DRA DATA REQUEST
DRA-SCG-042-DAO
SOCALGAS 2012 GRC – A.10-12-006
SOCALGAS RESPONSE
DATE RECEIVED: FEBRUARY 10, 2011
DATE RESPONDED: MARCH 8, 2011

Exhibit Reference: SCG-5, Engineering

Subject: DIMP-Driven Activities, Vehicular Damage Above-Ground Facilities

Please provide the following:

1. With regard to the discussion on vehicular damage associated with above-ground distribution facilities on page RKS-44 to RKS-45, please provide the following:
    a. The annual expenses associated with mitigating vehicular damage to above-ground distribution facilities for years 2005-2010 and the tracking account used to track these expenses.
    b. A copy of all documents and/or calculations relied on to determine the statement on page RKS-45, "...while the projected incident rate is low, the consequences can be high."
    c. Please provide the incident rate for each year from 2005-2010.
    d. A copy of the preliminary assessment, including any and all risk analyses performed with regard to the identified facilities, as referenced on page RKS-44.
    e. A copy of the survey referenced on page RKS-45.
    f. The cost range for each of the mitigation measures identified on page RKS-45.

SoCalGas Response:

a. The program discussed on pages RKS-44 to RKS 45, Vehicular Damage associated with Above-Ground Facilities, is another DIMP-driven program implemented by SoCalGas. It specifically addresses the threat to gas facilities which may be damaged by vehicles traveling at faster rates of speed leaving the roadway. These actions are enhancements and are Accelerated Actions to existing programs, in accordance with the DIMP regulations.
   The historical expenses for routine above-ground gas facility protection are addressed in the testimony and workpapers of Ms. Gina Orozco-Mejia beginning on page GOM-78. The budget code used to track these expenses is BC264.
b. This statement serves as commentary based on SoCalGas' experience with facility damage due to high speed vehicular traffic. These incidents are few as compared to low speed vehicle damages. However, due to the higher rates of speed the resultant damage potential can be much greater and thus create much higher consequences.

REMAINING RESPONSES AND ATTACHMENTS REMOVED DUE TO CONFIDENTIALITY

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2. With regard to the statement on page RKS-45, "Although SoCalGas has existing design standards to address the protection of facilities due to vehicular damage under the code, it is not sufficient to protect facilities for vehicular damage where the vehicle leaves the road at a high rate of speed", please provide the following:
    a. Please identify SoCalGas' existing design standards to address this issue and explain in detail why these standards are not sufficient to protect facilities for vehicular damage.
    b. When did SoCalGas discover that its existing standards were not sufficient enough? What has SoCalGas done to address this problem?
    c. A copy of SoCalGas' procedures to protect meter set assemblies and other above-ground facilities prior to DIMP.
    d. A copy of SoCalGas' procedures to protect meter set assemblies and other above-ground facilities as a result of DIMP.

SoCalGas Response:

a. The attached Gas Standards, GS 185.005, *Meter Guard – Installation Requirements,* and GS 184.0035, *Regulator Station Design and Planning*, address the existing procedures for above-ground facility protection.


1850008.pdf


1840035.pdf

The existing SoCalGas design standards were developed to protect above-ground gas facilities from impact forces caused by slow moving passenger vehicles and light trucks. These design standards are intended to protect gas facilities from the most common impact occurrences, rather than the very infrequent incidents involving higher vehicular speeds or heavy commercial vehicles.
Although the protective devices provided in the standards are capable of withstanding relatively large forces induced by light vehicles at slow speeds, they traditionally have served as warning devices by alerting the driver to stop immediately upon contact. The devices also serve as visual aids in helping identify the presence of the above-ground gas facility. The design standards developed by SoCalGas are comparable to the protective devices used for similar facilities throughout the gas utility industry. SoCalGas practices and procedures conform to both 49 CFR 192.353(a) Customer meters and regulators: Location and 192.317(b) Protection from hazards.

It should be noted that developing design standards for higher vehicular speeds and heavy commercial vehicles was considered impractical, and in some cases, impossible due to the wide range of forces that could be encountered. If a more robust design was required for a particular facility and site conditions than what the standards provide, then a request for a special design by Engineering was recommended.

Response to Question 2 (Continued)

b. SoCalGas' design standards are sufficient for low vehicular impact forces or collisions for most site conditions; however, it has become apparent that there are facilities at higher risk due to changes in their surroundings and that there currently exists additional safety measures that can be implemented to enhance the protection of a facility that would also address higher vehicular speeds or heavy commercial vehicles.
Due to the development and pending implementation of the DIMP rules, SoCalGas is applying the directive that operators need to implement their integrity management program to "promote continuous improvement in pipeline safety by requiring operators to identify and invest in risk control measures beyond core regulatory requirements."[1]
Changes in the surroundings of a gas facility include road improvements near the facility where higher vehicular speeds are common or where the traveled area is in closer proximity to the facility than originally. Safety devices such excess flow valves or quick disconnect devices are now available that can be utilized to shut off gas flow in the event of damage to a gas facility.
Based on the analysis discussed in Mr. Stanford's testimony, workpapers, and within this data request, SoCalGas is addressing an additional threat to the distribution system, that of higher speed vehicles leaving their designated roadways and potentially colliding with gas facilities designed under standard protection scenarios. By applying the additional and accelerated actions promoted through the DIMP-driven vehicular damage of above-ground facilities program, SoCalGas will address this threat.

c. Please refer to the response to Question No. 2a of this data response.

d. The existing procedures and standards are currently being reviewed by SoCalGas' engineering department to determine the necessary modifications to address this threat for future installations.

