EDF DATA REQUEST
EDF-SDG&E-DR-01
SDG&E 2016 GRC – A.14-11-003
SDG&E RESPONSE
DATE RECEIVED: APRIL 23, 2015
DATE RESPONDED: MAY 7, 2015

1. On page 17-18 of Frank Ayala's revised testimony, San Diego Gas & Electric Company ("SDG&E") discusses its current leak survey method, of using an individual with a leak detection device. Please provide an explanation and appropriate documentation of any other methods or technologies that SDG&E uses to detect leaks.

SDG&E Response:

There are basically three "methodologies" or technologies that SDG&E employs in leak detection:

1. Detecting leaks by an employee walking with a hand-held leak detection device monitoring for leaks directly above the target area with the device probe. A copy of the manufacturer's product brochure which includes a brief explanation of the device is included as a separate file titled EDF-SDG&E-DR-01_Q1_DPR-Brochure.pdf.

2. Detecting leaks using a mobile leak detection device mounted on the front of a service vehicle driving above or alongside of a gas main. The device is called an Optical Methane Detector (OMD). If leaks are detected, the operator returns to the site and confirms the leak with a hand held device. A copy of the manufacturer's product brochure which includes a brief explanation of the device is included as a separate file titled EDF-SDG&E-DR-01_Q1_OMD-Brochure.pdf.

3. Detecting leaks by an employee using a hand held device at a remote location and "shooting" an infrared laser beam to detect the presence of natural gas remotely when the target area is hard to reach or not readily accessible. This device is called a Remote Methane Leak Detector (RMLD). An excerpt from the manufacturer's user manual which includes a brief explanation of the device is included as a separate file titled EDF-SDG&E-DR-01_Q1_RMLD-Manual-Excerpts.pdf.

EDF DATA REQUEST
EDF-SDG&E-DR-01
SDG&E 2016 GRC – A.14-11-003
SDG&E RESPONSE
DATE RECEIVED: APRIL 23, 2015
DATE RESPONDED: MAY 7, 2015

2. On page 18 of Frank Ayala's revised testimony, he describes SDG&E's forecast method and cost drivers for leak surveys as a five-year average for annual expenses. Does this testimony account for the changes required under SB 1371? If so, please provide an explanation and appropriate documentation of how SB 1371 is accounted for.

SDG&E Response:

Mr. Frank Ayala's testimony, Exhibit SDG&E-04 accounts for a cost forecast based on requirements under SB 1371 to minimize hazardous leaks consistent with specified existing federal and CPUC safety regulations. As referenced in the Natural Gas Safety Act of 2011, in Public Utilities Code 961 and in SB 1371, SDG&E meets or exceeds the minimum standards for the safe design, construction, installation, operation and maintenance of gas distribution facilities prescribed by federal regulations issued by the DOT in Title 49 Part 192 and the Commission's General Order 112-E.

Simultaneously, SDG&E addresses a portion of the requirements under SB 1371 as established procedures in its Gas Standards in compliance with these regulations including the following:

- In compliance with these regulations, SDG&E puts the safety of its employees, customers, and communities at its highest priority.
- Pursuant to DOT Title 49 Part 192, SDG&E minimizes "leaks as a hazard" in its prioritization of reported or detected leaks and response procedures.
- SDG&E provides for the repair of leaks, on a priority basis, as soon as reasonably possible after discovery consistent with established safety requirements.
- SDG&E is aware of, and where appropriate, implements "best practices" for leak surveys, patrols, leak survey technology, leak prevention, and leak reduction through continued contact with industry counter parts, dialog with leak detection vendors, evaluation of new technologies through its internal Tool Committee, and its attendance at industry equipment professional workshops.

The portion of SB 1371 that is not included in Mr. Frank Ayala's testimony, Exhibit SDG&E-04 is any changes in leak management requirements above and beyond those already performed in compliance with 49 CFR 192 and GO 112-E and the additional SB 1371 requirements for evaluation and estimates of gas loss from leaks that have yet to be considered in Rulemaking 15-01-008. The Rulemaking was filed January 15, 2015 and is ongoing.

