

Application: 12-01-  
(U 902 E)  
Exhibit No.: (SDG&E-1)  
Date: January 31, 2012  
Witnesses: Sue E. Garcia  
Tony Choi  
Gregory D. Shimansky

---

**SAN DIEGO GAS & ELECTRIC COMPANY**  
**MARKET REDESIGN AND TECHNOLOGY UPGRADE**  
**REPORT AND PREPARED TESTIMONY**

---





Application No.: A.12-01-  
Exhibit No.: \_\_\_\_\_  
Witness: Sue E. Garcia  
Date: January 31, 2012

SAN DIEGO GAS & ELECTRIC COMPANY  
PREPARED DIRECT TESTIMONY OF  
SUE E. GARCIA

BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA

January 31, 2012



**TABLE OF CONTENTS**

I. INTRODUCTION ..... 1

II. MRTU IMPLEMENTATION OVERVIEW ..... 3

III. PROPOSED RATEMAKING MECHANISM..... 4

IV. CONCLUSION..... 4

V. QUALIFICATIONS OF SUE E. GARCIA..... 5

**PREPARED DIRECT TESTIMONY OF  
SUE E. GARCIA  
ON BEHALF OF SDG&E**

**I. INTRODUCTION**

The “Ruling Providing Further Guidance for the Purposes of Reviewing Market Redesign Technology Upgrade (“MRTU”) Costs,” dated August 12, 2011 (“August 12 Ruling”), as clarified in “Joint Commissioner and Administrative Law Judge Ruling Providing Clarification Regarding consolidated Review of Market Redesign and Technology Upgrade Costs,” dated November 2, 2011 (“November 2 Ruling”), required Pacific Gas and Electric Company, Southern California Edison Company, and San Diego Gas & Electric Company (“SDG&E”) to remove the MRTU-related issues from their respective Energy Resource Recovery Account (“ERRA”) proceedings and to prepare, file and serve a joint application (“Joint Application”) to facilitate a consolidated review of MRTU costs. The August 12 Ruling delineated the scope of issues to be addressed in the Joint Application both on a utility-specific basis and more generically in a report.

For SDG&E, the August 12 Ruling summarized the MRTU related issues from SDG&E’s ERRA proceeding, A.11-06-003, as follows:

SDG&E established its Market Redesign and Technology Upgrade Memorandum Account (“MRTUMA”) to record the incremental operation and maintenance and capital-related costs associated with implementing the CAISO’s MRTU tariff. SDG&E requests recovery of its net costs entered into the MRTUMA in 2010 and authorization to transfer that balance to the NGBA [Non-fuel Generation Balancing Account] as per the tariff disposition. The total of costs entered into the MRTUMA in 2010 is \$1.6 million undercollected.<sup>1</sup>

The August 12 Ruling also directed that the Joint Application include a report on the topics listed below:

- a. A detailed description of how each utility identified and followed best practices in researching, developing and implementing its MRTU systems;
- b. A detailed description of the major systems that were modified or created to implement MRTU, and the rationale for doing so;

---

<sup>1</sup> August 12 Ruling at 6-7.

- 1 c. Documentation of actual and forecast annual spending associated with MRTU  
2 implementation:
- 3 i. Capital and expense spending authorized to date, separately identified by  
4 proceeding (e.g., GRC, ERRA, any others);
- 5 ii. Pending requests for approval of capital and expense spending; and
- 6 iii. Itemized forecast of future annual spending, separately identified by proceeding  
7 (e.g., GRC, ERRA, any others).
- 8 d. A proposed ratemaking mechanism and procedural vehicle to replace consideration of  
9 these costs in annual ERRA compliance cases.