[1] Pipeline Safety: Integrity Management Program for Gas Distribution Pipelines; Final Rule, 74 Fed. Reg. 63,906 (posted Dec. 4, 2009)(codified 49 C.F.R. pt. 192).

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3. SoCalGas states on page RKS-45, "Approximately 145,000 potential residential MSAs were identified, and approximately 10,500 of those MSAs were determined to be at high/moderate risk of severe vehicle collision..." Please provide a copy of all documents and/or calculations used to determine this statement.

SoCalGas Response:

Please see the attachments included in the response to Question No. 1d, supporting the estimated number of facilities included in this program.

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4. On page 65 of the workpapers, SoCalGas states, "This program addresses those AGFs that may not be identified by existing procedures, but after additional analysis do require mitigative resolution." Please provide the following:
    a. A detailed explanation of what is meant by "additional analysis".
    b. When did this program come into existence?
    c. What was SoCalGas' policy and procedure regarding the AGFs that were not identified using existing procedures?

SoCalGas Response:

a. The "additional analysis" referenced on page 65 of the workpapers refers to the "Operations 32" survey and subsequent analysis of the data collected. (See the response to Question No. 1e of this data request for information on the Operations 32 survey.) This survey was conducted to identify above-ground gas facilities that present a higher likelihood of being struck by a vehicle traveling at high speed and leaving its roadway. The level of risk depended upon the likelihood of a gas component being struck and the effectiveness of protective barriers currently in place.

   Since the submittal of this work paper and completion of the initial analysis, SoCalGas has continued to refine the methodology used to address the threat of vehicular damage to above-ground gas facilities. An additional comprehensive field survey of about 2,500 past incidents involving vehicular damages to above-ground gas facilities is currently being conducted. It is the intention that the results from this survey will at a minimum validate the SoCalGas' approach but likely lead to the development of a more robust risk algorithm that will be based on data from actual incidents. This new algorithm will be utilized to determine the extent of facilities that may require mitigation. This program will target above-ground gas facilities exposed to vehicles traveling roadways rated for speeds at or above 25 miles per hour near and around above-ground ground facilities. Based on this more comprehensive approach, it is anticipated that the new algorithm will identify additional facilities to be mitigated. If the impact is an increase in the number of facilities requiring mitigation measures, SoCalGas will extend the timeframe beyond what is currently presented in the workpapers.
   It should be noted that developing design standards for higher vehicular speeds and heavy commercial vehicles was considered impractical, and in some cases, impossible due to the wide range of forces that could be encountered. If a more robust design was required for a particular facility and site conditions than what the standards provide, then a request for a special design by Engineering was recommended.

b. The development of this program began in mid-2009.

Response to Question 4 (Continued)

c. Facility site selection away from potential damage-causing activity is always the primary placement factor. The existing procedures are intended to protect AGFs against "low-speed" incidental vehicular damage where site selection options are limited. Special design installations can be requested due to circumstances that fall beyond those specified within existing standards. Per GS185.0008, Section 2.1.6, "If situations arise that requires special designs, contact Engineering Design in Gas Engineering."

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5. Page 65 of the workpapers show SoCalGas' estimates of costs for installing excess flow valves (EFV) for years 2010-2012. Please provide the following with regard to SoCalGas' estimates:
    a. A table showing the total EFVs installed, hours per installation, hourly rate for installation, and the number of FTEs used, for each year from 2005-2010.
    b. A table showing the cost per EFV, permit cost, excavation costs, and contingency, for each year from 2005-2010.
    c. A showing, along with all supportive documents and calculations, used to determine each of the labor and non-labor components on page 65 of the workpapers.

SoCalGas Response:

a. As noted above in response to Question No. 4.b, the development of the program began in 2009. Actual implementation of the program was scheduled to begin in 2010. There are no installations associated with this program in the years 2005 through 2009. The initial program development, as shown on page 65 of the workpapers, shows 260 EFVs were planned for installation in 2010. Due to continuing program research and analysis, as discussed in the response to Question No. 4a, there were no EFVs installed in 2010 for this program.

b. Please see the response to Question No. 5a, above.

c. The labor and non-labor components shown in the table on page 65 are based on SoCalGas' historical experience with the installation of EFVs.

   The labor component is based on a standard two-man crew consisting of a Lead Construction Technician (LCT) and a Construction Technician (CT). Their hourly wages as presented in testimony, effective 10/1/2009, were $37.22 and $29.92 per hour, respectively. Based on an average of four hours, per two-man crew, to complete the installation of a typical EFV, the cost per EFV is $268.56. This per unit cost, multiplied by the estimated number of units installed per year, provides the Total Labor estimate shown in the Labor table.

   The non-labor components are again based on SoCalGas' experience as applied over the service territory. Permit and excavation costs can vary depending on the permitting agency and the type of surface that requires excavation. Average values of $400 per permit and $240 per excavation were used as an estimate for system-wide costs. A contingency factor of $75 per installation was included to cover any additional, above normal cost-associated activities such as traffic control and paving requirements.

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6. Please identify the 2012 forecast and tracking account for vehicular damage mitigation to above-ground ground gas facilities as requested by Distribution. Also, please provide citations to the Distribution testimony where this issue is discussed.

SoCalGas Response:

SoCalGas has historically installed barricades to protect the MSA at existing customer locations from vehicular traffic. This activity is discussed in Ms. Orozco-Mejia's testimony at page GOM-78 (SCG-02). The forecasted TY2012 capital expenditures of $1.2 million are shown in the capital workpapers (SCG-02-CWP) page GOM-CWP-32. The forecast reflects the historical increase in installations consistent with current operational practices.