EDF DATA REQUEST
EDF-SDG&E-DR-01
SDG&E 2016 GRC – A.14-11-003
SDG&E RESPONSE
DATE RECEIVED: APRIL 23, 2015
DATE RESPONDED: MAY 7, 2015

3. Referring to page 18 of Frank Ayala's testimony, please provide an explanation and appropriate documentation as to how leak surveys are currently monitored and on how frequently they are done.

SDG&E Response:

SDG&E meets and in many cases exceeds the leak survey requirements of DOT CFR 49 Title 192 and Commission's General Order 112-E by the following periodic leak surveys:

Above grade surveys:

- Survey of above ground piping exposed to the atmosphere (which includes all customer meter set assemblies and all above ground distribution facilities such as gas regulator stations and district gate stations) on a three-year interval.
- Survey of pipelines in bridges and pipeline spans across ravines to inspect for atmospheric corrosion, pipeline wrap damage and proper pipeline warning signage on an annual interval.

Below grade surveys:

- Survey of the entire plastic pipe and cathodically protected distribution pipeline system on a five-year interval. This is the primary gas distribution system (mains and services) serving our residential and commercial customers.
- Survey of the principal business areas in a community where large numbers of people congregate regularly on an annual interval.
- Survey of buried gas facilities in areas that have been designated as unstable earth (known slide areas) on a bi-monthly interval.
- Survey of high pressure (greater than 60psig) pipelines on a quarterly interval.
- Survey of pipelines crossing under railways on a bi-monthly interval
- Spot or special surveys (no periodic interval) to meet operational requirements (leak surveys following the uprating of the operating pressure of a pipeline), selected areas following a significant earthquake event.
- A follow-up leak investigation (when called) following a visit to a customer's premise by a Customer Service representative who was unable to find a leak reported by the customer.
- Survey of all Transmission Pipelines on a semi-annual interval.

EDF DATA REQUEST
EDF-SDG&E-DR-01
SDG&E 2016 GRC – A.14-11-003
SDG&E RESPONSE
DATE RECEIVED: APRIL 23, 2015
DATE RESPONDED: MAY 7, 2015

SoCalGas Response to Question 3, Continued:

The above listed fixed interval leak surveys are monitored (scheduled, recorded, and reported) using the SAP Work Management System. Leak survey plans for all the above listed surveys are developed on a quarterly basis by the SAP system then turned over to the ClickMobile dispatching system following review of the plans by Leak Survey supervision. The ClickMobile Dispatching system provides efficient routing and fixed schedule performance.

ClickMobile dispatches the fixed interval survey work on a weekly basis in accordance with the developed survey plans. The ClickMobile system also combines the unscheduled or spot leak surveys (from leak investigation orders) together with the planned surveys to make up the weekly work schedule.

EDF DATA REQUEST
EDF-SDG&E-DR-01
SDG&E 2016 GRC – A.14-11-003
SDG&E RESPONSE
DATE RECEIVED: APRIL 23, 2015
DATE RESPONDED: MAY 7, 2015

4. On page 20-21 of Frank Ayala's revised testimony, he describes SDG&E' Field O&M – Main Maintenance expenses. He testifies that a consideration of cost includes the amount of leaks evaluated and repaired each year, and that number is based on customer complaints and leak surveys done by employees. Does SDG&E's cost estimate include the likely possibility that SDG&E's backlog of leaks will have to be fixed once SB1371 is implemented and may include more leak survey's which tend to lead to finding more leaks to repair? Please provide an explanation and appropriate documentation how SB 1371 was factored into this calculation.

SDG&E Response:

SDG&E does not have a leak backlog for the distribution gas system mains and services. The leak surveys that SDG&E performs both at planned intervals and special leak investigations (not on a scheduled basis) are listed and described in the response to question #3 above. These are surveys that are performed to meet or exceed the minimum requirements of DOT 49 CFR Part 192 and GO 112-E.

