

# PACIFIC GAS AND ELECTRIC COMPANY

## Advanced Meter Infrastructure (SmartMeter™) Program Data Response

PG&E Data Request No.:	SM_DRA_01/SM_ED_01		
PG&E File Name:	SM_DRA_01 and SM_ED_01_Supplemental-01		
Request Date:	April 30, 2010	Requester DR No.:	DRA-012/ED-XX
Date Sent:	June 23, 2010	Requesting Party:	DRA
		Requester:	Mr. Chris Danforth

**SUBJECT: COST OF A MORATORIUM ON THE SMART METER DEPLOYMENT**

### QUESTION 1

Attachment A (*not included*) contains excerpts from the rebuttal testimony of Stephen Lechner in PG&E's Smart Meter Upgrade proceeding. It discusses various costs and types of penalties associated with suspending the Smart Meter deployment. The following questions are based on that testimony.

1. Please separately quantify, as best as PG&E is able, all the costs associated with suspending the AMI deployment for each of the following scenarios: (a) Three-month moratorium, (b) Six-month moratorium, and (c) Nine-month moratorium.
2. For each scenario in Question #1, please separately itemize the following costs:
  - a. For each vendor contract, the suspension costs that PG&E is contractually obligated to pay for delaying the installation;
  - b. The costs of suspending the PG&E project management office operations;
  - c. Possible loss of personnel knowledgeable about the project;
  - d. The costs related to suspending and re-starting the equipment supply chain;
  - e. The costs for contractor re-mobilization and ramping up deployment;
  - f. Vendor inefficiency costs resulting from starting and stopping work;
  - g. Costs for renegotiating existing vendor contracts, if necessary;
  - h. Costs for identifying new vendors and negotiating new contracts if existing vendors should choose to leave the project during an extended suspension; and
  - i. Any other costs not listed above that PG&E believes should be included.Provide a written explanation of each of the above costs and how they are calculated. Provide the calculations in an Excel spreadsheet.
3. Please provide a list of all vendor contracts specifying: (a) The name of the contractor, (2) What the contract covers, and (3) Whether or not there are suspension or labor escalation costs built into the contract.

4. Provide excerpts from contract language specifying the costs incurred owing to suspending the project that are used in the calculations for Question #2 above.

## **ANSWER**

***This Data Request and its attachments contain confidential information and is being submitted under CPUC Code Section 583.***

As PG&E discussed with DRA on May 10, 2010 and on June 1, 2010, PG&E is responding to this request in two parts. Part one, submitted on June 9, 2010, provided an update to the lost benefits model prepared by Mr. Lechner in the SmartMeter™ Program Upgrade (SMU) proceeding. This response is part two, which estimates the costs for the above suspension scenarios, as requested in Item 2 above and is being submitted as a supplemental response: SM\_DRA\_01 and SM\_ED\_01\_Supplemental-01

## **Introduction**

The suspension of a major capital program like PG&E's SmartMeter™ Program is an extremely complex and expensive endeavor. Moreover, such a suspension can be adversely affected by numerous variables that would only be known as the hypothetical suspension progressed. For example, while PG&E can estimate the amount a contractor may be entitled to under the terms of its existing contract, such contract terms inherently assume reasonable performance parameters that may change under a prolonged suspension scenario, leading to contract renegotiations, additional costs and/or disputes. Additionally, DRA's scenarios reflect a "duration-certain" suspension. In a real-life suspension, such certainty does not exist, which typically leads to ongoing performance uncertainty, program and operational inefficiencies, reductions in employee morale or high turn-over, and/or the need to consider new information or technology developments, which could lead to program modifications and substantial cost overruns on program re-start.

In a real-life program suspension, some of the greatest risks relate to prolonged program delays (i.e., program delays resulting from a suspension will often significantly exceed the period of suspension) and/or scope modifications at the time of program re-start. The longer a program is suspended or delayed, the greater the cost of the suspension - both in additional costs and, in the case of the SmartMeter™ Program, lost benefits.

