

Decision 07-07-042 July 26, 2007

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Southern California Edison Company's (U 338-E)
Application for Approval of Advanced Metering
Infrastructure Pre-Deployment Activities and
Cost Recovery Mechanism.

Application 06-12-026
(Filed December 21, 2006)

**DECISION APPROVING PRE-DEPLOYMENT FUNDING FOR SOUTHERN
CALIFORNIA EDISON COMPANY'S ADVANCED METERING
INFRASTRUCTURE PROJECT**

Table of Contents

Title	Page
DECISION APPROVING PRE-DEPLOYMENT FUNDING FOR SOUTHERN CALIFORNIA EDISON COMPANY'S ADVANCED METERING INFRASTRUCTURE PROJECT	1
1. Summary	2
2. Background	2
3. Outstanding Procedural Matters	3
4. Minimum Functionality Criteria	3
5. Summary of Party Positions	4
6. Should Ratepayers Fund Any AMI Pre-Deployment Activities?	7
7. Definition of Pre-Deployment.....	9
7.1 Discussion and Conclusion	11
8. Which Proposed Activities Should be Funded?	12
8.1 Discussion.....	14
8.2 Funding Approved.....	16
8.2.1 AMI Product Management.....	19
8.2.2 Information Technology	19
8.2.3 Business Process and Organizational Readiness.....	21
8.2.4 Field Deployment.....	22
8.2.5 Customer Tariffs and Programs.....	23
8.2.6 Systems Integrator	24
8.2.7 Program Management and Organization	25
8.2.8 Contingency	26
8.3 Associated Revenue Requirement	26
9. What Ratemaking Accounts Need to be Modified or Created?	28
9.1 Discussion and Conclusion	29
10. Comments on Proposed Decision.....	30
11. Assignment of Proceeding.....	31
Findings of Fact.....	31
Conclusions of Law	33
ORDER	34

Appendix A - List of Appearances

**DECISION APPROVING PRE-DEPLOYMENT FUNDING FOR SOUTHERN
CALIFORNIA EDISON COMPANY'S ADVANCED METERING
INFRASTRUCTURE PROJECT**

1. Summary

This decision approves pre-deployment funding in the amount of \$45.22 million for Southern California Edison Company's (SCE) Advanced Metering Infrastructure (AMI) Project. The approved amount will cover SCE's expenditures for its pre-deployment activities in the categories of AMI product management, information technology, business process and organizational readiness, field deployment, customer tariffs and programs, systems integration, and program management and organization. The funding of these activities will further the development of the details of SCE's final AMI proposal, provide information to develop or refine the associated cost-benefit analysis, and assist parties and the Commission in analyzing SCE's final AMI deployment business case. Furthermore, these activities will incur minimal risk of stranded costs.

Other activities for which SCE requests funding in this application are considered as deployment, and as such it will be more appropriate to review them as part of the company's deployment application, expected later this year. This decision adopts specific ratemaking and cost recovery treatment for the authorized funds and continues SCE's existing memorandum account to enable SCE to record costs for activities that are not authorized in today's decision.

2. Background

On December 21, 2006, SCE filed Application 06-12-026, seeking authorization to spend up to \$67 million in 2007 for pre-deployment costs for its proposed AMI Project. The application also requested approval of specific ratemaking and cost recovery treatment for its pre-deployment expenditures.

The Utility Reform Network (TURN) and the Commission's Division of Ratepayer Advocates (DRA) filed protests of this application on January 25, 2007. A prehearing conference (PHC) was held on February 1, 2007, to determine the issues and schedule for resolving this application. In accordance with the schedule developed in that PHC and contained in the Scoping Memo for this proceeding, TURN and DRA served their opening testimony on March 30, 2007, and TURN, DRA, and SCE all provided rebuttal testimony on April 6, 2007. Two days of evidentiary hearings were held on April 17 and 18, 2007. SCE, TURN, and DRA all filed Opening and Reply Briefs. The proceeding was submitted on May 10, 2007.

3. Outstanding Procedural Matters

We affirm all rulings made by the ALJ up to this point in the proceeding. To the extent that any motions remain outstanding, all such motions are denied.

4. Minimum Functionality Criteria

In a May 18, 2005 Ruling in the Commission proceeding on Pacific Gas and Electric Company's (PG&E) application for approval of funding for its own AMI pre-deployment activities (A.05-03-016), President Peevey set forth six minimum functionality criteria that a proposed AMI metering and communications system must meet in order for the Commission to consider approving ratepayer funding of pre-deployment activities. The six minimum functionality criteria described in the ruling indicated that the AMI system should:

- be capable of supporting a wide range of price responsive tariffs;
- collect data at a detail level that supports customer understanding of hourly usage patterns and their relation to energy costs;
- allow access to personal usage data such that customer access frequency does not result in additional AMI system hardware costs;

- be compatible with customer education, energy management, customized billing, and complaint resolution applications;
- be compatible with utility system applications that promote and enhance system operating efficiency and improve service reliability, such as remote meter reading, outage management, reduction of theft and diversion, improved forecasting, workforce management, etc.; and
- be capable of interfacing with load control communication technology.¹

Unlike in the pre-deployment applications of PG&E and SDG&E, no party disputes that SCE's proposed AMI technology meets these minimum functionality requirements. Therefore, the main issues to be resolved in this proceeding are whether any ratepayer funding beyond that provided during Phase 1 should be granted to support SCE's additional pre-deployment activities, and if so, what activities and amount of funding are appropriate.

5. Summary of Party Positions

The parties take positions on the appropriateness of funding pre-deployment activities and the appropriate activities to fund based on both their different interpretations of Commission policy and precedent, and their differing assessments of the likelihood of future approval of some version of SCE's AMI project.

SCE believes that Commission policy, as expressed in the state Energy Action Plan, Energy Action Plan 2, and elsewhere, considers AMI to be an important element in reaching state energy goals, including the implementation of dynamic pricing. SCE points to the Commission's goals for price-responsive demand response, adopted in D.03-06-032, as supporting its position. In

¹ This list is a condensed summary of the list in *Appendix A of the May 18, 2005 ACR* in A.05-03-016.

particular, SCE cites the Commission's acknowledgement in D.05-09-044 that "while the EAP II does not commit [the Commission] to approving any particular proposal on AMI full deployment, *it does strongly suggest an inclination for the Commission to adopt some form of AMI deployment, perhaps only partial*, on the basis of a further cost-effectiveness analysis."² SCE's justifications for many of its proposed Phase 2 activities rely heavily on the precedent set in D.05-09-044, which approved PG&E's request for funding of pre-deployment activities as well as additional activities intended to keep PG&E's momentum towards full deployment.