Since SDG&E does not have a leak backlog and any new rules and procedures pursuant to SB 1371 have not yet been adopted in Rulemaking 15-01-008, SDG&E did not forecast more leak surveys or repairs associated with SB 1371. Leak surveys and associated survey expenses were forecast as expected to occur on a five year (2009 to 2013) average basis.

Only SB 1371's requirement that hazardous leak reduction be consistent with existing safety regulations was factored into a "calculation" for leak surveys. How SB 1371 is accounted for in Mr. Frank Ayala's testimony, Exhibit SDG&E-04 is described in the response to question #2 above.

EDF DATA REQUEST
EDF-SDG&E-DR-01
SDG&E 2016 GRC – A.14-11-003
SDG&E RESPONSE
DATE RECEIVED: APRIL 23, 2015
DATE RESPONDED: MAY 7, 2015

5. On page 25-26 of Frank Ayala's revised testimony, he describes SDG&E's Field O&M – Service Maintenance expenses. He testifies that a consideration of cost includes the amount of leaks evaluated and repaired each year, and that number is based on customer complaints, and leak surveys done by employees. Does SDG&E's cost estimate, include the likely possibility that SDG&E's backlog of leaks will have to be fixed once SB1371 is implemented and may include more leak survey's which tend to lead to finding more leaks? Please provide an explanation and appropriate documentation.

SDG&E Response:

EDF Question 4 addresses main maintenance expenses and associated leak surveys and this question (#5) requests the same response for service maintenance expenses and associated leak surveys.

SDG&E crafted a response to both service and main maintenance expenses in the response to EDF's Question 4. Therefore please refer to the response to Question 4 for a response to this question.

EDF DATA REQUEST
EDF-SDG&E-DR-01
SDG&E 2016 GRC – A.14-11-003
SDG&E RESPONSE
DATE RECEIVED: APRIL 23, 2015
DATE RESPONDED: MAY 7, 2015

6. SB 1371 requires that interested parties come up with new best practices for leak surveys, detection, repair and replacement. This will likely include new technologies and different practices for all areas including the addition of quantification of the amount of natural gas leaked, requiring different supervision and training. Frank Ayala's testimony on page 29-30 indicates that SDG&E expects increased costs for supervision and training in the coming years, is this associated with SB 1371? Are these expected increased costs reflected in the cost requirements of this proceeding? Please provide an explanation and appropriate documentation.

SDG&E Response:

Supervision and Training expenses as described in the direct testimony of Frank Ayala, Exhibit SDG&E-04, p FBA-29 to 31 include field skills training for SDG&E's Gas Distribution personnel which includes refresher training, training as a result of job changes requiring additional technical skills, or the need for additional training due to the deployment of new equipment with new technology or changes in regulations. In addition, expenses here provide for field supervision – the position of influence with front-line employees and who are responsible for coaching and mentoring these employees to work safely, follow Company procedures, and maintain and build a safe and reliable natural gas delivery system. These increased costs are for additional training activity associated with Operator Qualification, including the increase in the number of tasks and the frequency of qualifications which will cause costs in this group to increase above the base level of expense. Expected increased costs in the forecast years (2014 to 2016) for supervision and training are not associated with SB 1371 and therefore not reflected in the cost requirements of this proceeding.

EDF DATA REQUEST
EDF-SDG&E-DR-01
SDG&E 2016 GRC – A.14-11-003
SDG&E RESPONSE
DATE RECEIVED: APRIL 23, 2015
DATE RESPONDED: MAY 7, 2015

7. How is SDG&E incorporating the costs associated with the environmental harm of leaking pipes in their transmission system and the fact that environmental harm will have to be addressed within the 3 year period of this rate schedule due to SB 1371? Please provide an explanation and appropriate documentation.

SDG&E Response:

Any potential costs associated with reducing greenhouse gas (GHG) emissions pursuant to SB 1371'snatural gas leakage abatement requirements cannot yet be determined in the absence of the rules and procedures yet to be adopted in Rulemaking (R.) 15.01-008. Because the Rulemaking is still gathering information in Phase 1, SDG&E cannot speculate as to how SB 1371's requirements will be accounted for in its GRC beyond information already provided in testimony, workpapers, and data request responses until the Rulemaking establishes rules and procedures for reduction of methane emissions in Phase 2.

