
Attachments to the Testimony of Garrick F. Jones

Prepared testimony of
Garrick F. Jones

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on behalf of
The Utility Reform Network (TURN)

California Public Utilities Commission
Docket A.13-12-012

August 11, 2014

Attachments

Attachments to Prepared Testimony of Garrick F. Jones on behalf of The Utility Reform Network (TURN) CPUC App. 13-12-012 (Pacific Gas and Electric Company 2015 Test Year Gas Transmission and Storage Rate Case)

Attachment 1: Qualifications of Garrick F. Jones

Attachment 2: PG&E Responses to The Utility Reform Network (TURN) Data Requests

TURN DR 6-6
TURN DR 25-5
TURN DR 29-4
TURN DR 29-5

TURN DR 29-8
TURN DR 29-11

Attachment 3: Workpaper Supporting Hypothetical Strength Testing Cost Reduction Resulting from Possible Nitrogen-Based Strength Testing (Table 3 on p. 10 of Jones Testimony)

Attachment 1

Garrick F. Jones

Economist, JBS Energy, Inc.

Garrick Jones has been with JBS Energy as an Economist since 2007, providing witness services and analytical and research support on a variety of issues for JBS Energy, including utility and nuclear decommissioning fund return on equity, executive compensation, distribution-related revenue requirement issues, including those related to infrastructure replacement and smart grid, and utility marginal cost issues.

Mr. Jones has prepared and filed testimony on various electric and gas distribution operations and maintenance and capital spending issues and marginal cost on behalf of the Utility Reform Network (TURN) in California (PG&E 2011 GRC Phase I (A.09-12-020), 2014 GRC Phase I (A12-11-009) and Southern California Gas 2012 GRC Phase I (A.10-12-006) and Phase II regarding marginal cost (A.11-06-007) and the Utility Consumers' Action Network (UCAN) in the SDG&E 2012 GRC (A.10-12-005) and nuclear decommissioning issues (2012 Nuclear Decommissioning Cost Triennial Joint Application (A.12-12-013)). He has also prepared and filed testimony regarding rate of return on behalf of the Arkansas Attorney General in the 2013 GRC for Arkansas Oklahoma Gas (Arkansas Docket No. 13-078-U) and executive compensation issues on behalf the Nevada Bureau of Consumer Protection in the 2009 GRC for Southwest Gas Corporation (Nevada Docket No. 09-04003). He has provided major and substantive analytical and testimony drafting support on 15 utility regulatory

cases across a number of jurisdictions, including Arkansas, California, Nevada, Texas, and Washington.

Mr. Jones's experience prior to coming to JBS Energy included environmental analysis related to the preparation of environmental impact reporting, where his focus and expertise was in energy issues with respect to transit and residential housing projects. Mr. Jones also performed project-level analyses of air quality impacts and prepared text for a variety of project-related issues, including public utilities and services, hydrology and water quality, and noise pollution. Representative clients for these studies include the California High-Speed Rail Authority, the San Francisco Bay Area Rapid Transit District, the Orange County Transportation Authority, and the City of Orange, California, among others.

Mr. Jones spent 2 years with Peace Corps in Mauritania, West Africa, serving as an Agriculture and Forestry Extension Volunteer. His work included farmer training, the introduction of a regional demonstration farm, and environmental education.

Mr. Jones received his B.S. in Environmental and Resource Science (1998) and M.S. in Agriculture and Resource Economics (2006) from the University of California, Davis.

Attachment 2

PACIFIC GAS AND ELECTRIC COMPANY
Gas Transmission and Storage Rate Case 2015
Application 13-12-012
Data Response

PG&E Data Request No.:	TURN_006-06		
PG&E File Name:	GTS-RateCase2015_DR_TURN_006-Q06		
Request Date:	February 18, 2014	Requester DR No.:	006
Date Sent:	March 3, 2014	Requesting Party:	The Utility Reform Network
PG&E Witness:	Bennie Barnes	Requester:	Tom Long

QUESTION 6

The Willbros Engineers Piggability Study, on page WP4A-163 made a number of recommendations to reduce the cost of making pipelines piggable. Has PG&E begun to pursue their recommendations related to:

- a. Methods to lower material costs, note g.,
- b. Methods to lower fabrication costs, note h., and
- c. Methods to lower construction costs, note i.
- d. Has PG&E estimated the potential for savings in the proposed program based on such recommendations? If so, please provide any such estimates.