Furthermore, a program suspension introduces a number of "non-quantifiable" risks that would likely have an adverse affect on the SmartMeter™ Program upon re-start from a qualitative perspective. For example, the current Program Management Office (PMO) team and contractors have been working on the SmartMeter™ Program for several years and are familiar with the program control tools and procedures and understand the dynamics of this complex program. During a program suspension, it is likely PG&E will lose some of its experienced PMO team and contractor management personnel. Upon re-start, the program management team will need to re-establish its processes

and procedures and go through a new "learning curve" to get back to the level of quality performance the team is currently operating at considering the experience of the current PMO team and the maturity of the program. This situation would likely lead to additional program inefficiencies, risks and issues that naturally arise during the early phases of a complex capital program.

### **General Assumptions for Estimated Costs**

For purposes of responding to this data request, PG&E has developed a series of simplifying assumptions to allow a mathematical calculation of estimated suspension costs under the three fixed scenarios set out by DRA. PG&E's assumptions regarding these calculations are summarized below.

1. The 3, 6 or 9 month suspension would begin June 1, 2010.
2. PG&E implements a full suspension of electric and gas SmartMeters™ (i.e., no additional meter deployment during suspension period).
3. The suspension does not ultimately result in the complete termination of the SmartMeter program, and SmartMeter™ deployment can resume after the suspension is over.
4. PG&E will continue its IT spend on the SmartMeter™ project to implement SmartMeter™ functionality that allows PG&E to realize benefits as laid out in the original AMI filing.
5. The program suspension does not result in any program scope modifications.

The above general assumptions along with the additional detailed assumptions articulated in the following responses to this data request are subject to significant uncertainty and will be different in the event of an actual moratorium or program suspension due to contractual and other risk factors. At this time, it is not feasible to develop a comprehensive analysis and quantification of potential program delays, scope modifications, inefficiencies and/or program quality or performance risks that would likely result from a program suspension. Thus, for purposes of this data request response, PG&E has included limited, simplifying assumptions based on DRA's "duration-certain" suspension scenarios.

### **Responses**

1. Please separately quantify, as best as PG&E is able, all the costs associated with suspending the AMI deployment for each of the following scenarios: (a) Three-month moratorium, (b) Six-month moratorium, and (c) Nine-month moratorium.

Table 1 below summarizes the additional overall costs of a 3, 6 and 9-month moratorium. There are two potential scenarios that determine the overall costs.

### Scenario 1

Employees from the Wellington workforce, PG&E's third-party SmartMeter™ meter/module installer, are retained on the project and asked to remain idle until the moratorium ends.

### Scenario 2

Employees from the Wellington workforce, PG&E's third-party SmartMeter™ meter/module installer, are either dismissed or allocated to a different Wellington project.

**Table 1**  
**Summary of Impact of Suspension on Project Costs**  
**(\$000)**

Cost	Scenario 1			Scenario 2		
	3-month Suspension	6-month Suspension	9-month Suspension	3-month Suspension	6-month Suspension	9-month Suspension
<b>Wellington Contractual Obligation</b>						
Daily Labor Reimbursement	14,295	28,590	43,267	-	-	-
Training/Recruiting Fees	-	-	-	1,477	1,970	2,462
Monthly Fees	1,760	3,520	5,313	1,760	3,520	5,313
<b>Extended PMO Operations</b>	11,891	23,783	35,674	11,891	23,783	35,674
<b>Storage needs for Procurement Purchases</b>	728	1,451	2,162	728	1,451	2,162
<b>Re-mobilization and Ramp-up</b>						
Monthly Fees	587	587	587	587	1,207	1,810
<b>Network Installation</b>						
Identification of New Vendor and New Contract Negotiation	94	94	94	94	94	94
Labor Escalation	433	433	433	433	433	433
<b>TOTAL</b>	<b>29,788</b>	<b>58,458</b>	<b>87,530</b>	<b>16,970</b>	<b>32,458</b>	<b>47,948</b>