Once SB 1371 compliance requirements and activities are defined in the Rulemaking, then SDG&E will incorporate the environmental costs associated with potential methane leak abatement into the existing New Environmental Regulatory Balancing Account (NERBA) Gas. We will utilize our existing NERBA accounting practices that requires activity-specific sub accounts for financial reporting of O&M and Capital expenditures. SB1371 expenditures related to leaking pipes will be tracked within the sub accounts by using unique internal orders and the costs are validated for appropriateness on a monthly basis. For additional information regarding the NERBA, please refer to Richard S. Pearson's testimony (SDG&E-18) and workpapers (SDG&E-18-WP) at 1EV000.002, RNERBA – ENVIRONMENTAL FEES – GAS REFUNDABLE and the testimony of Norma Jasso, Regulatory Accounts (SDG&E-35).

EDF DATA REQUEST
EDF-SDG&E-DR-01
SDG&E 2016 GRC – A.14-11-003
SDG&E RESPONSE
DATE RECEIVED: APRIL 23, 2015
DATE RESPONDED: MAY 7, 2015

8. In Section III of Frank Ayala's testimony, he discusses capital expenditures for the pipeline system. Do these numbers include expected expenditures of repairing known leaks? Please provide an explanation and appropriate documentation regarding cost expenditures based on known leaks within the gas transmission system.

SDG&E Response:

Section III of the direct testimony of Frank Ayala, Exhibit SDG&E-04 is for capital expenses which include investment in the SDG&E gas distribution infrastructure for gas meters and new pipeline mains and services to serve new customers, pipeline system improvements for gas service reliability and gas system pipeline integrity. O&M expenses found in Section II of the direct testimony are the resource of expenses for repair of "known leaks" in the gas pipeline system.

The closest capital expense category in Section III that provides related expenses is category III.J., "Replacement of Mains and Services" described on page FBA-80 to 81 of the direct testimony of Frank Ayala, Exhibit SDG&E-04. This capital category provides funding for proactive replacement of gas pipelines that have a greater likelihood of leaks. These leaks have been promptly repaired at the time discovered and therefore are not "known leaks."

There are no known leaks in the SDG&E gas transmission system.

EDF DATA REQUEST
EDF-SDG&E-DR-01
SDG&E 2016 GRC – A.14-11-003
SDG&E RESPONSE
DATE RECEIVED: APRIL 23, 2015
DATE RESPONDED: MAY 7, 2015

9. John L. Dagg's testimony on costs discusses maintaining compliance with regulatory standards, but does not include any predictions about new requirements that might cause cost increases. Please provide an explanation and appropriate documentation as to how known regulatory changes are incorporated into future costs for maintaining compliance.

SDG&E Response:

As noted throughout the testimony, "Applicable regulations cover a broad range of concerns, including: air quality; asbestos; lead; polychlorinated biphenyls; natural resources; ground water; storm water; hazardous waste …… ", and that "In order to uphold compliance with applicable regulations and permitting and reporting requirements, Gas Transmission continually tracks and analyzes changes in regulatory requirements and adjusts operations accordingly".
The process of identifying, tracking, analyzing and incorporating operational changes in order to sustain or achieve compliance with existing or new regulations, is accomplished through a supportive intercompany network of technical disciplined subject matter expertise organizations which provide Gas Transmission with support and guidance.
As noted within the testimony (JLD-4, Lines 27 – 31), "My testimony provides support for certain environmental cost forecasts that are discussed in the Environmental Services testimony of Scott Pearson (Exhibit SDG&E-18)", "Where this testimony discusses environmental, fleet or related topics, those related exhibits provide additional information."
Three specific regulatory influenced cost drivers outlined within the Gas Transmission testimony are 1) RECLAIM Credits (air discipline), 2) State Water Resource Control Board (water quality discipline) and 3) Senate Bill 1371 (air discipline). These topics can be located as follows;
RECLAIM: JLD-12, Lines 10 – 24 ($123,000 funding increase)
SWRCB: JLD-12 – 13, Lines 25 – 3 respectively ($13,000 funding increase)
SB 1371: JLD-13 – 14, Lines 18 – 9 respectively ($74,000 funding increase)