ANSWER 6

- a. Note g. from the Willbros Engineers Piggability Study states: Methods to lower material costs should be fully explored, including partnering with valve and fitting manufacturers or developing highly discounted pricing plans based on 10 year quantity purchases based on this study.

Yes, PG&E has begun to pursue methods to lower material costs related to Note g. PG&E currently has a pipeline material distributor to ensure we have the lowest prices available for valves and fittings. The PG&E Gas Engineering Team looks across all lines of the gas transmission business, not just ILLI, to estimate material needs and purchase major materials in bulk as our warehouse stock declines. Ordering material in advance for more than a couple of years out is not practical due to storage limitations, high overhead costs to carry the material several years in advance of construction, potential material specification changes, and design scope changes.

- b. Note h. from the Willbros Engineers Piggability Study states: Methods to lower fabrication costs for launchers and receivers should be fully explored, including development of a 10 year bid package for achievement of fully locked in pricing for fabrication of launchers and receivers.

With reference to the recommendation above, PG&E has limited sites where permanent launchers and receivers were installed as part of the ILI upgrade projects. Thus, PG&E has limited experience on which to base potential cost savings from having permanent launchers and receivers fabricated off-site in a shop environment, though discussions with other operators and consultants indicate that this is common practice. PG&E has begun exploring long term contracts utilizing a universal design with a dedicated fabrication shop or shops to achieve consistent quality, just in time availability and possible cost savings.

- c. Note i. from the Willbros Engineers Piggability Study states: Methods to lower construction costs by engaging in development of a bid package to secure several dedicated construction crews relative to performing the work during the project extents. This may include alternate stand-by crews.

Yes, PG&E has begun to pursue methods to lower fabrication costs related to Note g. The ILI upgrade project work is not significantly different from the pipe replacement project work regularly performed by PG&E gas construction crews, both employees and contractors.. Having dedicated ILI upgrade construction crews would be difficult to manage and would result in increased travel expenses when local crews may be available. PG&E currently has four construction firms under an Alliance contract that provide savings to the company and cover specific geographic territories. The use of these Alliance contractors is being evaluated based on the scope of each project, resource availability, and labor costs of external versus internal resources.

- d. PG&E has incorporated the overarching efficiencies referenced above and continues to optimize this work through bulk material purchases where possible, leveraging of both alliance contractors and regional contractors, and effective network planning. Because this is a system wide approach to optimization, PG&E does not have a specific break out of cost savings pertaining to making the system piggable. Further, PG&E continues to recognize that there are upward cost pressures on the ILI retrofit work that were not addressed in the referenced report, such as limited availability of experienced construction crews, primarily due to a high demand for gas transmission pipeline integrity driven construction services across the nation and within California.

PACIFIC GAS AND ELECTRIC COMPANY
Gas Transmission and Storage Rate Case 2015
Application 13-12-012
Data Response

PG&E Data Request No.:	TURN_025-05		
PG&E File Name:	GTS-RateCase2015_DR_TURN_025-Q05		
Request Date:	June 27, 2014	Requester DR No.:	TURN-25 (IT)
Date Sent:	July 18, 2014	Requesting Party:	The Utility Reform Network
PG&E Witness:	Paul Caffery (d)	Requester:	Bob Finkelstein

SUBJECT: INFORMATION TECHNOLOGY

QUESTION 5

Regarding the Automated Upload of Design Pipeline Feature Lists project (p. 11-36):

- a) Identify how many personnel (full-time equivalent) are currently involved in the manual data entry of this information into GIS.
- b) Identify the recorded costs for each of the last 5 years of the personnel in a) above. Include an allowance for benefits.
- c) Approximately how many new PFLs are created each year? Roughly how much time is required to input the data from each into GIS?
- d) Is this a project that PG&E plans to have written from scratch, or is there a software package that already exists to connect MicroStation and GIS? Discuss fully, including estimated cost of any existing package

