Decision **PROPOSED DECISION OF ALJ ROSCOW** (Mailed 8/10/2016)

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Application of Pacific Gas and Electric Company (U39E) for Adoption of Electric Revenue Requirements and Rates Associated with the Market Redesign and Technology Upgrade (MRTU) Initiative.	Application 12-04-009 (Filed April 16, 2012)

DECISION APPROVING 2011 UTILITY EXPENDITURES FOR CALIFORNIA INDEPENDENT SYSTEMS OPERATOR MARKET REDESIGN AND TECHNOLOGY UPGRADE IMPLEMENTATION ACTIVITIES

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DECISION APPROVING 2010 UTILITY EXPENDITURES FOR CALIFORNIA INDEPENDENT SYSTEMS OPERATOR MARKET REDESIGN AND TECHNOLOGY UPGRADE IMPLEMENTATION ACTIVITIES

Summary

This Decision resolves the Application of Pacific Gas and Electric Company (PG&E) for recovery of the incremental costs it incurred in 2011 and prior years to implement the California Independent System Operator's "Market Redesign and Technology Upgrade." Having completed our review, we determine the following:

1. PG&E has demonstrated that it:

   (1) reasonably incurred capital expenditures to implement the Market Redesign and Technology Upgrade Market (MRTU) Market and Performance (MAP) Initiative that became operational in 2011; (2) reasonably recorded the expenses associated with these releases; and (3) reasonably incurred ongoing Information Technology (IT) expenses in 2011.

2. PG&E shall recover $7.9 million in rates, reflecting:

   a. 2011, 2012, and 2013 revenue requirements associated with PG&E's actual capital expenditures to implement the MRTU MAP releases that became operational in 2011; and

   b. 2010 and 2011 revenue requirements associated with PG&E's actual incremental expenses associated with these releases and the 2011 incremental MRTU ongoing IT business expenses incurred for MRTU.

3. PG&E's rate proposals associated with its MRTU-related revenue requirements are approved.

1. Background

The California Independent Systems Operator (CAISO) is charged with managing California's electricity grid and is regulated by the Federal Energy Regulatory Commission (FERC). The CAISO's Market Redesign and Technology Upgrade is an initiative that it implemented in 2009 to upgrade the efficiency of energy dispatch and improve the wholesale electricity market system by introducing new market features and advanced computer software technology. The MRTU was intended to: (1) enhance wholesale market efficiencies through use of a more accurate grid model; (2) provide more transparent prices for the generation and delivery of energy; (3) enhance electric reliability by coordinating with the Commission's Resource Adequacy (RA) program; and (4) prevent market manipulation by market participants. To implement the Market Redesign and Technology Upgrade (MRTU), the CAISO required certain actions and expenditures by Pacific Gas and Electric Company (PG&E), Southern California Edison Company (SCE), and San Diego Gas & Electric Company (SDG&E), for which the utilities sought recovery from ratepayers.[1]

The Commission first indicated that it would review MRTU implementation costs in annual utility Energy Resource Recovery Account (ERRA) compliance proceedings in May 2007 when it approved separate requests by PG&E, SCE and SDG&E to establish Market Redesign and Technology Upgrade Memorandum Accounts (MRTUMA).[2] These accounts enabled the utilities to record the incremental capital-related revenue requirement and operation and maintenance (O&M) expenses associated with implementing the MRTU initiative, so that they may subsequently request

[1] The CAISO refers to its subsequent, ongoing activities to implement additional market design features as the "Markets and Performance" phase of MRTU (MAP).

[2] *See*, Resolution E-4093, Resolution E-4087, and Resolution E-4088, respectively.

approval to recover these costs in rates. The Commission stated that in order to recover amounts recorded in its MRTUMA, each utility must demonstrate that its entries to the MRTUMA are incremental to costs previously authorized by the Commission, and have been reasonably incurred to implement the MRTU initiative.[3] The Commission directed the three utilities to seek recovery of the amounts recorded in their MRTUMAs in their ERRA "reasonableness" proceedings (*i.e.*, the annual ERRA compliance reviews for each utility).

The origin of the instant application began in Application (A.) 12-01-014. During a March 12, 2012 workshop for A.12-01-014, the assigned Commissioner and assigned Administrative Law Judge (ALJ) stated, in response to a PG&E inquiry, that it would be appropriate for PG&E to file a separate application seeking reasonableness review and associated cost recovery for PG&E's 2011 MRTU incremental expenditures.