EDF DATA REQUEST
EDF-SDG&E-DR-01
SDG&E 2016 GRC – A.14-11-003
SDG&E RESPONSE
DATE RECEIVED: APRIL 23, 2015
DATE RESPONDED: MAY 7, 2015

10. In M. Martinez's testimony, she discusses how the cost of a type of remediation is taken into consideration when choosing how to fix a pipe. Please provide the factors used to determine cost effectiveness, and a log of repairs made and how that type of repair is determined. Please provide an explanation and appropriate documentation as to whether SDG&E is planning for quantification of the natural gas/methane emissions to be a factor in consideration of how to remediate a pipe.

SDG&E Response:

The factors currently used to determine cost effectiveness are the extent of the remediation, labor hours, natural gas released and customer impacts. As part of the Transmission Integrity Management Program, SDG&E completed five repairs of which four were welded sleeves and one cylindrical replacement in 2014. SDG&E will continue to consider natural gas emissions as one of the factors to determine the remediation method. Plans to quantify emissions will be more clearly delineated once the CPUC adopts rules and procedures in Phase 2 of the Rulemaking 15-01-008, including requirements for quantification.

EDF DATA REQUEST
EDF-SDG&E-DR-01
SDG&E 2016 GRC – A.14-11-003
SDG&E RESPONSE
DATE RECEIVED: APRIL 23, 2015
DATE RESPONDED: MAY 7, 2015

11. Under what situations is a pipe replaced instead of repaired? Please provide an explanation and appropriate documentation concerning when replacement pipes are used instead of repairs and the reasons why replacement was required.

SDG&E Response:

When the pipe condition is found to be hazardous or the pipeline has conditions similar to pipelines with a history of failures, the field and technical staff determines replacement options. Replacement projects are scheduled as planned replacements based on the evaluation of criteria such as observed condition of the pipe, coating deterioration, prior leak history (leaks have been promptly repaired), age of the pipe, construction methods originally used, and location relative to places of gathering. One example of evaluation of criteria is the use of the Distribution Risk Evaluation and Monitoring System (DREAMS). DREAMS is the facility replacement program that manages performance of replacement of particular facilities or groups of facilities identified for risk reduction/mitigation.

EDF DATA REQUEST
EDF-SDG&E-DR-01
SDG&E 2016 GRC – A.14-11-003
SDG&E RESPONSE
DATE RECEIVED: APRIL 23, 2015
DATE RESPONDED: MAY 7, 2015

12. Please provide an explanation and appropriate documentation as to how SDG&E came up with the $74,000 in John Dagg's testimony for expenses related to SB1371.

SDG&E Response:

The 2016 forecast amount of $74,000 appearing in testimony is incorrect. The forecast amount should have reflected $42,000.
Following provides analysis and calculations utilized in the development of the forecast;

Issue Title:	NERBA[1] Greenhouse Gas (GHG) Methane Emissions Leak Detection and Repair (LDAR) Impact Program
ES Lead & Contact #:	Scott Boczkiewicz Team Lead – Air and Water SDG&E Environmental Programs
Impacted BU's & Project Types:	SDG&E
Affected Plan Category (O&M; Capital; Other) and Cost Centers:	Gas Transmission (O&M)
Issue Description and Scope:	Senate Bill SB1371 (Leno) requires the California Public Utilities Commission to adopt rules and procedures governing the operation, maintenance, repair, and replacement of commission-regulated gas pipeline facilities to minimize leaks as a hazard to be mitigated pursuant to the Natural Gas Pipeline Safety Act of 2011 and to eliminate uncontrolled emissions of natural gas from commission-regulated gas pipeline facilities to the maximum extent feasible.