ANSWER 5

- a) PG&E's Gas Mapping Department has two employees responsible for creating Design Pipeline Feature Lists (PFLs). These employees spend approximately 5 to 10 hours per week on Design PFLs. At this time the Design PFLs are not being loaded in PG&E's Gas Transmission Geographic Information Systems (GIS); they are retained in the Maximum Allowable Operating Pressure (MAOP) portal until the as-built drawings are completed, after which they are revised with the as-built features into final PFLs. The PFLs are then aligned to the pipeline centerline and uploaded into the transmission GIS.
- b) The amount of time spent creating Design PFLs has been roughly constant since 2011, when PG&E started creating PFLs. Based on the hours worked on Design PFLs described in subpart (a) above, and using the fully loaded hourly rate for gas mappers of \$139 per hour, the estimated annual cost to perform this work is shown below:

$$5 \text{ hours/week} \times 52 \text{ weeks} \times \$139/\text{hour} = \$36,140$$

$$10 \text{ hours/week} \times 52 \text{ weeks} \times \$139/\text{hour} = \$72,280$$

- c) Between 2,300 and 8,500 new Design and Final PFLs were created per year between 2011 and 2013 with a forecast of 3,000 that will be completed in 2014. The amount of time required to upload each PFL into GIS depends on the complexity of each PFL. Simple PFLs with just a few components can be uploaded and aligned in less than an hour whereas more complex PFLs that cover several miles may take more than a day to upload and align.
- d) The specific software product for this project will be determined in the plan/analyze phase of this project. The options to use off-the-shelf software or design from scratch will both be considered for this project. Specific costs for off-the-shelf software will be assessed during the plan/analyze phase of the project.

PACIFIC GAS AND ELECTRIC COMPANY
Gas Transmission and Storage Rate Case 2015
Application 13-12-012
Data Response

PG&E Data Request No.:	TURN_029-04		
PG&E File Name:	GTS-RateCase2015_DR_TURN_029-Q04		
Request Date:	July 11, 2014	Requester DR No.:	TURN-29
Date Sent:	August 1, 2014	Requesting Party:	The Utility Reform Network
PG&E Witness:	Ben Campbell Bennie Barnes	Requester:	Bob Finkelstein and Garrick Jones

SUBJECT: VOL. 1, CH. 4A (TRANSMISSION PIPE INTEGRITY AND EMERGENCY RESPONSE PROGRAMS)

REFERENCES IN THESE REQUESTS ARE FOR PAGES IN PG&E'S WORKPAPERS.

QUESTION 4

Re. Hydrostatic Testing on p. WP 4A-50,

- a. PG&E states, "PG&E believes that [the 2013 forecasted] cost per mile and resulting program expense cost is reasonable because it is based on historical costs efficiencies gained during PSEP, which is a period when PG&E has had incentive to be efficient and reduce the cost of strength testing to the lowest cost possible, due to non-recoverability." Does PG&E believe that its incentive to reduce costs is higher when its program costs are unrecoverable than when they are recoverable, all else being equal? Please provide an explanation detailing the rationale for your response.
- b. Please extend the recorded dataset in Table 1 to include 2009-2014 (year to date), but in constant dollars.

ANSWER 4

- a. No, PG&E's statement was not comparing when incentives are greater. PG&E does not believe that its incentive to reduce costs is higher when its program costs are unrecoverable than when they are recoverable. PG&E intended to convey that there has been a strong incentive for hydrotesting, as a new program that ramped up very quickly impacting early costs, to reduce its costs by improving the hydrotest processes and efficiencies.
- b. See updated table below.

Dollars are real dollars in thousands. They have not been adjusted for inflation and are not held constant.

Program	2009	2010	2011	2012	2013	2014forecast
StrengthTests	\$ 1,481	\$ 159	\$ 231,000	\$ 178,895	\$ 169,524	\$ 160,000
MAOPValidation	\$ -	\$ -	\$ 90,464	\$ 120,319	\$ -	\$ -
Uprates/OtherTestRelatedExpense	\$ -	\$ -	\$ 19,727	\$ (804)	\$ 28,215	\$ 19,145
TotalExpense	\$ 1,481	\$ 159	\$ 341,191	\$ 298,410	\$ 197,739	\$ 179,145

PACIFIC GAS AND ELECTRIC COMPANY
Gas Transmission and Storage Rate Case 2015
Application 13-12-012
Data Response

PG&E Data Request No.:	TURN_029-05		
PG&E File Name:	GTS-RateCase2015_DR_TURN_029-Q05		
Request Date:	July 11, 2014	Requester DR No.:	TURN-29
Date Sent:	July 31, 2014	Requesting Party:	The Utility Reform Network
PG&E Witness:	Ben Campbell	Requester:	Bob Finkelstein and Garrick Jones

SUBJECT: VOL. 1, CH. 4A (TRANSMISSION PIPE INTEGRITY AND EMERGENCY RESPONSE PROGRAMS)

REFERENCES IN THESE REQUESTS ARE FOR PAGES IN PG&E'S WORKPAPERS.