Consequently, on April 16, 2012, PG&E filed A.12-04-009, its *Application of Pacific Gas and Electric Company for Adoption of Electric Revenue Requirements and Rates Associated with the Market Redesign and Technology Upgrade (MRTU) Initiative* (Application). In its Application, PG&E sought authorization to recover in rates the annual revenue requirements associated with the 2011 MRTU expenditures, up to and including the 2013 revenue requirement.

PG&E also proposed to recover its non-demand response portion of the revenue requirements through the Utility Generation Balancing Account (UGBA) and the demand response portion of its revenue requirements through its Demand Response Revenue Balancing Account (DRRBA). On April 19, 2012, PG&E filed a Motion to Consolidate Application with A.12-02-010 (Motion), its

[3] Incremental in this context means that the amounts recorded in the MRTUMA are in addition to that portion of a utility's previously-authorized revenue requirement for funding the CAISO's MRTU initiative.

2011 ERRA Compliance Application. In its Motion, PG&E reasoned that the MRTU reasonableness matters should not delay its ERRA Compliance Application.

On June 22, 2012, a Notice of a Prehearing Conference (PHC) was issued by Chief ALJ Karen V. Clopton. On the same date, the assigned ALJ issued a Ruling denying PGE's Motion to Consolidate.

The PHC took place in San Francisco on July 19, 2012, in order to establish the service list for the proceeding, discuss the scope of the proceeding, and develop a procedural timetable for the management of this proceeding. On August 22, 2012, ~~the~~ Office of Ratepayer Advocates (ORA) submitted testimony in which it reviewed PG&E's MRTU expenditures associated with PG&E MRTU projects that went live in 2011.

On September 19, 2012, PG&E and ORA submitted a joint recommendation to the assigned ALJ, updating ORA's position on the disputed issues in this proceeding (Joint Recommendation of Pacific Gas and Electric Company and the Division of Ratepayer Advocates, hereinafter "Joint Recommendation"). PG&E and ORA also requested removal of hearings from the Commission's calendar.

2. Issues Before the Commission

In its application, PG&E requests that the Commission issue orders as follows:

a. Determining that PG&E's capital expenditures to implement the MRTU MAP releases that became operational in 2011, the recorded expenses associated with these releases, and the 2011 incremental MRTU ongoing Information Technology (IT) business expenses, are reasonable;

b. Approving PG&E's request to recover $7.9 million in rates, reflecting:
   i. The 2011, 2012, 2013 revenue requirements associated with PG&E's actual capital expenditures to implement the MRTU MAP releases that became operational in 2011; and
   ii. The 2010 and 2011 revenue requirements associated with PG&E's actual incremental expenses associated with these releases, and the 2011 incremental MRTU ongoing IT business expenses incurred for MRTU.

c. Determining that PG&E's rate proposals associated with its MRTU-related revenue requirements are reasonable.

Of the requests listed above, ORA stated its intent to review PG&E's requests to determine the amounts recorded in the accounts and requests are appropriate and correctly stated. Specifically, ORA's review consisted of a reasonableness determination over the following issues:

a. Incremental MRTU MAP program capital expenditures for projects becoming operational in 2011;
b. MRTU MAP program expenses for 2011; and
c. Revenue Requirement proposals to recover incremental MRTU expenditures through the UGBA and DRRBA.

In today's Decision, we resolve PG&E's request: we determine that their 2011 MRTU implementation expenditures are reasonable, and we address their related requests for authority to recover those costs in rates.

3. Joint Recommendation

In the Joint Recommendation, PG&E and ORA jointly recommended that: (1) the Commission find appropriate PG&E's recorded incremental MRTU MAP capital expenditures of $15.1 million to implement the Winter 2010, Early 2011, Spring 2011, May 2011 Monthly, Summer 2011, Fall 2011, and December 2011 Releases of MAP; (2) the Commission find appropriate PG&E's recorded MRTU IT expenses of $0.4 million associated with MRTU related capital projects, as well as IT MRTU MAP ongoing business expenses incurred during 2011; and (3) the Commission authorize PG&E to recover $7.9 million in rates for incremental MRTU expenditures.

We consider those recommendations in our review of PG&E's request in the remainder of this Decision.

