

DRA DATA REQUEST
DRA-SCG-040-DAO
SOCALGAS 2012 GRC – A.10-12-006
SOCALGAS RESPONSE
DATE RECEIVED: FEBRUARY 9, 2011
DATE RESPONDED: MARCH 1, 2011

Exhibit Reference: SCG-5, Engineering

Subject: DIMP-Driven Activities, Anodeless Riser Program

Please provide the following:

1. Please state if the Anodeless Riser Program, as discussed on page RKS-43 to page RKS-44, is work that is being planned in addition to the inspections, repairs, and replacements of anodeless risers currently performed by Distribution. If not, please identify the current and TY cost tracking of this program.

SoCalGas Response:

Yes, the DIMP-Driven, Anodeless (AL) Riser Replacement Program is being implemented as an Accelerated Action, in accordance with the DIMP regulations. This program is incremental to the inspections, repairs, and replacements of AL risers currently performed by Distribution.

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2. Is SoCalGas requesting additional expenses for anodeless risers under Distribution? If so, please provide a citation to the testimony.

SoCalGas Response:

No, Gas Distribution is not requesting incremental funding for the repair of AL risers. Included within the base forecast presented by witness Ms. Orozco-Mejia (SCG-02) is funding sufficient only to sustain the level of repairs SoCalGas has been completing in the past. This funding is included within the workgroup 2GD000.004 - Pipeline O&M - Service Maintenance (SCG-02, page GOM- 29-30, Workpapers page 93).

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3. With regard to the statement on page RKS-44, “Based on a preliminary analysis, SoCalGas estimates that approximately 15% of the risers will ultimately qualify for replacement, while the remaining units will be effectively mitigated with the Trenton Wax Tape”, please provide the following:
- a. A copy of all calculations and supportive documents relied on to determine that 15% of the risers will need to be replaced.
 - b. The 2005-2010 recorded expenses of mitigating anodeless risers and identify the account used to track these expenses.
 - c. The number of anodeless risers processed each year from 2005-2010. Please break down the annual number of anodeless risers repaired versus replaced and include the unit cost of each.
 - d. When did SoCalGas first begin using the Trenton Wax Tape solution?
 - e. How did SoCalGas repair anodeless risers before the implementation of the Trenton Wax Tape solution? Please also provide the unit cost of repair using this solution.
 - f. Please compare the cost and benefits of using the Trenton Wax Tape method versus the method identified in question 1(e) above. Please provide copies of any cost-benefit analyses performed by or for SoCalGas.

SoCalGas Response:

- a. The attached report, *DIMP-Driven AL Riser Program Report*, details SoCalGas’ engineering study to mitigate the threat to anodeless risers. Included in the report is a background discussion of the issues, explanation of the methodology used in the study, and results. Also included is a cost-benefit analysis for the program. The second attachment, *AL Riser Pilot Survey*, shows the data developed in the study for which the recommendations were based.

These documents are *CONFIDENTIAL INFORMATION PURSUANT to PUC Code Section 583 & General Order 66-C.*

The report included below is labeled interim due to on-going work and materials testing in progress. The report will be updated and finalized once this additional work is completed.

Documents removed due to confidentiality

- b. Anodeless riser mitigation consists of two options, Inspect and Repair, or Inspect and Replace. Please see the expense columns in the table associated with Question No. 3c, below. This data represents the historical expense incurred for mitigating AL risers. These expenses are tracked by FERC account 892.005.

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Response to Question 3 (Continued)

- c. Historically, the number of AL risers mitigated (repaired or replaced), and the associated expenses incurred are recorded in different systems and by different processes. The expenses are recorded by activity-type on an employee's time card and are consolidated and tracked by account number based on the amount of time allotted to the activity, in this case AL Riser repair or replacement.

The number of AL risers mitigated have been tracked differently. The process for replacing an AL riser requires that there first be a replacement work order generated. These work orders are tracked in the Construction Management System. The number of units mitigated by replacement is reflected in the "Units Replaced" column in the table below.

The process of tracking the number of units inspected/repared has evolved since 2005. When reviewing the most recent data, it became apparent that there were inconsistencies in the tally of the number of units inspected/repared. After lengthy discussions with staff and field supervision personnel and detailed review of the data it was determined that the legacy systems were not capturing all of the data. To provide a more accurate accounting of the historical number of units inspected an estimate has been developed based on the 2009 values for inspection expenses and data for number of units replaced. It was the conclusion of both staff and field supervision personnel that the historical expenses charged to both activities were correct. The 2009 data for number of units inspected/repared is also considered accurate due to changes in data collection practices on the mobile data terminals used by the field personnel to log their work activities.

Therefore, the estimated number of units inspected/repared for the timeframe of 2005 through 2008 was based on the following calculation.

2009 Cost per Unit Inspected/Repaired:

$\$380,176 \text{ (Inspection/Repair expense)} \div 43,524 \text{ (Units completed)} = \$8.73 \text{ Repair cost per Unit}$

This value was then applied to the inspect/repair expense column for each year from 2005 through 2008 to provide an estimated number of units Inspected/repared.