2. For each scenario in Question #1, please separately itemize the following costs:
  - a. For each vendor contract, the suspension costs that PG&E is contractually obligated to pay for delaying the installation;

Wellington is PG&E's third-party SmartMeter™ meter/module installation vendor. In the event of a moratorium, depending on the course of action taken, PG&E may be obligated to pay for either (1) Labor Reimbursement costs for standing down and retaining the current Wellington workforce or (2) Employee Recruiting/Training fees for standing down and allowing the release of the Wellington workforce. In either case, while uncertain under the vendor contract, this analysis assumes PG&E pays a separate monthly fee during the moratorium. This is a monthly fee that PG&E

currently pays and it is assumed for this analysis that it will continue to be paid during a suspension of work.

In scenario (1) Wellington employees are retained on the project and asked to remain idle until the moratorium ends. In this case, while uncertain under the vendor contract, this analysis assumes PG&E is contractually obligated to pay daily labor costs for each employee. The type of employee determines the daily labor rate. There are two types of employees: "journeymen" and "non-journeymen."

### **Assumptions**

Listed below are key assumptions made in calculating the costs for scenario (1) - payment of Labor Reimbursement costs:

- i. Wellington Employees are retained on the project and are asked to stand-down and remain idle indefinitely
- ii. 1 month = 20 labor days

### **Costs**

The table below summarizes the Total costs of a 3, 6 or 9 month suspension for:

Scenario (1): Daily reimbursement of direct labor + Monthly fee costs

The detailed calculations behind the Total costs can be found in the attached Excel file: SM\_DRA\_01 and SM\_ED\_01\_Supplemental-01-Attachment-01.xls

<b>Length of Suspension</b>	<b>Total Costs</b>
3-months	\$ 16,054,655
6-months	\$ 32,109,311
9-months	\$ 48,580,007

In scenario (2) Wellington employees are not retained on the project. They are either dismissed or allocated to a different Wellington project. In this case, it is assumed for purpose of analysis that PG&E is contractually obligated to pay for a Recruiting/Training fee for each employee when work resumes. The type of employee determines the Recruiting/Training fee. There are two types of employees: "journeymen" and "non-journeymen."

### **Assumptions**

Suspending the program will likely result in a loss of contractor labor workforce. Below are key assumptions made in calculating the costs for scenario (2) - payment of Employee Recruiting/Training fees:

- i. A 3-month suspension will result in a 60% loss of labor workforce that will require rehiring and retraining.
- ii. A 6-month suspension will result in an 80% loss of labor workforce that will require rehiring and retraining.
- iii. A 9-month suspension will result in a 100% loss of labor workforce that will require rehiring and retraining.

**Costs**

The table below summarizes the Total costs of a 3, 6 or 9 month suspension for:

Scenario (2): Payment of Training/Recruiting fees + Monthly fee costs

The detailed calculations behind the Total costs can be found in the attached Excel file: SM\_DRA\_01 and SM\_ED\_01\_Supplemental-01-Attachment-02.xls

<b>Length of Suspension</b>	<b>Total Costs</b>
3-months	\$ 3,237,403
6-months	\$ 5,489,808
9-months	\$ 7,775,766

- b. The costs of suspending the PG&E project management office operations;

As mentioned in general assumption #3 above, the suspension does not ultimately result in the complete termination of the SmartMeter program. During suspension, the AMI project management office would still need to be operational to oversee AMI processes outside of meter installation and activation (i.e., technology monitoring, risk reporting, customer outreach, vendor management, IT project Mgmt, etc.).

A moratorium on meter installation and activation however, would extend the anticipated duration of PMO operations. In current operations, the AMI PMO is expected to run through 2012. Any suspension of meter deployment would result in the PMO having to remain operational post-2012.

Suspending the program will extend the period of PMO operations, both for the assumed period of suspension and for subsequent program delays as a consequence of the program suspension.