4. Implementation of MRTU in 2011

As directed, PG&E provided testimony in support of its Application that consisted of one exhibit (PG&E-1) which is organized into four chapters, and an appendix. PG&E provided an extensive summary of activities undertaken necessary to implement the MRTU program releases that became operational in 2011, including the CAISO's Winter 2010, Early 2011, Spring 2011, May 2011 Monthly, Summer 2011, Fall 2011, and December 2011 Releases. PG&E provided a detailed description of how it identified and followed best practices in planning, analyzing, designing, building, testing, deploying, and stabilizing the implementation of its MRTU 2011 systems. This was followed by a detailed description of major systems that were modified and/or created to implement the MRTU, and the rationale for doing so. PG&E provided documentation of the capital and incremental expenditures. PG&E provided this information in the form of workpapers.

4.1. PG&E Provided a Detailed Description of Its IT Capital Expenditures to Implement the CAISO's MRTU MAP Winter 2010, Early 2011, Spring 2011, May 2011 Monthly, Summer 2011, Fall 2011, and December 2011 Releases

PG&E began its testimony by describing the IT MAP Program Costs for its MRTU project, focusing on two broad IT categories: (1) capital expenditures related to the design, development or modification, and deployment of the software and hardware required by the MRTU MAP Program; and (2) expense involving specific infrastructure installation and other non-development efforts. In this way, PG&E provided a useful foundation for the Commission's understanding and evaluation of the subsequent expenditures incurred for its IT capital expenditures for the MRTU MAP Program. As a starting point, PG&E describes these IT Capital Expenditures in Chapter 2 of Exhibit PG&E-1.

First, PG&E described its IT methodology to ensure proper quality control of its deliverables and to ensure that its systems effectively and efficiently met the program's defined requirements. PG&E also described its MRTU MAP Program Management controls to ensure that forecasts were: (1) properly established and maintained; (2) actual costs were accounted for in an accurate and timely fashion; (3) all cost or schedule variances were explained; and (4) corrections were made to the control processes or employed tools to calibrate cost and status reporting procedures.

Second, PG&E stated that in order to successfully attain the benefits of the MRTU MAP releases, it was required to make numerous hardware and software changes and additions to its Front,[4] Middle,[5] and Back Office[6] functionality. PG&E stated that the linkage between PG&E's systems and the systems and data

[4] PG&E states that its "Front Office" is responsible for meeting PG&E's electric load obligations in a least-cost manner. With the introduction of MRTU, the Front Office had to comprehensively change the manner in which it forecast PG&E's supply and demand, performed resource optimization, and traded electricity.

[5] PG&E states that its "Middle Office" is responsible for carrying out PG&E's risk management control objectives, which are designed to mitigate aberrant trader activities, minimize business operational risks, enable portfolio managers and traders to comply with risk management policies and procedures, facilitate setting of controls and limits, and provide decision-makers with relevant analytics and portfolio reports to manage the portfolio's market and credit risks. PG&E states that its risk and portfolio management systems and processes were significantly redesigned to meet MRTU-related requirements.

[6] PG&E states that its "Back Office" is responsible for the administration of the power contracts for generation that serves PG&E's service area; invoicing and settlements; disputes; and charge code reconciliation with the CAISO. PG&E states that implementation of MRTU required extensive modifications to PG&E's Back Office infrastructure and processes.

of the CAISO required numerous internal and external interfaces, as well as resources with a variety of specialized skill sets to implement the MRTU MAP technology. PG&E provided a detailed discussion of its IT program management and control. This included a description of controls and processes to mitigate risks and to ensure a consistent and effective management process. The key processes and controls PG&E used were project scheduling, change management, resource management, and IT coordination.

Third, MRTU MAP Release initiatives modified PG&E's business and systems process to support the MRTU requirements established by the CAISO. PG&E states that all MRTU MAP related work undertaken was driven by the need to support CAISO's requirements. PG&E discussed how its IT unit developed and implemented a system to address work as either directly responsive to a specific CAISO initiative within a given Release, or needed to ensure that PG&E business groups could effectively operate in the MRTU market (but not directly responsive to any one specific CAISO initiative). Consequently, the MRTU MAP Program required PG&E's IT system to develop and implement the following: (1) enhancements to the software that is used for the bid and schedule submissions to the CAISO; (2) create new functionality to support the stabilization of price difference between the day-ahead and real-time markets; (3) tools and software to provide PG&E the ability to access and analyze CAISO pricing data; (4) enhancements to PG&E's demand response systems to support incorporation of demand response into the CAISO markets; (5) enhancements to the retail and settlement systems (i.e., functionality enhancements to rate structures, resource adequacy, resource ramping, and configuration); and (6) enhancement to the MRTU technical environments to ensure operational reliability of the new functionality. These additions, changes, and enhancements to PG&E's systems supporting MRTU activities were applied to the CAISO MAP Release to which it was associated.