Additional data validation was achieved by performing a comparison between the number of estimated inspection/repairs and the number of recorded replacement units. This comparison demonstrated that the ratio between the two values is consistent with the assumptions used in developing the estimates.

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Response to Question 3 (Continued)

Year	Units Inspect/ Repaired	Inspect/ Repair Expense (2009\$)	Unit Cost for Inspect/ Repair	Units Replaced	Replacement Expense (2009\$)	Unit cost for Replacement
2005	23,487*	\$205,155	\$8.73*	5,229	\$1,589,053	\$303.89
2006	29,648*	\$258,972	\$8.73*	5,643	\$2,023,846	\$358.65
2007	38,542*	\$336,658	\$8.73*	5,622	\$2,069,637	\$368.13
2008	48,793*	\$426,202	\$8.73*	6,368	\$2,275,811	\$357.38
2009	43,524	\$380,176	\$8.73	6,796	\$2,478,508	\$364.70

(*) These values estimated based on the discussion included in response to Question No. 3c.

- d. The Trenton Wax Tape solution was tested and first utilized at SoCalGas in June 2010 when the new procedure was first piloted. This procedure is detailed in the attached Gas Standard 184.0122 – *Anodeless Riser Integrity Inspection Program*.



1840122.pdf

- e. Prior to use of the Trenton Wax Tape solution risers were spray painted according to the attached Gas Standard 184.0121 - *Anodeless Riser Inspection Program*.



1840121.pdf

- f. The Cost-Benefit analysis is included in the attachment to SoCalGas’ response to Question No. 3a, above.

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4. SoCalGas states on page RKS-44 that it plans to mitigate the anodeless riser threat over a 7-year period. Please provide a detailed explanation and include all supportive documents and/or calculations used to determine that this program needs to be completed in 7 years.

SoCalGas Response:

NOTE: The time frame of a seven year program was established during the initial development phase of this program. Included in the workpapers for this program are the costs estimated to be incurred through 2015, or a six-year time frame. The reference in testimony to a seven-year program is an editing oversight and should be corrected to reflect a six-year time frame. This will be corrected if there is an opportunity for additional errata filing.

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

Based on the analysis discussed in testimony, workpapers, and within this data request, SoCalGas is addressing a known threat to the distribution system, AL risers, by applying the additional and accelerated actions of the DIMP-driven AL riser program to mitigate this threat.

Page 64 of the workpaper as well as the additional explanation provided in the responses to this data request provide details on the number of AL risers included in the program. Based on the volume of AL risers to be inspected and SoCalGas’ experience with program development, such as resource identification, training, and implementation, six years was determined to be a reasonable and prudent time-frame to responsibly address the threat.

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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5. On page 64 of the workpapers, SoCalGas presents a table entitled, “Estimated Repair and Replacement Risers”. Please provide the following with regard to this table:
- a. The 2010 recorded number of inspections, repairs, replacements and the expenses of each as tracked by Distribution and Engineering. Please also identify the accounts used to track the anodeless riser activities for Distribution and for Engineering.
 - b. Prior to 2010, did SoCalGas charge the cost of inspecting, repairing and/or replacing anodeless risers to Engineering? If so, please provide the amount(s) and identify the tracking account.
 - c. On page RKS-44 of the testimony SoCalGas states that it plans to process an average of 193,000 anodeless risers per year. Yet, on page 64 of the workpapers, SoCalGas shows 9,600 as the inspection rate per year under the “Assumptions” table, and 300,000 inspections and 41,250 replacements under the “Estimated Repair and Replacement risers” table. Please provide a step by step showing of how the numbers in the workpapers tie to the number identified in the testimony.
 - d. Please identify all assumptions used to estimate the number of inspections, replacements, and replacement costs in the “Estimated Repair and Replacement Risers” table.
 - e. Please provide a copy of all calculations, including all supportive documents, used to estimate the number of inspections, replacements, and replacement costs in the “Estimated Repair and Replacement Risers” table.

SoCalGas Response:

- a. The number of DIMP-driven AL riser activities recorded for 2010 are as follows: 5944 Inspected; 5277 Repaired; 636 Replaced; 31 Identified for replacement, carried over to 2011. All of these activities were tracked by Engineering through DIMP-specific accounts.
- b. No. The DIMP-driven AL riser program was not in place prior to 2010. All riser work was managed and tracked within the Operations organizations as routine maintenance work.
- c. As mentioned in the response to Question 4 of this data request, the time frame of a seven year program was established during the initial development phase of this program. Subsequent data analysis and the actual reference on page 64 of the workpaper indicate a six-year time frame (2010 – 2015) for this phase of the anodeless riser program. The reference in testimony to a seven-year program is an editing oversight and should be corrected to reflect a six-year time frame. This will be corrected if there is an opportunity for additional errata filing.

The statement referencing 193,000 AL risers on page RKS-44 is an annual average for the proposed seven-year program. (1,350,000 risers ÷ 7 years = 193,000 risers/year).