TURN states that Commission precedent and regulatory procedures require that the Commission thoroughly review any project before approving ratepayer funding of related activities. TURN urges the Commission not to depart from what it describes as the Commission's "normal regulatory process."³ TURN further contends that if the Commission authorizes funding before a final determination on the proposed AMI system is made, that ratepayer funding of any Phase 2 pre-deployment activities should be limited to product confirmation and testing that will inform the final regulatory review.⁴ Though TURN does not provide a detailed analysis of SCE's proposed pre-deployment expenditures, it suggests that certain broad categories of the requested funding do not meet this criterion. Like SCE, TURN cites D.05-09-044 in support of its position, stating that the relevant lesson to take from that decision is that the Commission evaluates AMI systems in large part on their anticipated operational (not

² SCE Opening Brief, p. 6, emphasis in original.

³ TURN Opening Brief, p. 1.

⁴ TURN Opening Brief, p. 2.

demand response) benefits.⁵ Based on this reading of D.05-09-044, TURN suggests that before allowing funding for any activities beyond product confirmation and testing, the Commission should require SCE to show that their business case is likely to meet a cost-effectiveness threshold comparable to that met by PG&E in its pre-deployment application.⁶

DRA, like TURN, takes the position that “ratepayers should only be committed to funding projects once they have been fully reviewed by this Commission and found reasonable from the ratepayers’ point of view.”⁷ In recognition of the possibility that investments in research related to AMI might benefit ratepayers by assisting the state in meeting future energy policy goals, DRA proposes that the Commission consider approving ratepayer funding for approximately \$15 million of proposed activities that DRA determines on the basis of its analysis may inform SCE’s final business case and the Commission’s ultimate decision on whether AMI will benefit ratepayers and should be approved.

Overall, TURN and DRA believe that the scope and scale of SCE’s proposed pre-deployment efforts is overbroad and unjustified without a finding that moving forward with AMI is cost-effective. They argue that if the Commission decides that ratepayer funding is not appropriate for SCE’s proposed AMI project, ratepayers will have paid up to \$64 million for activities that have little or no value to ratepayers.

⁵ TURN Opening Brief, p. 3.

⁶ TURN Opening Brief, pp. 3 – 4.

⁷ DRA Opening Brief, p. 2.

6. Should Ratepayers Fund Any AMI Pre-Deployment Activities?

The Commission encouraged utilities to initiate research into the AMI technology, and repeatedly has expressed an interest in supporting research into its development, in the belief that it may further state policy goals.⁸

Nevertheless, the Commission has not committed to approving any particular AMI technology, and has stressed that approval of deployment is dependent on research showing that the AMI technology is cost-effective. In fact, the quote that SCE uses in support of its assertion that the Commission is likely to approve some form of AMI also states that any future approval ultimately will be determined “on the basis of a further cost-effectiveness analysis.”⁹

To the extent that the proposed activities inform the business case and assist the Commission in evaluating the ultimate application, however, the proposed expenditures have value to the Commission and to the state of California, whether or not AMI deployment is ultimately approved. DRA testimony describes this as “option value,” that research and report writing can be a “prudent investment” if they assist in making an informed decision on whether to proceed with the final project.¹⁰ We agree that funding for certain research and testing-related activities may be a prudent investment rather than a sunk cost, and approving such funding and activities does not prejudice the outcome of the expected deployment application.

⁸ For example, see D.03-06-032 Appendix A: *California Demand Response: A Vision for the Future* (2002-2007) and July 21, 2004, ACR in R.02-06-001.

⁹ D.05-09-044, p. 13.

¹⁰ Exhibit 100, p. 1-9.

We conclude that it is reasonable to authorize ratepayer funding for a set of activities designed to 1) test meter functionality, communications technology and equipment, or 2) develop and refine estimates of costs and benefits associated with its AMI project prior to committing to full scale deployment. These costs are reasonable for ratepayers to fund, given the Commission's past directives to explore the cost-effectiveness of installing AMI. In addition, we find it reasonable to authorize ratepayer funding for activities that will result in a product that will be useful to SCE and provide value to its ratepayers regardless of the Commission's ultimate decision on SCE's not-yet filed application for its AMI deployment.

This is not to say that the activities SCE has proposed within its definition of pre-deployment are unreasonable *per se*. SCE argues that it would be reasonable to fund these activities given its perception that there is a high probability that the Commission will ultimately adopt some form of AMI in its territory, and therefore there is a low risk of stranded costs from beginning early deployment activities. This may be a sufficient justification for SCE to spend shareholder funds completing these activities. However, it would be unreasonable for the Commission to commit ratepayer funding to these activities at this time without having a record on the full project. We note that SCE already has authorization to record costs associated with all of these activities in a memorandum account approved on January 5, 2007, in SCE Advice Letter (AL) 2063-E, which preserves the company's ability to seek future cost recovery.

We find that there is no legal impediment to authorizing funding for pre-deployment activities and we will consider the scope of the proposed activities on the merits. Having made this finding, the rest of DRA's and TURN's

arguments go to the proper definition and scope of pre-deployment activities to be funded.

7. Definition of Pre-Deployment

The scoping memo in this proceeding provided initial guidance on how to define pre-deployment and categorize various proposed activities of SCE for the purposes of this proceeding. Parties were asked to comment on the appropriateness of the standard described in the scoping memo and suggest alternative standards if necessary.

TURN does not address these criteria in its testimony nor does it offer other specific standards for evaluating the appropriateness of SCE's proposed expenses, instead making a general statement that some categories of proposed expenses are more "legitimately associated with predeployment activities" than others, which it classifies as early deployment.¹¹ DRA states its support of the guidance suggested in the scoping memo, and interprets the guidance to mean that only activities and costs associated with preparation for the filing of SCE's business case (so-called "research and reports") and completed before the deployment application is filed should be considered pre-deployment.¹² DRA uses this interpretation of the guidance throughout its analysis of SCE's proposed activities and expenses.

In its rebuttal testimony, SCE defines pre-deployment broadly to encompass: 1) the research and reports needed to develop its initial business case and file that case as an application before the Commission; 2) continuing

¹¹ Exhibit 200, p. 6.

¹² Exhibit 100, p. 1-2.

activities whose primary value is to validate and refine that business case and ensure the feasibility of the chosen options; and 3) preparation activities intended to ensure that SCE is ready to proceed with AMI deployment in early 2008 or when the Commission makes a final decision on its deployment application.

SCE disagrees with DRA's contention that activities can inform the business case only if they are completed before the deployment application is expected to be filed. SCE proposes that activities should be considered pre-deployment if they will determine or validate the accuracy of cost-benefit assumptions,¹³ even if they are completed after the deployment application is filed, as long as they may become part of the record of that case before a Commission decision is issued.¹⁴ In addition, SCE cites D.05-09-044 in PG&E's AMI pre-deployment application in arguing that activities that may be more logically associated with deployment may be considered "reasonable" under the Commission's standard for approving pre-deployment activities and costs,¹⁵ if those activities would be necessary for any full or partial AMI deployment in its service territory and are necessary to meet SCE's current timeline for beginning deployment in early 2008.¹⁶ As discussed above, SCE explicitly states its assumption that the Commission is likely to approve some form of AMI and argues that because the activities within this application would generally be necessary for any full or partial deployment of its anticipated AMI system, the risk to ratepayers of sunk costs is minimal.

