, Section 4 and NTSB Recommendation P-11-11, related to the San Bruno incident, in March 2012, PHMSA commissioned a study to examine the issue to directly require the installation of automatic shutoff valves or remote control valves in high consequence areas and in Class 3 and 4 locations and spaced at intervals that consider population factors listed in regulations for gas transmission pipelines. PHMSA's study is not yet complete. However, in this regard, the Commission is well ahead of the current federal effort. The implementation plans filed by utilities in response to Commission D.11-06-017, and being considered in R.11-02-019 and A.11-11-002, already contain utility proposals for such installations.

CONCLUSION

Over the past two years, the Commission has made significant changes in its natural gas safety regulations, including eliminating the "grandfather" rule and adopting a strict, "test or replace" policy and requiring extensive pipeline safety improvement plans. The Commission is currently poised to consider additional improvements to its pipeline safety regulations, including regulations related to emergency response.

In support of its efforts, as discussed in this report, the Commission began a collaborative effort to consider improvements to regulations related to emergency response data, communications and training. While existing regulations, contained in 49CFR, Part 192, Sections 192.615 and 192.616, and Commission General Order 112-E, specify regulations for gas operators to prepare and implement written emergency plans, liaison with local first responders, and prepare written

Public Awareness Programs which provide information to first responders on an annual basis, the Commission intends to supplement these requirements, with compatible emergency response standards, as contemplated by SB 44. To do so, the Commission has certain open proceedings, including R.11-02-019 and A.11-11-002, and hired additional staff to continually review and potentially modify its existing regulations. This includes the placement of automated valves and telemetry equipment on transmission lines, modifications to the gas safety plans filed by gas utilities, and examining ways more detailed data on high priority subsurface facilities may be provided to first responders without compromising security.

The Commission has also issued Resolution ALJ-274, to delegate specified authority to Commission staff to issue citations to all gas corporations to enforce compliance with General Order 112-E, which is consistent with the mandates and intent of SB 44. In addition, the Commission issued D.12-04-010, which directed the gas utilities to file Gas Safety Plans detailing how the gas utilities address each element of PU Code §§ 961 and 963. As the next step, the requirements of SB 44 shall be addressed in the Gas Safety Plans which include emergency response procedures, including equipment and personnel, required by 49 CFR 192.615; timely response to reports of hazardous conditions and emergency events; and preparing for and responding, including training and coordination between operators and first responders, to earthquakes and other major events. Per the current schedule in R.11-02-019, the safety plans will be filed by the utilities on June 30, 2013.

The Commission is dedicated to ensuring the safety of utility infrastructure, with emergency preparedness and response being an integral part to the overall approach. The Commission is making continuous improvements to make certain that California is safer since the September 2010 PG&E pipeline rupture in San Bruno by both making immediate changes to safety programs and embarking on long-term changes to its safety culture, and that of the utilities. The information provided in this report is a summary of the initial steps taken in response to SB 44, but the work is ongoing and progress in this area is continuously being made. The Commission is committed to continuous improvement of emergency response standards for gas operators and will continue working with the utilities, State Fire Marshal, Cal EMA, PHMSA, local fire, law enforcement, and emergency response agencies and associations, as well as members of the public, to study and apply lessons learned and best practices in to the Commission's approach.