PG&E states its incremental MRTU MAP capital and expense expenditures are the following, and PG&E seeks a reasonableness determination:
(a) $15.089 million in total costs, reflecting incremental MRTU MAP Program Capital Expenditures; (b) $404,000 in actual MRTU MAP Program Expenses.

4.1.1. Winter 2010 Release

PG&E states that the Winter 2010 Release consisted only of CAISO Initiative specific work. PG&E's capital project associated with the Winter 2010 Release became operational on January 1, 2011. The direct labor capital costs associated with the Winter 2010 Release are $0.010 million. PG&E stated that the CAISO Initiative work for the Winter 2010 Release was to define and formalize a RA Standard Capacity Product. PG&E further explained that the CAISO initiative intended to simplify and increase efficiency in the RA program.

Pursuant to the Joint Recommendation, ORA found that PG&E's expenditures were appropriate, request for recovery reasonable, and recommends that the Commission authorize PG&E rate recovery for the incremental MRTU expenditures.

4.1.2. Early 2011 Release

PG&E states that the Early 2011 Release consisted both of CAISO initiative specific work and PG&E initiated work. PG&E states that its capital project associated with this Release became operational in February 2011. The direct labor capital costs associated with the Early 2011 Release are $1.620 million. PG&E discussed its CAISO Initiative specific work, which included convergence bidding (live February 1, 2012). This required PG&E's Front Office to participate in convergence bidding and have the IT systems modified so that forecasting, bidding, scheduling (FBS) allowed: (1) movement of data between FBS and external Excel-based tools and spreadsheets; (2) convergence bid award/clearing be automatically imported into PG&E's trade capture system; and (3) viewing and modifying bid curves submitted to CAISO.

This initiative also triggered PG&E initiated specific work. Specifically, PG&E was required to adopt tools to help their systems meet the demands of an interdependent market. For example, PG&E acquired market modeling tools that enabled its Market Design and Monitoring Department (MDM) to fulfill its responsibilities associated with monitoring CAISO market prices, behaviors, qualities, and efficiency.

Pursuant to the Joint Recommendation, ORA found that PG&E's expenditures were appropriate, request for recovery reasonable, and recommends that the Commission authorize PG&E rate recovery for the incremental MRTU expenditures.

4.1.3. **Spring 2011 Release**

PG&E states that the Spring 2011 Release consisted of both CAISO and PG&E initiated work. PG&E's capital project associated with this release became operational in April and May 2011. The direct labor capital costs associated with the Spring 2011 Release is $0.790 million.

PG&E stated that the CAISO Initiative specific work included: a) updating the capacity procurement mechanism and exceptional dispatch bid mitigation; (b) bid cap change; and (c) changes to commitment cost (Phase 1). PG&E stated that it did not incur any direct labor capital charges for updating the capacity procurement mechanism and exception bid mitigation or bid cap change. However, PG&E was required to make changes to accommodate the changes to commitment cost (Phase 1). PG&E stated that its IT team modified its master file user interface to enable system functionality to: (1) create screens to edit and validate the Start-Up Fuel, Minimum Load cost, Minimum Load Capacity for a unit; and (2) allowing its system to export Minimum Load and Start-Up Costs for transmittal to the CAISO system. PG&E stated that its IT team also added additional validation logic.

For this initiative, PG&E triggered internal work. PG&E stated that this initiative enabled its MDM Department to have the ability to meet its responsibilities to effectively collect, store, model and analyze CAISO market data and other information from a variety of sources. PG&E stated that with the greatly increased data volumes in the MRTU Market, the existing applications and environments used by its MDM team no longer met the operational requirements of the MDM Department. The scope of the MDM Data Store consisted of developing a centralized database with specialized applications for collecting data, storing data, providing data and analyzing data to support market monitoring, market modeling, and market design decisions. PG&E stated that a key requirement of the MDM Data Store was to provide a place to store market simulation inputs and obtain results in an efficient and organized manner.

PG&E stated that it needed a remote server to store and reliably process the large volumes of data related to market modeling scenarios and large-scale market analysis efforts. PG&E stated that prior to this system going live, data processing took place on local computers, which exposed MDM to significant data loss risks, and limited its ability to handle very large datasets. For this initiative, PG&E's testimony describes a considerable development and testing effort. Twelve database tables/schemas were developed to store the data, 16 conversion routines were developed to migrate the data into the data store, interfaces were developed to provide the daily feeds of data into the data store, and two stored procedures were developed to load data from the modeling tools purchased by the MDM Department. PG&E's capital project associated with this initiative became operational on May 1, 2011.