¹³ Exhibit 5, p. 16.

¹⁴ Exhibit 5, p. 15.

¹⁵ Exhibit 5, p. 16.

¹⁶ Exhibit 5, p. 17.

7.1 Discussion and Conclusion

As discussed in Section 6, above, certain pre-deployment activities have value for the Commission whether or not full deployment is approved, and can reasonably be approved before a full cost-effectiveness analysis is conducted. Therefore, arguments about the likelihood of the final business case being cost-effective are misplaced at this time; the Commission's concern here, as described in the scoping memo for this proceeding, is whether the proposed activities will inform that business case and make it more accurate, to assist the Commission in making the ultimate determination about whether SCE should proceed to full deployment.

Based on this and on the interpretations espoused by DRA and SCE, we adopt the guidance found in the scoping memo to determine what activities are properly considered pre-deployment. That is, we find that pre-deployment includes activities whose primary purposes are: 1) to determine the equipment, technology, and approach to be included of SCE's full deployment proposal; and 2) to gather and refine data that will improve estimates of the costs and benefits to be included in the cost-benefit analysis of the full AMI deployment proposal, to ensure that the final deployment application contains accurate data and reasonable estimates.

This does not mean, however, that pre-deployment includes only work that can be completed before the Phase 3 application is initially filed; such a definition would result in the loss of information that could play an important part in the Commission's review of the costs and benefits of AMI. Deployment of AMI, if approved, would be an important investment, both in terms of the funding required to make it possible and in its potential impact on energy use in California, and may further state policy goals such as increasing demand

response. It makes sense for this Commission to get as much information as reasonably possible on which to base its final decision in that proceeding, and activities that may refine the business case and related cost effectiveness calculations should not be arbitrarily excluded simply because they may be completed after the Phase 3 deployment application is expected to be filed. It also does not make sense to specifically exclude funding for activities that could provide information after the date that that case is filed but before a decision is likely to be made in the deployment proceeding.

We expect SCE to file its AMI deployment application when sufficient information is available to develop a complete and accurate business case; this will enable parties to analyze SCE's proposal and ensure that the Commission's record contains sufficient information to make an informed decision on the merits of deployment. SCE expects to file its Phase 3 application in late summer 2007. If relevant information becomes available during the Commission proceeding on Phase 3, however, we expect SCE to provide updated or amended testimony and supporting information to other parties to ensure a complete and accurate record in that proceeding and an opportunity for full participation by all parties.

8. Which Proposed Activities Should be Funded?

The burden of proof rests on SCE to show that its proposal is reasonable and in the public interest. SCE provides information in support of its application in its associated testimony, specifically Exhibit 2 and Exhibit 5. SCE argues on the grounds described above that all of its proposed activities are appropriate for ratepayer funding at this time and should be approved.

TURN's primary position, that no further pre-deployment funding should be granted, does not assist us in defining the appropriate scope of

pre-deployment activities, but TURN does address this question in response to specific guidance in the scoping memo. TURN suggests that pre-deployment activities may include “developing AMI technology and ensuring it actually works properly,”¹⁷ and identifies certain large categories of SCE’s proposed activities as being more logically related to pre-deployment, and others as more related to early deployment. TURN suggests that “[s]ome... cost categories appear to be legitimately associated with pre-deployment activities – AMI Product Management, Information Technology, Field Deployment, and System Integrator. The remaining cost categories appear to be less associated with pre-deployment activities and more related to the full deployment of the AMI system.”¹⁸ Within these broad categories, TURN neither endorses the cost categories as a whole nor specifically analyzes most of the activities and costs proposed by SCE. TURN’s opening testimony “pointed out certain cost categories that it found to be unreasonable, but its final funding recommendation is actually based on Edison’s original filing in A.05-12-026.”¹⁹

TURN also requests that additional pre-deployment funding should be provided only if SCE commits to developing a final AMI proposal with a higher level of operational benefits than the current proposal, and suggests a minimum level of 85%.²⁰ TURN bases this request on SCE’s preliminary business case included with this application, which estimates operational benefits covering approximately 57% of the cost of the project, with additional demand response

¹⁷ Exhibit 200, p. 10.

¹⁸ Exhibit 200, p. 6.

¹⁹ Exhibit 201, p. 2.

²⁰ TURN Opening Brief, p. 3.

accounting for the remaining benefits claimed. TURN suggests that the Commission should direct SCE to meet a pre-determined threshold of 85%, and require SCE to report on its progress and desist in development of its AMI plan if it fails to accomplish the 85% goal within eight months.²¹ TURN does not specify whether this additional research should be supported by shareholder funds, nor the activities or amount of ratepayer funding that might be reasonable to adopt for such a plan.

DRA provides a much more systematic examination of SCE's proposed activities and costs, and explains its categorizations of cost areas as pre-deployment and deployment. Consistent with its interpretation of the scoping memo guidance, DRA specifically excludes any activities that could result in information after SCE is expected to file its business case, and excludes most capital expenditures because they could result in stranded costs.²² Using these definitions, DRA argues that proposed activities in the following categories may be funded as pre-deployment: AMI product management; customer tariff, programs, and services; program management organization; and a small portion of the information technology costs. DRA considers additional costs to be early deployment.

8.1 Discussion

Based on the record developed, we agree with TURN and DRA that many of the activities SCE identified in its Phase 2 application provide limited or no value to ratepayers if the Commission ultimately decides AMI should not be

²¹ TURN Opening Brief, p. 4.

²² Exhibit 100, p. 1-4.

pursued. Many of the activities that SCE describes are necessary only if SCE deploys a new metering and communication infrastructure. Activities undertaken for the purpose of preparing SCE systems for deployment cannot be expected to provide timely information to inform the evaluation of SCE's full business case. Approval of such costs would either be predicated on an assumption that the Commission will approve some form of AMI (leading to the appearance if not the actuality of prejudging SCE's forthcoming deployment case) or would raise the possibility of significant stranded costs. SCE's own preliminary analysis shows that 57% of its costs for AMI deployment would be covered by operational benefits. This is in contrast to the preliminary analysis in PG&E's pre-deployment application, A.05-03-016, which estimated operational benefits covering closer to 90% of its project costs. However, it is neither necessary nor appropriate to make a decision on implementation in the absence of a full and final cost-effectiveness analysis of SCE's project at this time.

Based on SCE testimony, some of the proposed expenditures on system integration, information technology, and organizational readiness are not necessary to develop or validate the business case, and are primarily useful if SCE ultimately deploys some full or partial AMI system in its territory. In addition, the need to provide the proposed advance ratepayer funding for contingencies is not sufficiently supported by SCE's testimony. On the other hand, expenditures for AMI product management, field testing, tariff development, program management and organization, and business process, as well as for some information technology and systems integration activities appear to further the development of the details of SCE's final proposal or provide information to develop or refine the associated cost-benefit analysis. Moreover, funding of the proposed MDMS in the information technology and

systems integration categories appears to have value even if AMI is not ultimately deployed, and so incurs minimal risk of stranded costs.