QUESTION 5

Re. Hydrostatic Testing on p. WP 4A-51,

- a. Please extend the recorded dataset to include annual expenses from 2009-2014 (year to date), but in constant dollars. Please divide each value between PG&E labor and contract labor. Please further divide PG&E labor between straight- and overtime labor.
- b. Please identify forecasted annual expenses for 2013-2015 in constant dollars and divide each value between PG&E labor and contract labor. Please further divide PG&E labor between straight- and overtime labor.
- c. Please identify and explain in detail the five most significant drivers of the unit-cost reduction between 2011 and 2012 for Strength Testing (as shown in Table 2 on p. WP 4A-51).
- d. Please identify and explain in detail the five most significant drivers of the unit-cost reduction PG&E expected between 2012 and 2013 for Strength Testing (as shown in Table 2 on p. WP 4A-51).
- e. Please identify and explain in detail the five most significant drivers of the unit-cost increase PG&E expected between 2013 and 2014 for Strength Testing (as shown in Table 2 on p. WP 4A-51).
- f. Please identify and explain in detail the five most significant drivers of the unit-cost decrease PG&E expects between 2014 and 2015 for Strength Testing (as shown in tables 2 and 3 on p. WP 4A-51).
- g. Does PG&E expect to further reduce its unit costs related to strength testing beyond the level achieved in 2013 (relative to 2011 and 2012)? If so, please provide PG&E's best forecast of the expected further reduction for 2014, 2015, 2016 and 2017. If not, please explain why not.

ANSWER 5

- a) The table below presents 2009 through 2014 year-to-date total hydrotest expense spend. The table below is in real dollars. PG&E's program totals for 2009 and 2010 together are approximately \$600,000, where in 2011 alone PG&E spent approximately \$211 Million. This makes a constant dollar comparison difficult as inflation rates typically vary for different services (i.e. labor or materials) unless there is a previously agreed-upon inflation rate to adjust costs as a whole.

The table below includes:

- i. Total contractor spend as captured under contract cost elements which includes contractor labor, contractor provided materials and other related expenditures.
- ii. Total PG&E straight-time labor.
- iii. Total PG&E overtime labor.

	2009	2010	2011	2012	2013	YTD March 2014
Contractor Spend	\$ 101,378.00	\$ 62,098.00	\$ 193,270,559.00	\$ 165,057,512.00	\$ 144,629,519.00	\$ 10,116,369.00
PG&E Straight Time	\$ 131,921.00	\$ 252,879.00	\$ 11,524,020.00	\$ 15,732,408.00	\$ 14,192,636.00	\$ 3,319,002.00
PG&E Overtime	\$ 9,495.00	\$ 35,188.00	\$ 7,252,775.00	\$ 7,252,775.00	\$ 6,877,972.00	\$ 507,452.00

- b) Forecasted dollars were not built in this manner.
- c) Unit cost reductions were realized in 2012 as compared to 2011 based on longer tests. In 2011, PG&E completed 97 individual tests and 163 miles. In 2012, PG&E completed 96 tests for 176 miles. This increase in average miles tested per test leads to a lower unit cost (cost/mile). PG&E also was in a state of ramping up this program in 2011 and significant costs were incurred to staff the program and train staff to use PG&E testing protocols. Also, PG&E spent significant dollars in 2011 to scope initial work and find and verify test records. Other efficiencies gained or cost reductions are outlined in PG&E's 2015 Gas Transmission and Storage Rate Case Chapter 9 Testimony pages 9-12 through 9-14 under the "Benefits of the Program Management Office" section.
- d) Unit cost reductions were realized in 2013 as compared to 2012 based on longer tests. In 2012, PG&E completed 96 individual tests and 176 miles. In 2013, PG&E completed 80 tests for 198 miles. This increase in average miles tested per test leads to a lower unit cost (cost/mile). In 2013, PG&E also benefitted from an ability to plan the work further into the future (i.e., scoping 2013 work in 2012) which drives down labor and allows for more flexibility in the construction planning and permitting process. Other efficiencies gained or cost reductions are outlined in PG&E's 2015 Gas Transmission and Storage Rate Case Chapter 9 Testimony pages 9-12 through 9-14 under the "Benefits of the Program Management Office" section.
- e) PG&E forecasts vary based on the best project information available at the time. For PG&E's 2015 through 2017 forecasts, PG&E assumed the 2013 portfolio was the best representation of test considering the mileage completed a mix of pipe. For 2014, PG&E is conducting approximately 70 tests, which is similar in number of tests to the 2013 portfolio. However, these 2014 tests are shorter in nature leading to an increased unit cost.