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Response to Question 5 (Continued)

Due to the modification to a six-year program this statement should be changed from an average of 193,000 to 225,000 ($1,350,000 \text{ risers} \div 6 \text{ years} = 225,000 \text{ risers/year}$).

On page 64 of the workpapers in the “Assumptions” table, the assumed inspection rate for AL risers is 9600 risers per year per FTE. On the same workpaper in the “Cost Schedule” table for 2012, it is proposed that SoCalGas will have 31.3 FTEs working on this AL riser inspection program.

For 2012: ($9600 \text{ risers/year/FTE} \times 31.3 \text{ FTE} = \text{approx. } 300,000 \text{ risers/year}$)

The testimony and workpaper numbers tie together at the total number of risers in this program of 1,350,000 risers. This value is shown in testimony as the average amount of $193,000 \text{ risers/year} \times 7 \text{ years} = 1,350,000 \text{ risers}$ (should be $225,000 \times 6 = 1,350,000$).

This value of 1,350,000 risers is also reflected in the “totals” row of the “Estimated Repair and Replacement risers” table on page 64 of the workpapers.

- d. The “Assumptions” table on page 64 serves as the initial collection of assumptions used in creating the values in the “Estimated Repair and Replacement Risers” table.
- The total number of risers to be inspected in the program, 1,350,000, is based on the estimated number of AL risers in SoCalGas’ system that due to their design, have the potential to be an integrity threat due to premature failure.
 - The number of inspections shown for each year (# Insp column) is based on the program initiating in 2010 and ramping up to full implementation in 2012. These numbers are based on available resources and estimated requirements for additional hiring and training of the necessary resources to complete the program.
 - The number of “# Don’t Pass (Replace)” units is expected to be higher during the early years of the program. The program will initially be focused on areas of known historical failures. Based on experience, the initial “Don’t pass” rate is estimated at 25% of the number of risers inspected for years 2010 and 2011 and reduces to approximately 14% for the remainder of the program.
 - The Replacement costs in the final column of the “Estimated Repair and Replacement Risers” table is simply the product of the number of replacements in the (# Don’t Pass – Replace) column multiplied by the Average Riser replacement cost of \$307.93, as shown in the “Assumptions” table. This replacement cost value is based on the historical average system-wide cost to replace an AL riser.
- e. Please see the response to question 5d above. The costs and calculations are detailed along with the explanation of the assumptions used in defining the program.

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6. Please provide a copy of all calculations, including all supportive documents, used to determine each of the numbers under the “Assumptions” table presented on page 64 of the workpapers.

SoCalGas Response:

The following are explanations for the information shown in the “Assumptions” table as presented on page 64 of the workpapers:

Labor Rate: The activities of riser inspection and wax repair are performed by company personnel in the classifications of Grade 4 and Grade 5. This practice is expected to continue throughout this program. The hourly base rate for each Grade, effective 10/1/2009, was \$29.92 for Grade 4 and \$32.17 for Grade 5. Assuming 2080 work hours per year, a 50/50 blend of these two classifications provides an average annual salary of approximately \$65,000.

Inspection Rate: Based on company experience it is estimated that a fully trained worker can inspect approximately 40 risers per day.

Work Days: Taking into account vacation and holidays, it is estimated that the average worker will work 48 weeks out of the year. Given 5 work days per week: $48 \times 5 = 240$ work days

Inspection Rate: 40 risers per day x 240 days per year = 9,600 risers per year.

NL Material Cost: Based on field experience, it is estimated that approximately \$1 worth of Trenton Wax tape will be used for each riser repair.

Avg. Riser Replacement Cost: Based on recorded companywide expenses, the average cost to replace an AL riser is approximately \$307.93.

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7. Please provide a copy of all calculations, along with all supportive documents relied on, to determine the annual cost of wax repair for years 2010-2012, as presented on page 64 of the workpapers.

SoCalGas Response:

Based on the information provided on page 64 of the workpapers, the following tables focus on the information used to calculate the estimated expenses for the Trenton Wax tape repair activities:

	Item	Units	2010	2011	2012	Assumption Source
Assumptions	# Inspections	risers	50,000	100,000	300,000	From "Estimated Repair and Replacement risers" table
	Inspection Rate	risers/yr/ FTE	9,600	9,600	9,600	From "Assumptions" Table
	Labor Rate	\$/year	\$65,000	\$65,000	\$65,000	From "Assumptions" Table
	NL Material Costs per Riser	\$/riser	\$1.00	\$1.00	\$1.00	From "Assumptions" Table

	Item		2010	2011	2012	Calculation Description
Calculations	Required # FTEs	FTEs	5.2	10.4	31.3	(# Inspections) ÷ (Inspection Rate)
	Labor Expense	Labor \$'s	\$338,542	\$677,083	\$2,031,250	(Required # FTEs) x (Labor Rate)
	NL expense	NL \$'s	\$50,000	\$100,000	\$300,000	(# Inspections) x (NL Material Costs)