8.2 Funding Approved

Exhibit 2 provides a table summarizing SCE's full request for ratepayer funding for this pre-deployment application.

Table 1: SCE Cost Request (in thousands)²³

	O & M	Capital	Total
AMI Product Management	\$4,900	\$5,000	\$9,900
Information Technology	\$3,700	\$11,600	\$15,300
Business Process and Organizational Readiness	\$1,700	0	\$1,700
Field Deployment	\$700	\$600	\$1,300
Customer Tariffs and Programs	\$1,200	0	\$1,200
Systems Integrator	\$8,500	\$10,100	\$18,600
Program Management and Organization	\$8,000	0	\$8,000
Contingency	\$3,300	\$4,400	\$7,700
Total	\$32,000	\$31,700	\$63,700

²³ Information from Exhibit 2, p. 7.

Parties' funding recommendations vary, and may be summarized as follows:

Table 2: Party Positions, by Cost Category (in thousands)²⁴

	SCE	DRA	TURN²⁵
AMI Product Management	\$9,900	\$6,583	Yes
Information Technology	\$15,300	\$620	Yes
Business Process and Organizational Readiness	\$1,700	0	No
Field Deployment	\$1,300	0	Yes
Customer Tariffs and Programs	\$1,200	\$1,170	No
Systems Integrator	\$18,600	0	Yes
Program Management and Organization	\$8,000	\$8,000	No
Contingency	\$7,700	0	No
Total	\$63,700	\$16,380	\$19,000+20%

²⁴ Exhibit 6.

²⁵ This represents TURN's secondary recommendation. TURN's primary position is that no further pre-deployment funding should be granted. In their secondary recommendation (if the Commission rejects their primary position), TURN provides some discussion of which categories may be logically associated with pre-deployment, but does not break down its total funding recommendation by category. TURN instead recommends adopting the amount SCE requested for Phase 2 in its initial AMI pre-deployment application, A.05-03-026, plus 20%.

Given the reduced scope of activities we consider to be pre-deployment, as described above, the Commission should authorize ratepayer funding in each category as summarized below:

Table 3: Requested and Approved Funding, by Cost Category (in thousands)

	SCE Request			Adopted		
	O & M	Capital	Total	O & M	Capital	Total
AMI Product Management	\$4,900	\$5,000	\$9,900	\$4,900	\$5,000	\$9,900
Information Technology	\$3,700	\$11,600	\$15,300	\$3,520	\$6,700	\$10,220
Business Process and Organizational Readiness	\$1,700	0	\$1,700	\$600	0	\$600
Field Deployment	\$700	\$600	\$1,300	\$700	\$600	\$1,300
Customer Tariffs and Programs	\$1,200	0	\$1,200	\$1,200	0	\$1,200
Systems Integrator	\$8,500	\$10,100	\$18,600	\$6,600	\$7,400	\$14,000
Program Management and Organization	\$8,000	0	\$8,000	\$8,000	0	\$8,000
Contingency	\$3,300	\$4,400	\$7,700	0	0	0
Total	\$32,000	\$31,700	\$63,700	\$25,520	\$19,700	\$45,220

The approved activities are estimated to cost \$45.22 million, with the O&M costs treated as an expense and the remaining funding, related to the 5,000 meter field test and MDMS development, treated as capital. SCE should be authorized to record up to \$25.52 million in pre-deployment expenses and \$19.7 million in pre-deployment capital costs, with \$5.6 million of that amount to be added to rate base in 2007 or 2008. The specific funding requests and amounts approved are discussed below. SCE may shift funds among approved activities as long as the total approved amount for O&M expenses, the total approved amount for

capital costs, and the total approved revenue requirement adopted in this decision are not exceeded.

8.2.1 AMI Product Management

SCE includes several different engineering and design activities in its AMI Product Management category.²⁶ These include some evaluation and field testing of metering and telecommunications systems, evaluation of the results of requests for proposals (RFP), and procurement and quality assurance for equipment to be used in the 5,000 meter field test.²⁷ All of these activities, including the 5,000 meter field test, will provide information that helps to develop or validate SCE's final business case and deployment application, and therefore the \$9.9 million requested in this category should be approved in full.

8.2.2 Information Technology

SCE describes the activities in its Information Technology (IT) category as preparation for the automation of its meter reading from the meter to back office systems that will read and record the meter data, for use in SCE's planned "Release 1," which SCE envisions as the beginning of its actual AMI deployment process.²⁸ IT activities in this category include the development and testing of SCE's proposed Meter Data Management System (MDMS) and Data Center Aggregator (DCA) with "[t]he largest single element ... the development and implementation of the MDMS."²⁹ The AMI IT systems will be used to process and access the data generated by the AMI meters and in-home devices

²⁶ Exhibit 2, p. 17.

²⁷ Exhibit 2, p. 18.

²⁸ Exhibit 2, p. 17.

²⁹ Exhibit 2, p. 18.

supporting future AMI-enabled programs.³⁰ SCE does not make a compelling case that the DCA, and some of the other work in this category would provide information that can be used in SCE's final AMI proposal. In addition, it is not clear that work on systems other than the MDMS would have any use in the absence of AMI deployment. SCE witness DeMartini acknowledged that most work on the DCA (with the possible exception of some work on privacy and security of the AMI system) would have no real value unless the Commission ultimately approves, and SCE deploys an AMI system.³¹ For this reason, funding for activities other than the MDMS and RFP-related work should be considered as part of SCE's Phase 3 application for AMI deployment.

Unlike the other IT systems described in SCE testimony, funding MDMS activities can be useful to inform SCE's AMI proposal and it appears that even in the absence of any AMI deployment, SCE might be able to use the MDMS system. SCE witness DeMartini stated in hearings that the work in this area would inform the business case and cost-benefit analysis by allowing the company to understand the scope of development needed for the meter data management system over the entire project duration.³² SCE witness DeMartini also stated in hearings that the MDMS could be used to replace the company's existing Customer Data Acquisition System (CDAS). This makes MDMS activities valuable, independent of AMI deployment, and lowers the likelihood of stranded costs from associated work. Therefore, we find that it is reasonable to approve \$9.6 million in MDMS-related IT costs. In addition, we accept DRA's

³⁰ Exhibit 2, p. 20.

³¹ April 17, 2007 RT 99: 1-10.

³² April 17, 2007 RT 82: 23-28.

position on this cost category and approve the \$620,000 related to IT activities that support the evaluation of the RFP on telecommunications systems, an activity that is likely to affect the specifications and cost estimates of SCE's final AMI proposal.

We approve a total of \$10.22 million of funding for activities in this category related to RFP work and development of the MDMS. The remaining \$4.78 million in proposed IT activities, and specifically those associated with IT testing and system development work on the DCA, will not be approved at this time.

8.2.3 Business Process and Organizational Readiness

As described by SCE, the Business Process and Organizational Readiness category includes two different types of activities: those relating to business process mapping and those relating to communication activities intended to prepare SCE stakeholders for AMI deployment. Business process mapping includes the identification of current processes and the design of alternative processes that will be needed to support a new AMI system. These activities seem likely to inform SCE's business case by clarifying the process and possibly also the staffing changes that would be needed if AMI were implemented. For this reason, we approve the \$600,000 in SCE's business process category.