[1] New Environmental Regulatory Balancing Account (NERBA)

EDF DATA REQUEST
EDF-SDG&E-DR-01
SDG&E 2016 GRC – A.14-11-003
SDG&E RESPONSE
DATE RECEIVED: APRIL 23, 2015
DATE RESPONDED: MAY 7, 2015

Response to Question 12 (Continued)

<table>
<tr><td>Estimated Cost Impacts</td><td>
<u>Total Expected Costs per Year ($000K)</u>
<table>
<tr><th>Type</th><th>2014</th><th>2015</th><th>2016</th></tr>
<tr><td>O&M</td><td>$ -</td><td>$ -</td><td>$ 42</td></tr>
<tr><td>Grand Total</td><td>$ -</td><td>$</td><td>$ 42</td></tr>
</table>
Note: In 2015 SDG&E anticipates regulatory development for SB1371, with resulting costs in 2016.
</td></tr>
<tr><td>Timing of Change:</td><td>
1. Two closely related regulatory requirements impact these cost estimates, AB32 and SB1371. The financial impact of SB1371 is expected to begin 2016, as well as potential later changes to AB32. The associated Test Year 2016 cost estimates are shown here, with similar costs thereafter.

2. SB1371 (Leno) has a goal to reducing system-wide emissions of methane, provide for a ranking and prioritization, by volume, of leaks recorded by each commission-regulated gas pipeline facility and require the implementation of programs that minimize leaks as a hazard to be mitigated and reduce emissions of natural gas to the maximum extent feasible.
</td></tr>
<tr><td>Justification/ Reason for Change:</td><td>The SB1371 bill states that it is undisputed that natural gas pipelines and infrastructure in California leak natural gas. The incidence of natural gas leaks and their repair is considered by the industry and regulators to be a significant indicator of pipeline integrity and safety.</td></tr>
<tr><td>Cost Estimate & Methodology:</td><td>
SB1371 proposes implementing a leak detection and methane emissions reduction program, beginning with adoption of rules and procedures in January 2015. Cost estimating and methodology developed herein permits flexibility to adjust target methane emissions reductions and actual costs necessary to meet the developing regulatory requirements for methane emissions reduction.

Cost estimates for the gas operations group used best available data.
1. Transmission calculations were based on actual cost proposals to perform complete Equipment Component Inventory accounting and GHG Leak Monitoring for a large facility (e.g., base facility cost estimate). These costs were then utilized for applicable facilities at a specified percentage of the base facility cost. Estimates include the cost of identifying and repairing leaking pipes and engine equipment in line with anticipated regulatory changes.
</td></tr>
</table>

EDF DATA REQUEST
EDF-SDG&E-DR-01
SDG&E 2016 GRC – A.14-11-003
SDG&E RESPONSE
DATE RECEIVED: APRIL 23, 2015
DATE RESPONDED: MAY 7, 2015

Response to Question 12 (Continued)

Total Expected Costs per Year ($000K)					
			GRC Period Forecast		
Organization	Type	Cost Category	2014	2015	2016
Gas Transmission	Capital	Labor	$ -	$ -	$ -
Gas Transmission	Capital	Non-Labor	$ -	$ -	$ -
Gas Transmission	O&M	Labor	$ -	$ -	$ -
Gas Transmission	O&M	Non-Labor	$ -	$ -	$ 42
Total			$ -	$ -	$ 42

I. GRID WORKPAPERS JUSTIFICATION

GRID Workpaper Text

NERBA Greenhouse Gas (GHG) Methane Emissions Leak Detection and Repair (LDAR) Impact Program. - Senate Bill 1371 and Assembly Bill 32 LDAR are expected to impose new mandatory Greenhouse Gas leak detection and reduction requirements. The cost estimates are based on achieving maximum practicable methane emissions reduction and cover leak detection and repair efforts. See supplemental workpaper.