PG&E also implemented a program change request. This request related to the requirement that a new IT logic portal environment facilitate user interaction with Proxy Demand Resource Release functionality. PG&E stated that its existing infrastructure was not adequate to handle the Proxy Demand Resource Release functionality and so, PG&E established new environments to meet the functionality requirements. This included: environments for development, testing, quality assurance, and production that are specific to this new portal.

Pursuant to the Joint Recommendation, ORA found that PG&E's expenditures were appropriate, request for recovery reasonable, and recommends that the Commission authorize PG&E rate recovery for the incremental MRTU expenditures.

4.1.4. **May 2011 Release**

PG&E states that the May 2011 Release consisted only of CAISO initiated work. PG&E's capital project associated with this release became operational in May 2011. The direct labor capital costs associated with the May 2011 Release is $0.008 million.

In this release, the CAISO implemented two initiatives. This included Open Ties and Energy Self-Schedule Requirements for Self-Provision of Regulation. For both of these initiatives, no changes were required to PG&E's systems. For these initiatives, the costs incurred were associated with testing activities performed to ensure that PG&E's systems were not adversely affected by these initiatives. PG&E's capital project associated with this initiative became operational in May 2011.

Pursuant to the Joint Recommendation, ORA found that PG&E's expenditures were appropriate, request for recovery reasonable, and recommends that the Commission authorize PG&E rate recovery for the incremental MRTU expenditures.

4.1.5. Summer 2011 Release

PG&E states that the Summer 2011 Release consisted of CAISO Initiated work and PG&E initiated work. PG&E's capital project associated with this release became operational in June, July, and August 2011. The direct labor capital costs associated with the Summer 2011 Release is $0.008 million.

The CAISO Initiated work included Proxy Demand Resource Phase 1b and 1c. FERC mandated that CAISO integrated Demand Resource into the wholesale electricity markets. In response to the FERC mandate, CAISO developed a new resource, called Proxy Demand Resource, to allow market participants to bid retail load reductions into the CAISO's wholesale market. This new product allows aggregators, known as the Demand Resource Providers, to bid demand resources curtailed into the CAISO markets. PG&E states that this affected its operations because it required PG&E to meld separate business environments into a coordinated platform to support an integrated solution that manages forecasting bidding and scheduling, settlement quality meter data systems and market systems, as well as customer care.

PG&E initiated internal work such as program change requests. These changes, PG&E states, were necessary to ensure that operational performance targets could be met, informational tool set licenses were available to enable support of convergence bidding functionality, as well as upgrading other software to enable PG&E's settlement functions to continue to operate in the MRTU market.

Pursuant to the Joint Recommendation, ORA found that PG&E's expenditures were appropriate, request for recovery reasonable, and recommends that the Commission authorize PG&E rate recovery for the incremental MRTU expenditures.

4.1.6. **Fall 2011 Release**

PG&E states that the Fall 2011 Release consisted of CAISO initiated work and PG&E initiated work. PG&E's capital project associated with this release became operational in October and November 2011. The direct labor capital costs associated with the Release are $0.781 million. PG&E states that the Reliability Demand Response Resource (RDRR) was initiated by the CAISO as a wholesale demand response product that enables retail load reductions that are normally available only for emergencies to integrate into the CAISO market. PG&E was required to participate in the simulation testing for the RDRR as part of the Fall 2011 Release. PG&E incurred costs for participating in the simulation.

Additionally, as part of the Fall 2011 Release, CAISO initiated its group constraints initiative. This initiative provides modeling of the operational constraints of Pump Storage resources, and enforces minimum time delays between successive startups or shutdowns of other generating resources. PG&E participated in the CAISO market simulation activities to verify that the CAISO systems were working properly. PG&E incurred costs associated with testing activities performed to ensure that PG&E's systems were not adversely affected by the initiative.

PG&E states that it initiated internal work relating to its load bid automation and also made program change requests. With respect to its load bid automation, PG&E stated it developed new user input screens, developed new interfaces, and added new database structures. PG&E said considerable development and testing was required to ensure proper implementation. Also included in the costs for this release, were purchases for several licenses for statistical analysis software.

Pursuant to the Joint Recommendation, ORA found that PG&E's expenditures were appropriate, request for recovery reasonable, and recommends that the Commission authorize PG&E rate recovery for the incremental MRTU expenditures.