In contrast, the Organizational Readiness programs SCE describes primarily focus on educating company employees, customers, and others in the utility industry about SCE's AMI proposal. SCE witness DeMartini describes internal and external elements of their organizational readiness program.³³ SCE

³³ April 17, 2007 RT 86: 4-25.

makes a strong case that some of these costs would ease a transition from current metering through deployment of AMI by preparing customers and employees for changes in equipment and business processes, and would be especially helpful for current meter readers whose positions would be eliminated with AMI deployment. The activities in this sub-category, however, do not meet our criteria for pre-deployment activities because they do not provide information that will assist in the analysis of the business case. In addition, these activities do not have value if AMI deployment is not approved, and so we cannot justify ratepayer funding for these activities on the basis of independent value. SCE's requested \$1.1 million for Organizational Readiness is denied.

8.2.4 Field Deployment

Most activities included in SCE's Field Deployment category relate to the company's proposed 5,000 meter field test. This project will "[i]nstall and deploy AMI Field Test meters..., oversee the telecommunications network installation and select the Phase III deployment vendor."³⁴ DRA's main objection to this cost category is that information from this field test will not be available until after SCE is expected to file its application on AMI deployment. As discussed in Section 8.2.1 above, we believe that the 5,000 meter test will provide information that could refine aspects of SCE's proposal and assist the Commission in analyzing associated costs and benefits. The purpose of field deployment is to establish the vendor and SCE's processes and technology to reliably scale for the AMI deployment.³⁵ We approve the full \$1.3 million requested in this category.

³⁴ Exhibit 2, p. 17.

³⁵ Exhibit 2, p. 25.

8.2.5 Customer Tariffs and Programs

Under the Customer Tariffs and Programs category SCE proposes \$1.2 million for activities related to developing tariffs and customer programs that would take advantage of the capabilities of their proposed advanced metering infrastructure. SCE argues that AMI allows dynamic pricing and other tariff options for customers, and that many of the benefits it anticipates from the deployment of its AMI system may come from demand response and innovative programs.

The Commission set out a template for cost-effectiveness analysis of IOUs AMI applications in a July 21, 2004 ruling in R.02-06-001, the Commission's original rulemaking proceeding on demand response. This template specifies five basic tariff structures that the utilities must include in the final cost-benefit analysis within their AMI deployment applications.³⁶ In addition, this ruling provides that "[u]tilities may also develop other tariff structure scenarios that they believe make the most sense for economic or other reasons."³⁷ In its testimony, SCE describes some possible future tariff structures that would utilize its proposed AMI system,³⁸ and in testimony and hearings, SCE witness DeMartini acknowledged that the company expects to propose yet another tariff structure in its final application.³⁹

As discussed above, the cost-benefit analysis that SCE prepared and included in Exhibit 3 of this proceeding shows that approximately 57% of costs

³⁶ July 21, 2004, ACR in R.02-06-001, Appendix A, p. 11.

³⁷ July 21, 2004, ACR in R.02-06-001, Appendix A, p. 11.

³⁸ Exhibit 3, pp. 17-18.

³⁹ Exhibit 3, pp. 16 and 34; April 17, 2007 RT 59: 4-15.

are offset with operational benefits. The remaining benefits, almost half of the total benefits in this early analysis, are expected to come from demand response and programs enabled through AMI deployment. The detailed development of tariffs and programs will provide information that will assist the Commission and parties in assessing the possible benefits of AMI. Therefore, we approve the requested \$1.2 million of proposed costs related to the development of tariffs and programs. We also order SCE to consult with Energy Division staff in determining the scope of research and types of work products that should result from its expenditures on customer tariffs and programs, in order to ensure that the work conducted in this area informs future analyses of AMI.

8.2.6 Systems Integrator

SCE proposes a budget of over \$18 million for systems integration work, which is technical consulting work performed by a systems integration consultant in support of its other proposed activities.⁴⁰ The majority of costs in this category would support SCE's AMI deployment, including integration of the DCA, development of the MDMS, and SCE's core back office systems. SCE divides its proposed Systems Integration work into the following categories: MDMS development, Network Operating Center, system architecture, testing, business process, organizational readiness, field deployment, and Program Management and Organization.⁴¹ These categories to a large degree mirror the major categories SCE proposes, and the rationales for their approval or disapproval are generally consistent with these related larger categories.

⁴⁰ Exhibit 2, p. 17.

⁴¹ Exhibit 2, p. 32.

As SCE describes them, costs related to the Network Operating Center and testing subcategories appear related to preparation for Release 1. These costs must be excluded for the reasons that other Release 1 costs are denied, as explained in the Information Technology Section (8.2.2) above. Also, Organizational Readiness costs should be denied, for the reasons described in Section 8.2.4, above.

Consistent with Section 8.2.2 above, we approve funding here for activities in the MDMS subcategory (\$2.4 million) because we expect the MDMS to have value even if AMI deployment is not ultimately approved. Costs related to development of system architecture (\$5.0 million) are approved, because they could provide information that assists in estimating the costs of the final AMI project. Field Deployment (\$600,000), Business Process (\$3.0 million), and Program Management Organization (\$3.0 million) costs within the system integrator category should be approved for the reasons described in Sections 8.2.4, 8.2.4 and 8.2.7, respectively. In total, we approve \$14.0 million in the system integrator category; the remaining \$4.6 million is not approved at this time and should be reviewed as part of SCE's future deployment application.

8.2.7 Program Management and Organization

The Program Management and Organization costs of \$8.0 million are primarily related to the overall management of the AMI pre-deployment process, including staffing and related support costs. It is reasonable to approve these costs as proposed, to support the activities approved above. Though some of the costs in this category may be related to activities excluded from ratepayer funding by this decision, we believe it is in the ratepayers' interests to approve this category in full to ensure that SCE can develop its final proposal and to help provide some continuity in case the final deployment is approved.

8.2.8 Contingency

SCE describes this category as a sort of safety net of funds, in case certain of their Phase 2 activities cost more than expected.⁴² SCE does not provide a detailed justification for the amount requested (\$7.7 million), and to the extent that the company has shown that its cost estimates in the other seven categories are reasonable, it does not seem necessary to provide additional funding for the same activities at this time. Because we are leaving SCE's existing memorandum account in place, if SCE finds that the costs approved for the above activities are insufficient, the company can record additional costs related to its approved Phase 2 activities, and may be able to recover them, subject to a future reasonableness review. All costs in this category are excluded from the approved amount.

8.3 Associated Revenue Requirement

SCE asks that its capital expenditures approved in this proceeding should be included in rate base in 2007 or 2008 as Electric Plant-in-Service. TURN objects to this request, contending that the capital expenditures would be more properly classified as Construction Work in Progress (CWIP) and added to rate base only when the associated equipment comes into service.⁴³ In support of its position, TURN requests that the Commission take judicial notice of PG&E's response to similar concerns in its own pre-deployment proceeding, A.05-03-016. Because the Commission did not specifically address this point in A.05-03-016, the record of that case is not relevant here, and TURN's request for official notice is denied.