Year	Tests	Miles	Miles / Test
2013	80	198	2.5
2014	72	145	2.0

- f) See answer to subpart (e) above. In 2015, the biggest cost driver continues to be average miles tested per test. The plan or scope of work for 2015 is approximate to the 2013 scope with similar mileage and the same approximate number of tests so that the average miles tested per test is similar.
- g) PG&E is not anticipating a further reduction in hydrotest costs from the level achieved in 2013. Costs have been driven down significantly on a unit cost basis since 2011. Considering the type of work to be completed through 2017 is similar in nature to work planned in 2013, any small efficiencies gained will most likely be offset by rising labor, construction, and material costs.

PACIFIC GAS AND ELECTRIC COMPANY
Gas Transmission and Storage Rate Case 2015
Application 13-12-012
Data Response

PG&E Data Request No.:	TURN_029-08		
PG&E File Name:	GTS-RateCase2015_DR_TURN_029-Q08		
Request Date:	July 11, 2014	Requester DR No.:	TURN-29
Date Sent:	August 4, 2014	Requesting Party:	The Utility Reform Network
PG&E Witness:	Bennie Barnes	Requester:	Bob Finkelstein and Garrick Jones

SUBJECT: VOL. 1, CH. 4A (TRANSMISSION PIPE INTEGRITY AND EMERGENCY RESPONSE PROGRAMS)

REFERENCES IN THESE REQUESTS ARE FOR PAGES IN PG&E'S WORKPAPERS.

QUESTION 8

Re. Piggability on p. WP 4A-161,

- a. The Piggability Study states, "To elaborate on estimating the costs associated for the necessary pipe replacements, Willbros utilized an interactive spreadsheet that was developed internally which takes into account historical data, as well as, up-to-date vendor quotes."
 - i. Please provide the referenced historical data, including but not limited to, unit costs and units performed by the year in which each was performed.
 - ii. Please explain in detail how Willbros used vendor costs to adjust historical costs.
 - iii. Please identify and explain all adjustments PG&E made to forecasts to make line piggable to account for the likelihood that PG&E has discovered efficiencies during the PSEP phase of its infrastructure and replacement program.
 - iv. Does PG&E expect to continue to discover efficiencies once it transitions out of the PSEP phase of its infrastructure and replacement program? If so, please provide PG&E's best forecast of the expected further reduction attributable to those efficiencies for 2014, 2015, 2016 and 2017. If not, please explain why not.
- b. The Piggability Study states that PG&E determined the budgetary costs for the "Traditional ILI" sections within a margin of error of +/- 20% using the unit cost sheets. What point estimate within the margin of error did PG&E use to make its forecast for the Traditional ILI work? E.g., -20%? The midpoint? +20%? Something else? Please provide PG&E's justification for its estimate choice.

ANSWER 8

- a. Regarding the Willbros Piggability study on page WP 4A-161:

- i. PG&E is not able to provide the referenced historical data, as this is confidential proprietary data developed by Willbros Engineers, LLC based on work Willbros has done for other companies.
 - ii. Please see subpart (i) above.
 - iii. During the development of the In-Line Inspection (ILI) cost forecasts, PG&E did not specifically incorporate adjustments based on Pipeline Safety Enhancement Plan (PSEP) cost efficiencies. However, PG&E did perform a detailed tabletop project evaluation which incorporated subject matter knowledge, including project efficiencies, into the decision making. A summary of the adjustments made as a result of this analysis is included in workpapers on pages WP 4A-444 through WP 4A-454.
 - iv. PG&E expects that it will discover efficiencies as it implements this longer term ILI program. However, since PG&E has not yet identified these additional efficiencies, PG&E cannot predict at this time what such efficiencies would yield in cost reductions for 2014, 2015, 2016 and 2017.
- b. PG&E's final forecast for its Traditional ILI program were not done in this manner. Instead the Willbros work was further evaluated using the study shown in workpapers on pages WP 4A-444 through WP 4A-454 and associated individual project adjustments were made and shown in the results of this study.