4.1.7. December 2011 Release

PG&E states that the December 2011 Release consisted of CAISO initiated work and PG&E initiated work. PG&E's capital project associated with this release became operational in December 2011. The direct labor capital costs associated with the Release are $1.256 million.

PG&E states that the Flexible Ramping Constraints initiative was implemented by the CAISO to ensure sufficient upward ramping capacity was available to meet changing conditions in the real-time market. This required PG&E to make changes in its settlement tools and in its applications that monitor the settlement process. PG&E also initiated internal work relating to resource optimization integration. The implementation of the MRTU required PG&E to recalibrate its resource optimization integration process to meet the MRTU demands and test its calibration to ensure validity.

Pursuant to the Joint Recommendation, ORA found that PG&E's expenditures were appropriate, request for recovery reasonable, and recommends that the Commission authorize PG&E rate recovery for the incremental MRTU expenditures.

5. PG&E Summarized Its Incremental Expenditures Associated with the CAISO's MRTU, Described Its Rationale for the Expenditures, and Described the Revenue Requirements for Which It is Seeking Rate Recovery

PG&E provided a summary of its incremental expenditures made associated with the CAISO MRTU MAP. The capital expenditures are for releases that became operative in 2011, and are illustrated below:

TABLE 1-3
PG&E MRTU MAP PROGRAM – COST RECOVERY
INCREMENTAL CAPITAL EXPENDITURES
(000s OF NOMINAL DOLLARS)

Line No.	Incremental Program Capital Expenditures	Total Costs
1		$6,789
2	MAP Demand Response	8,297
3	Total Incremental Project Expenditures	$15,086

Table 1-4 summarizes the total incremental incurred MRTU expenses for which PG&E is seeking a reasonableness determination.

TABLE 1-4
PG&E COMPANY MRTU MAP PROGRAM– COST RECOVERY EXPENSES – TOTAL INCURRED
(000s OF NOMINAL DOLLARS)

Line No.	MRTU Expenses	2010	2011	Total Incurred Expenses
1		$75	$277	$352
2	Demand Response	0	52	52
3	Total Incremental Project Expenses	$75	$329	$404

PG&E states that incremental costs reflect the additional costs that have been incurred to achieve a specified objective relative to an established cost baseline. This includes: (1) labor; (2) equipment; and (3) material and contract costs associated with MRTU implementation that have not been approved by the Commission in any prior proceeding.

5.1. Incremental MRTU Expenditures Related to Demand Response

PG&E focused its demand response (DR) costs related to MRTU by identifying all prior decisions in which MRTU-related costs had already been approved for recovery. On December 19, 2008, the Commission issued D.08-12-038, which adopted bridge funding for the 2009 DR Program year that allowed PG&E to continue certain 2008 DR Programs and implement certain pilots until final programs for 2009-2011 were adopted.

On August 24, 2009, the Commission issued Decision (D.) 09-08-027, which approved the investor-owned utilities' DR program application for the 2009-2011 program years. In D.09-08-027, the Commission authorized DR activities and budgets to conduct the DR programs and pilots for the remainder of 2009 through December 31, 2011. PG&E has excluded all costs associated with 2009-2011 DR Programs from the MRTUMA. PG&E has established specific orders to track incremental DR MRTU costs and has included these other costs incurred by the DR Department to implement the DR component of MRTU in the DR sub-account of the MRTUMA.

5.2. Revenue Requirements for Which PG&E is Seeking Recovery in Rates

PG&E seeks a determination of reasonableness for the capital expenditures that PG&E incurred related to the MRTU MAP Program projects, discussed above. PG&E is also seeking a determination of reasonableness for the expenses incurred from these capital projects, as well as a determination of reasonableness for the MRTU expenses it incurred from January 1, 2011 through December 31, 2011, that are associated with ongoing IT O&M for MRTU-related projects. PG&E requests cost recovery in rates for the 2011, 2012, and 2013 revenue requirements associated with the capital expenditures incurred for the MRTU MAP Program. PG&E also seeks recovery in rates of the revenue requirements associated with the incremental MRTU expenses, discussed above.

5.3. PG&E's Cost Recovery Proposal

In its 2012 application, PG&E ~~proposes~~proposed to recover the incremental MRTU revenue requirements and associated interest in rates through the UGBA, with the exception of MRTU-related DR costs ~~that~~, which PG&E ~~proposes~~proposed to recover through the DRRBA. PG&E ~~proposes~~proposed that its approved MRTU revenue requirements ~~will~~would be consolidated with other revenue requirement changes to the UGBA and DRRBA in PG&E's next Annual Electric True-Up (AET).