**Assumptions**

Listed below are key assumptions made in calculating the costs of having to extend PMO operations:

- i. There is the risk that should PMO personnel be released from the project during the moratorium, the program may not be able to re-acquire those released after the moratorium passes. To mitigate this risk, all PMO personnel will be retained and budgeted labor spend will remain the same for the large majority of costs during moratorium and ramp-up.
- ii. Certain customer service and change management costs will not be eliminated but will be reduced by approximately 50% during moratorium and ramp-up.
- iii. Due to ramp-up after the moratorium period, a 3-month moratorium will extend the deployment schedule by an additional month, resulting in 4 months of additional PMO costs.
- iv. Due to ramp-up after the moratorium period, a 6-month moratorium will extend the deployment schedule by an additional 2 months, resulting in 8 months of additional PMO costs.
- v. Due to ramp-up after the moratorium period, a 9-month moratorium will extend the deployment schedule by an additional 3 months, resulting in 12 months of additional PMO costs.
- vi. The present value discount on future year PMO labor costs will offset any escalation of future year PMO labor costs.

**Costs**

The table below summarizes the total additional PMO costs resulting from a 3, 6 or 9 month moratorium. The detailed calculations behind the Total costs can be found in the attached Excel file: SM\_DRA\_01 and SM\_ED\_01\_Supplemental-01-Attachment-03.xls

<b>Length of Suspension</b>	<b>Total Additional PMO Costs</b>
3-months	\$ 11,891,333
6-months	\$ 23,782,667
9-months	\$ 35,674,000

- c. Possible loss of personnel knowledgeable about the project;

Per responses to question (2a) and (2b), only the loss of Wellington contractors would result in additional costs. PMO personnel are assumed to be retained through the moratorium.

See response under item (2a). The costs from the loss of Wellington contractors are the same as those in Scenario (2): Payment of Training/Recruiting fees + Monthly fee costs.



- d. The costs related to suspending and re-starting the equipment supply chain;

In an event of a Smart Meter deployment suspension, this analysis assumes PG&E would not suspend its procurement purchases for the SmartMeter program. As such, PG&E would incur storage costs for its procurement purchases during the deployment suspension.

**Assumptions**

Below is a key assumption made in calculating PG&E's storage costs for its procured equipment:

- i. This analysis assumes that PG&E will continue to acquire and take delivery of SmartMeter™ equipment during the suspension period in order to mitigate the various risks that would arise from interrupting the product supply chain and the 18-week lead time that the equipment vendors require to fulfill equipment orders. [Note that, with sufficient notice, equipment orders can be reduced so that the stock pile of meters would be less].

**Costs**

The table below summarizes the total storage costs for procurement purchases resulting from a 3, 6 or 9 month moratorium. The detailed calculations behind the Total costs can be found in the attached Excel file: SM\_DRA\_01 and SM\_ED\_01\_Supplemental-01-Attachment-04.xls

<b>Length of Suspension</b>	<b>Total Storage Costs</b>
3-months	\$ 728,164
6-months	\$ 1,450,700
9-months	\$ 2,161,649

- e. The costs for contractor re-mobilization and ramping up deployment;

Suspending the work of Wellington contractors would result in re-mobilization and ramp-up costs. Similar to the response to question (2a) above, ramp-up costs will depend on the course of action taken: either (1) Retain the current Wellington workforce costs for standing down or (2) Allow the release of the Wellington workforce.

Under the second scenario, program suspension will likely result in the loss of a portion or all of the installation contractor's workforce and will necessitate a period of time to rehire and retrain contractor workers. Under either scenario, program suspension will also have an adverse impact on the installation contractor's efficiency rate upon re-start of the program.

### **Assumptions for Scenario 1**

Listed below are key assumptions made in calculating the re-mobilization and ramp-up costs for Scenario (1) Retain the current Wellington workforce.