II. TOTAL EXPECTED COSTS PER YEAR

Total Expected Costs per Year ($000K)					
			GRC Period Forecast		
Organization	Type	Cost Category	2014	2015	2016
LDAR Impact Program	**O&M**	**Non-Labor**	$ -	$ -	$ 42
Total			$ -	$ -	$ 42

III. LDAR IMPACT PROGRAM COST DETAIL

Inventory Assessment, GHG Monitoring and Repairs (Contractor Labor and Materials Costs)

Inventory Assessment and Periodic GHG Monitoring
((22,032) + (58,600)) (1 facility) (.20) = **$16,126 (Moreno)**
((22,032) + (58,600)) (1 facility) (.10) = **$8,063 (Rainbow)**

Inventory Assessment and GHG Monitoring Cost Assumptions
Monitoring Cost = $22,032 (see Table 3)
Equipment/Component Inventory = $58,600 (see Table 1)
Work at Moreno facility is expected to cost approximately 20% of base facility cost estimate

Response to Question 12 (Continued)

Work at Rainbow facility is expected to cost approximately 10% of base facility cost estimate

Materials: Rod Packing & Engine Repairs (10,000 + 6000) x (2 facilities) (.20) = **$6,400 per year**

Materials: Rod Packing and Engine Repairs Cost Assumptions
Compressor Rod Coating and Cross-Head Repair Cost = $10,000
Engine Cylinder Packing Cost = $6,000
Materials costs are based on actual costs incurred by SoCal Gas in 2013
SDG&E facility costs will be approximately 20% of base facility. This cost estimate is based on the number of engines at the SDG&E facilities versus the base facility for which the initial costs were developed.

Inventory Assessment, GHG Monitoring and Repairs (Equipment Costs)

Inventory Assessment and Periodic GHG Monitoring Equipment Cost
(4,920 + 5,487 + 4,536) (2 facilities) (.25) = $**7,472 (Moreno and Rainbow)**

Inventory and GHG Monitoring Equipment Cost Assumptions
Inventory Materials Cost = $4,920 (see Table 2)
Inventory Equipment Cost = $5,487 (See Table 2)
GHG Monitoring Materials and Equipment Cost = $4,536 (See Table 4)
Work at Moreno and Rainbow facilities is expected to cost approximately 25% of the base facility. This percentage estimate is based on the number of engines at the SDG&E facilities versus the base facility for which the costs were initially developed.

Component Leak Repairs (6,000 + 4000) x (2 facilities) (.20) = **$4,000 per year**

Component Leak Repairs Cost Assumptions
Engine Cylinder Packing Cost = $6,000
Valve Replacement Materials Cost = $4,000
Estimates based on actual work costs from 2013 at SoCal Gas
SDG&E facility costs will be approximately 20% of base facility. This percentage estimate is based on the number of engines at the SDG&E facility versus the base facility for which the costs were initially developed.
Equipment/Component Inventory Project Cost Estimate

EDF DATA REQUEST
EDF-SDG&E-DR-01
SDG&E 2016 GRC – A.14-11-003
SDG&E RESPONSE
DATE RECEIVED: APRIL 23, 2015
DATE RESPONDED: MAY 7, 2015

Response to Question 12 (Continued)

Table 1. Estimated Contractor Labor Costs

Personnel Classification	Staff Hours Required	Straight Time Hourly Billing Rate	Straight Time Hourly Billing Rate	Straight Time Hourly Billing Rate	Extended Cost
Field Supervisor	590	$50.00	$70.00	$85.00	$29,500
Lead Technician	590	$42.00	$58.80	$71.40	$24,780
LeakDas Data Manager	120	$36.00	$50.40	$61.20	$4,320
Total					**$58,600**

Note: Cost based on 2 man crew @ (4) 10 Hour days for 59 days, plus data manager for 120 hours; both rates are based on straight time.