PG&E further ~~proposes~~proposed that amounts transferred from the MRTU to the UGBA for recovery in rates ~~will~~would be collected in generation rates in the same manner as other generation revenue. PG&E states that new rates to include recovery of these costs ~~will~~would be designed based upon the then-current adopted methods for settling electric rates for generation revenue requirement changes.

Regarding DR-related MRTU costs, PG&E ~~states~~stated that amounts transferred from the MRTUMA to the DRRBA for recovery in rates ~~will~~would be collected in distribution rates pursuant to the distribution revenue allocation methodology for rate changes between PG&E's General Rate Case (GRC) approved by D.11-12-053 of Phase 2 of PG&E's GRC. New rates to include recovery of these costs will be designed based upon the then-current adopted methods for settling electric rates for distribution revenue requirement changes.

PG&E states that there will continue to be revenue requirements associated with the capital expenditures for all releases of MRTU until each project is fully depreciated. PG&E ~~then~~thus proposes that it be authorized in subsequent years to consolidate the associated MRTUMA capital revenue requirements with other changes to PG&E's UGBA and DRRBA on an annual basis in the AET, or successor proceeding, to be included in rates effective January 1 of each year, until each asset is fully depreciated or consolidated in a future GRC.

In its comments, ORA did not take issue with PG&E's expenditures associated with the MRTU, or how PG&E described its determination of which expenditures were incremental, and the revenue requirements associated with PG&E incremental MRTU expenditures.

5.4. PG&E Explained how its MRTU Costs Translate into Recovery in Rates

PG&E documents its revenue requirement calculations in Chapter 4 of Exhibit PG&E-1. PG&E requests to recover $7.9 million in rates for incremental MRTU expenditures.

PG&E's testimony shows that the MRTU implementation revenue requirement reflect the capital costs and operating expenses into a regulatory (cost recovery) format. The capital costs classified as IT software and operating expenses are labor required to support the software and hardware required for the project. The incremental PG&E labor includes standard costs such as payroll taxes and direct benefits.

6. Discussion

The MRTU expenditures described by PG&E in this proceeding were necessary to implement because the CAISO required this new and technically complicated market framework. Thus, we endorse the outcomes described above with respect to the review and recovery of the actual, incremental costs PG&E incurred in 2011 and prior years to implement the CAISO's MRTU initiatives summarized by PG&E. PG&E has demonstrated that this MRTU-related spending was reasonable. PG&E also established a factual foundation for review of its costs because they provided the required reporting and documentation that they followed in each of their 2011 implementation activities, and credibly accounted for any observed differences in their respective spending levels through 2010.

7. Conclusion

PG&E has provided detailed descriptions of the steps it took to research, develop, and implement its MRTU systems in 2011. After reviewing PG&E's testimony and workpapers, ORA now supports PG&E's requests for cost recovery. Based on our own review of the testimony provided by PG&E, we conclude that the actions taken by PG&E to research, develop, and implement its MRTU systems in 2011 were reasonable.

We further conclude that PG&E has demonstrated that it reasonably: (1) incurred capital expenditures to implement the MRTU MAP Initiative that became operational in 2011; (2) reasonably recorded expenses associated with these releases; and (3) reasonably incurred the ongoing IT expenses in 2011.

Therefore, PG&E shall recover $7.9 million in rates, reflecting: (a) 2011, 2012, and 2013 revenue requirements associated with PG&E's actual capital expenditures to implement the MRTU MAP releases that became operational in 2011; and (b) 2010 and 2011 revenue requirements associated with PG&E's actual incremental expenses associated with these releases and the 2011 incremental MRTU ongoing IT business expenses incurred for MRTU.

Finally, we conclude that PG&E's rate proposals associated with its MRTU-related revenue requirements are reasonable. In comments on the ALJ's proposed decision, PG&E notes that since PG&E filed this application in 2012 the DRRBA had been discontinued. PG&E cites D.12-04-045, where the Commission discontinued the DRRBA, and directed PG&E to transfer costs recorded there into the Distribution Revenue Adjustment Mechanism (DRAM) account. Therefore, we authorize PG&E to recover the demand response portion of the MRTU revenue requirement through the DRAM, consistent with D.12-04-045.