PACIFIC GAS AND ELECTRIC COMPANY
Gas Transmission and Storage Rate Case 2015
Application 13-12-012
Data Response

PG&E Data Request No.:	TURN_029-11		
PG&E File Name:	GTS-RateCase2015_DR_TURN_029-Q11		
Request Date:	July 11, 2014	Requester DR No.:	TURN-29
Date Sent:	July 25, 2014	Requesting Party:	The Utility Reform Network
PG&E Witness:	Bennie Barnes	Requester:	Bob Finkelstein and Garrick Jones

SUBJECT: VOL. 1, CH. 4A (TRANSMISSION PIPE INTEGRITY AND EMERGENCY RESPONSE PROGRAMS)

REFERENCES IN THESE REQUESTS ARE FOR PAGES IN PG&E'S WORKPAPERS.

QUESTION 11

Re. items g.-i. on p. WP 4A-163, please identify and explain in detail the specific potential savings PG&E describes in the bullet points (and any other savings not described therein) that PG&E believes it can now achieve, given the additional 14 months it has had to study the issue since PG&E published its Piggability Study on May 8, 2013. For each category of savings PG&E identifies, please quantify the expected savings in each year, 2014-2017, tying the amounts to the expected costs shown in the second table on p. WP 4A-162.

ANSWER 11

PG&E has implemented several of the objectives already through lessons learned from its Pipeline Safety Enhancement Plan (PSEP). See GTS-RateCase2015_DR_IndicatedProducers_002-Q018 for references to the many lessons learned in PSEP. PG&E summarizes the actions it has taken with respect to items g. through i. in the Willbros study in the response to TURN_006_Q06. However, PG&E has not conducted a comprehensive quantitative analysis tying the amounts to the expected costs shown in the second table on page WP 4A-162.

Attachment 3

TURN Strength Test Workpaper (Hypothetical Nitrogen-Based Cost Savings Calculation) (Table 3 of Jones Testimony (p. 10))

Calculation to obtain percent tests done with Nitrogen in 2014

	Test Count	Miles	Source/Comment
2014F	72	145	TURN DR 29-5e.
2014R (Q2)	12	25	"Miles" are from PSEP Compliance Report, July 30, 2014, p. 3 (Table 1); number of tests are calculated with ratio. Ratio: $\frac{[[\text{Test Count in 2014F}] \times [\text{Miles in 2014R (Q2)}]]}{[\text{Miles in 2014F}]}$
Tests done with Nitrogen in Q2 2014	6	NA	PSEP Compliance Report, July 30, 2014, p. 39
Percent of tests done with Nitrogen in Q2 2014	48.3%	NA	Calculation: $\frac{[\text{Tests done with Nitrogen in Q2 2014}]}{[\text{Test Count in 2014R (Q2)}]}$

Calculation to obtain cost savings with same proportion of nitrogen-based tests in 2015 as in Q2 2014

Category	2014F	2014R (Q2)	2015F	Source/Comment
Overall test count	72	12	80	2014F and 2014R (Q2) values from table above; 2015F value is from TURN DR 29-5e.
Tests with nitrogen	NA	6	39	2014R (Q2) value is from table above; 2015F value is overall 2015F Test count X Percent of tests done with Nitrogen in Q2 2014.
Cost savings (\$MM)	NA	3.8	24.5	2014R (Q2) value is from PSEP Compliance Report, July 30, 2014, p. 39; 2015F value calculated with ratio. Ratio: $\frac{[[\text{Cost savings in 2014R (Q2)}] \times [\text{Tests with Nitrogen in 2015F}]]}{[\text{Tests with Nitrogen in 2014R (Q2)}]}$

Note: I applied a simple ratio of the number of tests done with nitrogen in Q2 of 2014 to the overall test count (i.e., 48.3%) to the overall number of tests PG&E expects to execute in 2015 to get the number of tests expected using nitrogen in 2015. To obtain the associated costs savings, I applied the ratio of 2014 recorded nitrogen tests to the recorded cost savings to the number of tests implied for the 2015 forecast.