- i. The Wellington workforce will take 1 month to get back to the same efficiency rate at which it was working prior to suspension of work

### **Costs for Scenario 1**

The table below summarizes the Total ramp-up costs of a 3, 6 or 9 month suspension for Scenario (1): Retain the current Wellington workforce\_\_\_

The detailed calculations behind the Total costs can be found in the attached Excel file: SM\_DRA\_01 and SM\_ED\_01\_Supplemental-01-Attachment-05.xls

<b>Length of Suspension</b>	<b>Total Costs</b>
3/6/9-months	\$ 586,635

### **Assumptions for Scenario 2**

Listed below are key assumptions made in calculating the re-mobilization and ramp-up costs for Scenario (2) Allow the release of the Wellington workforce:

- i. A 3-month moratorium will extend the deployment schedule by an additional month due to ramp up.
- ii. A 6-month moratorium will extend the deployment schedule by an additional 2 months due to ramp up.
- iii. A 9-month moratorium will extend the deployment schedule by an additional 3 months due to ramp up.

### **Costs for Scenario 2**

The table below summarizes the Total ramp-up costs of a 3, 6 or 9 month suspension for Scenario (2): Allow the release of the Wellington workforce.

The detailed calculations behind the Total costs can be found in the attached Excel file: SM\_DRA\_01 and SM\_ED\_01\_Supplemental-01-Attachment-06.xls

<b>Length of Suspension</b>	<b>Total Costs</b>
3-months	\$ 586,635
6-months	\$ 1,206,824
9-months	\$ 1,810,236

- f. Vendor inefficiency costs resulting from starting and stopping work;

See response under item (2e). Under this analysis, the vendor inefficiency costs from suspending the work of Wellington contractors are assumed to be the same as the ramp-up costs under item (2e)

- g. Costs for renegotiating existing vendor contracts, if necessary;

Based on assumptions listed in this response, PG&E assumes a suspension of SmartMeter deployment would not necessitate the renegotiation of existing vendor contracts.

- h. Costs for identifying new vendors and negotiating new contracts if existing vendors should choose to leave the project during an extended suspension; and

Diversified, the third-party installer hired to install network equipment for the SmartMeter™ program, is the vendor that is anticipated to leave the project during an extended suspension. The basis for this assumption is that PG&E is not obligated to compensate Diversified during a suspension. Diversified's departure from the project would result in two major costs:

- Competitive bid process costs (to identify new vendors and negotiate a new contract)
- Increased service costs from new vendor: approximately 50% higher rate per network equipment installation.

**Assumptions**

Listed below are key assumptions made in calculating the competitive bid process and increased service costs:

- i. Diversified leaves project as they are not incented to remain idle.
- ii. PG&E completes a 12 week "competitive bidding process" to identify a new vendor and negotiate a new contract.
- iii. The rates on the new vendor contract will be 50% higher than what was originally negotiated w/ Diversified

**Costs**

The detailed calculations behind the Total costs can be found in the attached Excel file: SM\_DRA\_01 and SM\_ED\_01\_Supplemental-01-Attachment-07.xls

Length of Suspension	Total Costs
3/6/9-months	\$ 526,845

- i. Any other costs not listed above that PG&E believes should be included.

No additional costs have been identified as part of the analysis above. However, please refer to the "Introduction" and "General Assumptions for Estimated Costs" sections of this response for a discussion of uncertainties and unquantifiable costs in the event of a real suspension.

3. Please provide a list of all vendor contracts specifying: (a) The name of the contractor, (2) What the contract covers, and (3) Whether or not there are suspension or labor escalation costs built into the contract.

The list of all vendor contracts can be found in the attached Excel file: SM\_DRA\_01 and SM\_ED\_01\_Supplemental-01-Attachment-08.xls

4. Provide excerpts from contract language specifying the costs incurred owing to suspending the project that are used in the calculations for Question #2 above.

Please see attached Excel file: SM\_DRA\_01 and SM\_ED\_01\_Supplemental-01-Attachment-08.xls