8. Categorization and Need for Hearing

On April 19, 2012, Resolution ALJ 176-3292 preliminarily determined that the category of A.12-04-009 is ratesetting and that hearings would be necessary. These determinations were affirmed at the July 19, 2012 PHC. On September 19, 2012, at the request of PG&E and ORA, the assigned ALJ canceled the previously scheduled evidentiary hearings. Therefore, the preliminary determination that hearings were necessary is changed such that no hearings are determined to be necessary.

9. Comments on Proposed Decision

The proposed decision (PD) of ALJ Roscow in this matter was mailed to the parties in accordance with Section 311 of the Public Utilities Code and comments were allowed under Rule 14.3 of the Commission's Rules of Practice and Procedure. ~~No comments~~Comments were filed~~.~~ on August 29, 2016 by PG&E.

PG&E requests that the Commission modify the PD to authorize PG&E to recover the demand response portion of the revenue requirement through the Distribution Revenue Adjustment Mechanism (DRAM) rather than the DRRBA. PG&E explains that in the period of time between when PG&E filed this application and now, the DRRBA had been discontinued. PG&E cites D.12-04-045, where the Commission discontinued the DRRBA, and directed PG&E to transfer costs recorded there into the DRAM account.[7] Thus, PG&E proposes modification of the PD to authorize PG&E to recover the demand response portion of the revenue requirement through the DRAM rather than the DRRBA, consistent with D.12-04-045. The PD has been so revised.

10. Assignment of Proceeding

Michel Peter Florio is the assigned Commissioner and Stephen C. Roscow is the assigned ALJ in this proceeding.

Findings of Fact

1. Implementation of the CAISO's MRTU fundamentally changed the manner in which energy is procured and sold by energy market participants in California.

2. The processes required to support MRTU are substantially more complex that the previous processes the CAISO used to balance the electric demand and generation on the transmission grid under the CAISO's control.

[7] D.12-04-045 at 203.

3. Implementation of MRTU required significant changes to the systems and processes of PG&E.

4. PG&E's testimony describing its MRTU projects provided a useful foundation for the Commission's understanding and evaluation of the subsequent expenditures made to integrate PG&E's existing power portfolios, their existing IT infrastructure, and existing vendor relationships with the requirements of the Winter 2010, Early 2011, Spring 2011, May 2011 Monthly, Summer 2011, Fall 2011, and December 2011 MRTU releases.

5. PG&E provided detailed descriptions of their major systems that were modified or created to implement the Winter 2010, Early 2011, Spring 2011, May 2011 Monthly, Summer 2011, Fall 2011, and December 2011 MRTU releases, and the rationales for its actions.

6. ORA does not dispute the appropriateness or amounts of PG&E's claimed MRTU costs.

7. ~~6.~~ PG&E provided sufficient testimony to enable the Commission to clearly identify costs and rationales for the costs before they are approved.

8. In D.12-04-045, the Commission discontinued the DRRBA, and directed PG&E to transfer costs recorded there into the DRAM account. PG&E was then authorized by the Commission to recover the demand response portion of its revenue requirements through the DRAM Account.

9. ORA does not dispute the appropriateness or amounts of PG&E's claimed MRTU costs.

Conclusions of Law

1. The actions taken by PG&E to modify or create the major systems necessary to implement the Winter 2010, Early 2011, Spring 2011, May 2011

Monthly, Summer 2011, Fall 2011, and December 2011 MRTU releases were reasonable.

2. PG&E's 2011 MRTU costs of $15.089 million in capital expenditures and $404,000 in incremental expenses were reasonably incurred.

3. PG&E should be authorized to recover the costs of the actions it took to modify or create the major systems necessary to implement the Winter 2010, Early 2011, Spring 2011, May 2011 Monthly, Summer 2011, Fall 2011, and December 2011 MRTU system releases.

4. PG&E should be authorized to include its 2011 MRTU-related revenue requirement of $7.9 million in rates.

O R D E R

IT IS ORDERED that:

1. Pacific Gas and Electric Company is authorized to collect in rates the $7.9 million in Market Redesign and Technology Upgrade revenue requirement that it has requested to recover in this proceeding.

2. Pacific Gas and Electric Company (PG&E) is authorized to recover its revenue requirements through the Utility Generation Balancing Account and the Demand Response portion of its revenue requirements through its ~~Demand Response~~Distribution Revenue ~~Balancing Account~~Adjustment Mechanism in PG&E's next Annual Electric True-Up Proceeding.

3. The preliminary determination that hearings were necessary is changed to no hearings are necessary.

4. Application 12-04-009 is closed.

This order is effective today.

Dated ______________________________, at San Francisco, California.

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