Table 2. Estimated Materials Costs

Material Type	Units	Billing Rate	Extended Cost
LeakDas Mobile (PDA)	1 PDA for 59 days	$25.00/per day usage	$1,475
Vehicle	1 vehicle for 59 days	$68.00/per day usage	$4,012
Sub-Total			**$5,487**
Tag Sets (include 1 tag, 1 SS wire)	6,000 tag sets	$00.82 each	$4,920
Sub-Total			**$4,920**

IV. GREENHOUSE GAS MONITORING COST ESTIMATE

Table 3. Estimated Contractor Labor Costs

Personnel Classification	Staff Hours Required	Straight Time Hourly Billing Rate	Extended Cost
Lead Technician	270	$42.00	$11,340
Technician	270	$36.00	$9,720
LeakDas Data Manager	27	$36.00	$972
Total			**$22,032**

Note: Cost is based on (2) man crew plus data manager for annual monitoring at straight time.

Response to Question 12 (Continued)

Table 4. Estimated Materials Costs

Equipment	Units	Billing Rate	Extended Cost
LeakDas Mobile (PDA)	2 PDAs for 27 days	$25.00/per day usage	$1,350
TVA 1000B Analyzer	2 PDAs for 27 days	$25.00/per day usage	$1,350
Vehicle	1 vehicle for 27 days	$68.00/per day usage	$1,836
Total			**$4,536**

Note: Cost is based on (2) man crew for annual monitoring.

EDF DATA REQUEST
EDF-SDG&E-DR-01
SDG&E 2016 GRC – A.14-11-003
SDG&E RESPONSE
DATE RECEIVED: APRIL 23, 2015
DATE RESPONDED: MAY 7, 2015

13. Please provide an explanation and appropriate documentation regarding how SDG&E is planning on tracking expenditures necessary for methane reduction.

SDG&E Response:

SDG&E is requesting that the costs for compliance with the new SB 1371 natural gas leakage abatement legislation be included in the New Environmental Regulatory Balancing Account (NERBA) because its scope and anticipated costs cannot be predicted with certainty at this time.

Once SB1371 compliance requirements and activities are defined, then SDG&E will track SB1371-related expenditures necessary for methane reduction by utilizing our existing accounting practices for the New Environmental Regulatory Balancing Account (NERBA) Gas. The accounting framework relies on the identification and quantification of costs related to specific activities including but not limited to methane reduction. Sub-accounts are utilized to accumulate and report on these specific activities within the NERBA.

EDF DATA REQUEST
EDF-SDG&E-DR-01
SDG&E 2016 GRC – A.14-11-003
SDG&E RESPONSE
DATE RECEIVED: APRIL 23, 2015
DATE RESPONDED: MAY 7, 2015

14. Please provide an explanation and appropriate documentation regarding how SDG&E plans to quantify its natural gas and methane emissions to comply with SB 1371.

SDG&E Response:

As part of the SB 1371 Rulemaking 15-01-008, SDG&E is currently collecting available data and evaluating potential compliance systems. This data collection effort is the first step in complying with SB 137's1 requirements. Plans to quantify emissions will be more clearly delineated once the CPUC adopts rules and procedures in Phase 2 of the Rulemaking, including requirements for quantification.

EDF DATA REQUEST
EDF-SDG&E-DR-01
SDG&E 2016 GRC – A.14-11-003
SDG&E RESPONSE
DATE RECEIVED: APRIL 23, 2015
DATE RESPONDED: MAY 7, 2015

15. Please also provide an explanation and appropriate documentation on how the costs of quantification will be factored into SDG&E's survey and evaluation of leaks and intentional releases of natural gas, including costs for technology upgrades, training and any other related costs.

SDG&E Response:

Any costs associated with technology upgrades, training or other costs required to quantify methane leaks and intentional releases will be determined when SB 1371's scope and regulations are developed and compliance requirements are known in Rulemaking 15-01-008.

With priority given to safety, reliability, and affordability of service, the costs of quantifying natural gas leaks and methane emissions to comply with SB 1371 will be evaluated pursuant to the cost considerations in Public Utilities Code Section 977, as directed by the legislation. The costs of potential technology upgrades, training and any other related costs associated with SDG&E's survey and evaluation of leaks and intentional releases of natural gas will be cost-effective and necessary expenditures to comply with all provisions of SB 1371.