⁴² Exhibit 2, p. 3.

The \$5.6 million of the capital costs approved in this decision are associated with the purchase and installation of meters and telecommunications equipment. SCE's proposal to include such costs in rate base is consistent with industry practice. The additional \$14.1 million in approved capital costs are associated with the development of the system architecture for the MDMS and DCA, which may assist SCE in developing its final proposal and accurately estimating its costs, and the development of the MDMS, which we expect to be used at some point in the future, whether or not AMI is eventually deployed. SCE asserts that FERC USOA Electric Plant instructions support its position that all capital costs should be added to rate base by providing that capital costs for work that is completed but part of an unfinished larger project should be immediately included in rate base. We do not believe that this principle is relevant to the proposed development of systems architecture because the systems architecture expenditures are approved here as a planning tool and not as a part of a larger capital project such as the development of the full DCA. The capital associated with development of the MDMS should be reviewed in an appropriate proceeding to determine whether any or all of the expenditures should be included in rate base, and if so, when. We approve the addition of only the \$5.6 million in capital costs associated with the AMI Product Management and Field Deployment categories to SCE's rate base at this time, and not the remaining \$14.1 million approved for systems architecture work or MDMS development. Depending on the outcome of SCE's Phase 3 application, the Commission may consider adding some or all of the remaining \$14.1 million

⁴³ TURN Opening Brief, p. 11.

in capital costs to rate base in the future. According to SCE's calculations, the costs approved in this decision translate into a revenue requirement of \$26,054,000 in 2007 and \$713,000 in 2008.⁴⁴ No party offered an alternative methodology of translating expenses and capital additions to a revenue requirement.

9. What Ratemaking Accounts Need to be Modified or Created?

SCE proposes to modify its existing Advanced Metering Infrastructure Balancing Account (AMIBA) to create two sub-accounts, one to record any additional Phase 1 costs, and a second for approved Phase 2 costs. SCE requests that upon approval of this application and the changes to its AMIBA, it be allowed to transfer expenditures approved in this decision that are already recorded in its Advanced Metering Infrastructure Memorandum Account (AMIMA) to the modified AMIBA. Costs for approved activities would then be recorded in the AMIBA as they are incurred, and would be transferred each month to SCE's Base Revenue Requirement Balancing Account (BRRBA). SCE proposes recovering these amounts through its distribution rates, consistent with the current process for recovering Phase 1 costs. The needed change in distribution rates to collect approved costs would be initiated either through an advice letter or on January 1, 2008, along with other rate changes authorized in SCE's Energy Resource Recovery Account proceeding.

⁴⁴ Comments of Southern California Edison Company on Proposed Decision of Administrative Law Judge Hecht and Alternate Proposed Decision of Assigned Commissioner Grueneich on SCE's Application for Approval of Advanced Metering Infrastructure Pre-Deployment Activities and Cost Recover, July 16, 2007, Appendix A.

DRA does not object to this proposed cost-recovery mechanism, but TURN recommends applying one-way balancing account treatment to Edison's request, or approving two-way balancing account treatment to TURN's lower recommendation of \$19 million, with an absolute cap for recovery in Phase 2 at 20% above that amount.⁴⁵ TURN's underlying concern appears to be ensuring that no costs beyond those approved by this Commission are recorded and recovered from ratepayers.

9.1 Discussion and Conclusion

We believe that SCE's proposed cost recovery mechanism is reasonable and should be adopted for the costs approved here. The proposed mechanism will only allow approved costs to be recorded in the AMIBA, and therefore only the actual expenditures associated with approved activities will be collected from ratepayers.

In order to record the costs authorized in this decision, SCE will need to modify the definition of pre-deployment costs currently set forth in its AMIBA. It is reasonable to authorize SCE to make modifications to the language of its AMIBA account to provide for recording of the costs authorized today. SCE shall file an Advice Letter with the Energy Division within 10 days of the effective date of this decision that updates its AMIBA tariff sheets consistent with the limitations on costs described in this decision. Because we have reviewed these categories of costs in this application and found them reasonable, subsequent review of these costs should be limited to verification that the costs recorded are consistent with the limitations set forth in this decision.

⁴⁵ TURN Opening Brief, p. 11.

On January 5, 2007, the Commission approved SCE's request in Advice Letter 2063-E to create an Advanced Metering Infrastructure Memorandum Account as of December 22, 2006, to record certain types of costs while this application was pending. SCE may transfer any recorded costs that are consistent with the activities and dollars authorized in this decision from the AMIMA to its AMIBA. SCE should file an Advice Letter to affect the transfer. SCE may continue to utilize the existing AMIMA account to record the costs of activities described that do not receive pre-approved ratepayer funding in this decision. SCE may request that the Commission review the reasonableness of the costs recorded in the AMIMA in a subsequent proceeding and authorize recovery of such costs as are determined to be reasonable.

10. Comments on Alternate Proposed Decision

The alternate proposed decision of the assigned Commissioner was mailed to the parties in accordance with Pub. Util. Code § 311(d) and Rule 14.3 of the Rules of Practice and Procedure. Comments were filed by SCE, TURN, and DRA on July 16, 2007, and reply comments were received from DRA, SCE, and PG&E on July 23, 2007. In their comments, TURN and DRA supported the ALJ's proposed decision over the Assigned Commissioner's alternate, and SCE advocated for adoption of the alternate with minor modifications to clarify SCE's ability to shift funds among approved activities and authorize SCE to share technical and business requirements and testing results with other California utilities for limited purposes. In reply comments, DRA did not object to the changes suggested in SCE's opening comments. Several clarifications have been made in the text of this decision, as well as in its Findings and Conclusions, in response to these comments.

11. Assignment of Proceeding

Dian M. Grueneich is the assigned Commissioner and Jessica Hecht is the assigned ALJ in this proceeding.

Findings of Fact

1. SCE's proposed AMI Project will meet the minimum functionality criteria established by President Peevey.
2. The Commission has encouraged utilities to research the feasibility and cost-effectiveness of AMI technology.
3. Approval of AMI deployment by this Commission is dependent on research showing that the technology is cost-effective.
4. There has been no record developed through the evidentiary process to test, rebut, or verify SCE's AMI business case assumptions or results.
5. Funding proposed Phase 2 activities and costs that do not provide information that will assist in Commission's determination of whether SCE should proceed with AMI deployment requires the Commission either to assume that AMI deployment will occur, resulting in prejudgment of a future deployment application, or to leave ratepayers at risk of significant stranded costs.
6. Research related to a new technology can be a "prudent investment" if it assists in making an informed decision on whether to proceed with implementation of the project.
7. Pre-deployment activities are defined as activities that 1) test meter functionality, communications technology and equipment, or 2) develop and refine estimates of costs and benefits associated with its AMI project prior to committing to full scale deployment.

8. Approving funding for further research into the feasibility and cost-effectiveness of AMI does not prejudice the outcome of a future proceeding on whether SCE should deploy AMI.

9. Activities that may refine the business case and related cost effectiveness calculations should not be arbitrarily excluded simply because they may be completed after the Phase 3 deployment application is expected to be filed.

10. The fact that we do not pre-approve ratepayer cost recovery for certain activities does not foreclose SCE from pursuing these activities.

11. SCE already has authorization to record costs associated with all of its defined pre-deployment activities in a memorandum account, which preserves its ability to seek future cost recovery.

12. SCE should be authorized to record up to \$25.52 million in pre-deployment expenses and \$19.7 million in pre-deployment capital expenditures. SCE's proposed deployment plan and schedule will be determined in a future Commission proceeding.

13. We approve the addition of \$5.6 million in capital costs associated with the AMI product Management and Field deployment categories, and not the \$14.1 million approved for other capital costs in the information technology and systems integrator categories, to SCE's ratebase.

14. SCE may shift funds among approved activities as long as the limits on O&M expenses, capital costs, and revenue requirement adopted in this decision are not exceeded.

15. We expect SCE to file its deployment application when sufficient information is available to develop a complete and accurate business case.

16. If relevant information becomes available during the Commission proceeding on Phase 3, we expect SCE to provide updated or amended

testimony and supporting information to other parties to ensure a complete and accurate record in that proceeding and an opportunity for full participation by all parties.

17. It is in the public interest for utilities to share information on their AMI technical and business requirements and testing results for the sole purpose of informing utilities' future purchasing decisions.

Conclusions of Law

1. The finding that SCE's proposed AMI Project meets the minimum functionality criteria does not establish that the system proposed by SCE is the correct or best system, or provides the best value for ratepayers. These are issues to be decided in SCE's future application requesting approval for deployment of its AMI system.

2. There is no legal impediment to authorizing pre-deployment activities.

3. It is reasonable at this time to authorize ratepayer funding for a set of activities those activities designed 1) to test meter functionality, communications technology and equipment, or 2) to develop and refine estimates of costs and benefits associated with its AMI project prior to committing to full scale deployment.

4. It is also reasonable to authorize ratepayer funding at this time for expenditures that will provide ratepayer value whether or not the Commission approves ratepayer funding for AMI deployment.

5. SCE should be authorized to record up to \$45.22 million in pre-deployment expenditures, with not more than \$5.6 million of this amount to be added to rate base.

6. It is reasonable to allow SCE to shift funding among approved activities as long as the total amounts of funding adopted for O&M activities and capital

expenditures and the revenue requirement described in this decision are not exceeded.

7. SCE's proposed approach of recovering authorized AMI pre-deployment costs through electric distribution rates is reasonable.

8. It is reasonable to authorize SCE to make modifications to the language of its AMIBA account to provide for recording of the costs authorized today.

9. It is reasonable to authorize SCE to transfer amounts associated with activities approved in this decision from its AMIMA to its AMIBA.

10. Subsequent review of the costs recorded in AMIBA should be limited to verification that the costs recorded are consistent with the limitations set forth in this decision.

11. Costs recorded in AMIBA should be transferred monthly to the BRRBA for recovery in distribution rates.

12. It is reasonable to allow SCE to continue to utilize its existing AMIMA to record the costs of AMI activities described in its application that are not pre-approved.

13. It is reasonable to direct SCE to share information on its AMI technical and business requirements and testing results with other California utilities to assist them in making their own independent purchasing decisions.

O R D E R

IT IS ORDERED that:

1. Southern California Edison Company (SCE) is authorized to spend ratepayer funding on activities that provide value to the Commission by providing information that will assist in the development or evaluation of SCE's final proposal for deployment of an advanced metering infrastructure system.

2. SCE shall file an Advice Letter within 10 days of the effective date of this decision to update its Advanced Metering Infrastructure Balancing Account (AMIBA) tariff sheets consistent with the limitations on activities described in this decision.

3. SCE may record up to \$25.52 million in pre-deployment expenditures and \$19.7 million in pre-deployment capital costs in its AMIBA for activities consistent with those approved in this decision. SCE will consult with Energy Division staff in determining the scope of research and types of work products that should result from expenditures in the customer tariffs and programs area.

4. SCE may include in rate base, as described above, its capital expenditures associated with metering and telecommunications equipment, not to exceed \$5.6 million.

5. SCE may shift funds among activities approved in this decision as long as the limits on O&M expenditures, capital costs, and revenue requirement adopted in this decision are not exceeded.

6. SCE may file an Advice Letter to transfer any recorded costs that are consistent with the activities and funding level authorized in this decision from its Advanced Metering Infrastructure Memorandum Account (AMIMA) to its AMIBA.

7. Subsequent review of the costs recorded in AMIBA shall be limited to verification that the costs recorded and transferred to the Base Revenue Requirement Balancing Account (BRRBA) are consistent with the limitations set forth in this decision.

8. SCE may continue to utilize the existing AMIMA account approved on January 5, 2007, to record costs of activities described in that account that did not receive pre-approved ratepayer funding in this decision. SCE may request that

the Commission review the reasonableness of the costs recorded in the AMIMA for possible recovery in a subsequent proceeding.

9. SCE is directed to share its AMI technical and business requirements and testing results, subject to appropriate confidentiality requirements, with other California investor-owned utilities that agree to use this information solely to inform their independent purchasing decisions.

10. Application 06-12-026 is closed.

This order is effective today.

Dated July 26, 2007, at San Francisco, California.

MICHAEL R. PEEVEY

President

DIAN M. GRUENEICH

JOHN A. BOHN

RACHELLE B. CHONG

TIMOTHY ALAN SIMON

Commissioners

Appendix A
List of Appearances A0612026
Last Update on 31-MAY-2007 by: JVG

***** APPEARANCES *****

Paul Angelopulo
Legal Division
505 VAN NESS AVE, RM. 5031
San Francisco CA 94102 3298
(415) 703-4742
pfa@cpuc.ca.gov
For: DRA

Salle E. Yoo, Attorney At Law
DAVIS WRIGHT TREMAINE
505 MONTGOMERY STREET, SUITE 800
SAN FRANCISCO CA 94111-6533
(415) 276-6500
salleyoo@dwt.com
For: Wal-Mart Stores, Inc./sam's west, inc.

Kathleen H. Cordova
SAN DIEGO GAS & ELECTRIC
8330 CENTURY PARK CT, CP32D
SAN DIEGO CA 92123-1530
(858) 650-4186
KCordova@semptrautilities.com
For: San Diego Gas & Electric

Janet Combs, Attorney At Law
SOUTHERN CALIFORNIA EDISON COMPANY
2244 WALNUT GROVE AVENUE
ROSEMEAD CA 91770
(626) 302-1524
janet.combs@sce.com
For: Southern California Edison Company

Nina Suetake, Attorney At Law
THE UTILITY REFORM NETWORK
711 VAN NESS AVE., STE 350
SAN FRANCISCO CA 94102
(415) 929-8876
nsuetake@turn.org
For: TURN

***** STATE EMPLOYEE *****

Nilgun Atamturk
Executive Division
505 VAN NESS AVE, RM. 5303
San Francisco CA 94102 3298
(415) 703-4953
nil@cpuc.ca.gov

Moises Chavez
Energy Division
505 VAN NESS AVE, AREA 4-A
San Francisco CA 94102 3298
(415) 703-1851
mcv@cpuc.ca.gov
For: Energy Division

Christopher Danforth
Division of Ratepayer Advocates
505 VAN NESS AVE, RM. 4209
San Francisco CA 94102 3298
(415) 703-1481
ctd@cpuc.ca.gov
For: DRA

Theodore H Geilen
Division of Ratepayer Advocates
505 VAN NESS AVE, RM. 4209
San Francisco CA 94102 3298
(415) 703-1235
u19@cpuc.ca.gov
For: DRA

Jessica T. Hecht
Administrative Law Judge Division
505 VAN NESS AVE, RM. 5113
San Francisco CA 94102 3298
(415) 703-2027
jhe@cpuc.ca.gov

Bruce Kaneshiro
Energy Division
505 VAN NESS AVE, AREA 4-A
San Francisco CA 94102 3298
(415) 703-1187
bsk@cpuc.ca.gov

Scarlett Liang-Uejio
Division of Ratepayer Advocates
505 VAN NESS AVE, RM. 4209
San Francisco CA 94102 3298
(415) 703-2043
scl@cpuc.ca.gov
For: DRA

Ralph E. Abbott
PLEXUS RESEARCH, INC.
629 MASSACHUSETTS AVE
BOXBOROUGH MA 01719-1528
(978) 263-6080
rabbott@plexusresearch.com
For: DRA consultant on AMI

***** INFORMATION ONLY *****

Tanya Gulesserian
ADAMS BROADWELL JOSEPH & CARDOZO
601 GATEWAY BLVD. STE 1000
SOUTH SAN FRANCISCO CA 94080
(650) 589-1660
tgulesserian@adamsbroadwell.com

Marc D. Joseph, Attorney At Law
ADAMS, BROADWELL, JOSEPH & CARDOZO
601 GATEWAY BLVD., STE. 1000
SOUTH SAN FRANCISCO CA 94080
(650) 589-1660
mdjoseph@adamsbroadwell.com

Chris Hickman
CELLNET TECHNOLOGIES, INC.
4085 SUDBURY ROAD
COLORADO SPRINGS CO 80908
(719) 337-9862
chris.hickman@cellnet.com

Ward Camp
CELLNET TECHNOLOGIES, INC.
12217 SAN VICTORIO NE
ALBUQUERQUE NM 87111
(678) 258-1608
Ward.camp@cellnet.com

Steven F. Greenwald, Attorney At Law
DAVIS WRIGHT TREMAINE, LLP
505 MONTGOMERY STREET, SUITE 800
SAN FRANCISCO CA 94111-6533
(415) 276-6500
stevegreenwald@dwt.com

Donald C. Liddell
DOUGLASS & LIDDELL
2928 2ND AVENUE
SAN DIEGO CA 92103
(619) 993-9096
liddell@energyattorney.com

Chris King, Chief Strategy Officer
EMETER CORPORATION
1 TWIN DOLPHIN DRIVE
REDWOOD CITY CA 94065
(650) 631-7230
chris@emeter.com

Sharon Talbott
EMETER CORPORATION
ONE TWIN DOLPHIN DRIVE
REDWOOD CITY CA 94065
(650) 631-7230 X-117
sharon@emeter.com

Mwirigi Imungi
15615 ALTON PARKWAY
IRVINE CA 92618
(949) 701-4646
Mlungi@energycoalition.org

Jeff Nahigian
JBS ENERGY, INC.
311 D STREET
WEST SACRAMENTO CA 95605
(916) 372-0534
jeff@jbsenergy.com

Clark Pierce
LANDIS+GYR, REGULATORY AFFAIRS
246 WINDING WAY
STRAFORD NJ 08084
(856) 435-6024
Clark.Pierce@us.landisgyr.com

Jeff Francetic, Business Development Manager
LANDIS+GYR, INC.
14891 LAGO DRIVE
RANCHO MURIETA CA 95683
(916) 354-8400
jeff.francetic@us.landisgyr.com

MRW & ASSOCIATES, INC.
1814 FRANKLIN STREET, SUITE 720
OAKLAND CA 94612
(510) 834-1999
mrw@mrwassoc.com

Karen Lang
PACIFIC GAS AND ELECTRIC COMPANY
77 BEALE STREET, MC B10A
SAN FRANCISCO CA 94105
KEL3@pge.com

Larry Nixon
PACIFIC GAS AND ELECTRIC COMPANY
77 BEALE STREET, MC B10A
SAN FRANCISCO CA 94105
(415) 973-5450
lrx3@pge.com

Central Files
SDG&E AND SOCALGAS
8330 CENTRUY PARK COURT, CP31-E
SAN DIEGO CA 92123
CentralFiles@semptrautilities.com

Vicki L. Thompson, Attorney At Law
SEMPRA ENERGY
101 ASH STREET, HQ-13D
SAN DIEGO CA 92101-3017
(619) 699-5130
vthompson@semptra.com

Scott H. Debroff
SMIGEL, ANDERSON & SACKS
RIVER CHASE OFFICE CENTER
4431 NORTH FRONT STREET
HARRISBURG PA 17110
(717) 234-2401
sdebroff@sasllp.com
For: Cellnet Technology, Inc.

Paul F. Kubasek
SOUTHERN CALIFORNIA EDISON
2244 WALNUT GROVE AVENUE
ROSEMEAD CA 91770
(626) 302-8183
paul.kubasek@sce.com

Bruce Foster, Vice President
SOUTHERN CALIFORNIA EDISON COMPANY
601 VAN NESS AVENUE, STE. 2040
SAN FRANCISCO CA 94102
(415) 775-1856
bruce.foster@sce.com

Case Administration
SOUTHERN CALIFORNIA EDISON COMPANY
LAW DEPARTMENT
2244 WALNUT GROVE AVENUE
ROSEMEAD CA 91770
(626) 302-4875
case.admin@sce.com

Paul De Martini
SOUTHERN CALIFORNIA EDISON COMPANY
2244 WALNUT GROVE, G01Q1C
ROSEMEAD CA 91770
(626) 302-3376
paul.demartini@sce.com

Patricia Thompson
SUMMIT BLUE CONSULTING
2920 CAMINO DIABLO, SUITE 210
WALNUT CREEK CA 94597
(925) 935-0270
pthompson@summitblue.com

Marcel Hawiger
Attorney At Law
THE UTILITY REFORM NETWORK
711 VAN NESS AVENUE, SUITE 350
SAN FRANCISCO CA 94102
(415) 929-8876
marcel@turn.org

(END OF APPENDIX A)