10 To facilitate review of SDG&E's 2010 MRTU-related costs, SDG&E has provided the  
11 requested information in the direct testimony of its witnesses: Ms. Sue Garcia and Messrs Tony  
12 Choi and Greg Shimansky. The direct testimony of SDG&E witness Mr. Tony Choi will address  
13 the above-listed items a. and b. and the direct testimony of SDG&E witness Mr. Greg Shimansky  
14 will address above listed items c. and d. My testimony provides an overview of SDG&E's  
15 MRTU implementation strategy and describes the proposed future ratemaking  
16 mechanism/procedural vehicle.

17 The November 2 Ruling also noted that "the purpose of requiring the information in a  
18 joint Application is also to allow for more discussion among the IOUs than would otherwise be  
19 possible." As a result, Mr. Choi will address the following topics on behalf of SDG&E in his  
20 prepared testimony:

- 21 • Size of SDG&E's portfolio,
- 22 • Volume and types of transactions,
- 23 • Complexity and diversity of portfolio,
- 24 • Timeline of MRTU implementation,
- 25 • Legacy Information Technology infrastructure, and
- 26 • Pre-existing relationships with vendors.

27 In sum, as required by both the August 12 Ruling and the November 2 Ruling, SDG&E's  
28 collective showing demonstrates that SDG&E implemented the necessary measures to meet the  
29 MRTU requirements in a cost effective, efficient and reliable manner. The costs that SDG&E  
30 here seeks to recover for 2010 are verifiable and incremental and have been reasonably incurred  
31 to implement the California Independent System Operator ("CAISO") MRTU initiative.

1 **II. MRTU IMPLEMENTATION OVERVIEW**

2 The implementation of MRTU resulted in significantly more complex utility operations  
3 than required in the pre-MRTU CAISO structure. The CAISO introduced several core operating  
4 systems, including Scheduling Infrastructure Business Rules, California ISO Market Results  
5 Interface and an updated interface for Open Access Same-Time Information System, each  
6 requiring new and more complex data sets and interface protocols. In order to adapt its then-  
7 existing operations to meet these new requirements, SDG&E incurred capital costs of \$4.8  
8 million and Operation & Maintenance (“O&M”) costs of \$2.5 million from 2007 through 2010,  
9 primarily for software-related items and incremental direct labor.

10 The primary MRTU capital software cost was the purchase of the GenBase/GenPortal/  
11 GenTrader/GenManager product suite from Power Costs Inc. (“PCI”). PCI was selected through  
12 a competitive selection process. Software purchased from Allegro also contributed to capitalized  
13 software cost. The functionality of these software purchases are described below:

- 14 - GenBase is a PCI-developed database that stores market price data, market awards,  
15 resource configuration, market bids, calculated values and other information required  
16 to operate under the MRTU environment.
- 17 - GenPortal is the module used to create and manage workflows. It works in tandem  
18 with GenBase and GenManager to perform data calculation and processing tasks.
- 19 - GenTrader is a production cost and optimization software application produced by  
20 PCI.
- 21 - GenManager contains the functionality to prepare complex bid files and submit them  
22 to the CAISO.
- 23 - The Allegro software replaced SDG&E’s existing system of record for power  
24 transactions in 2009. The Power Module provides users with a single repository for  
25 physical and financial power trades and positions, and provides traders, credit  
26 managers, risk managers, and accountants with instant access to data.
- 27 - The Data Warehouse/Data Mart implementation provides an efficient way to retrieve  
28 frequently relied upon procurement data.

29 SDG&E has continued to incur MRTU-related costs since 2009. Mr. Shimansky’s  
30 prepared testimony describes these recorded and forecasted costs through 2012.

1 **III. PROPOSED RATEMAKING MECHANISM**

2 The MRTUMA was established under Commission Resolution E-4088, dated May 24,  
3 2007, pursuant to SDG&E Advice Letter 1867-E to record and recover Commission-authorized  
4 costs that are incremental to approved items authorized under the effective General Rate Case  
5 (“GRC”) revenue requirements. SDG&E continues to record additional costs associated with  
6 MRTU requirements, including ongoing costs to comply with FERC-mandated enhancements,  
7 such as the Markets and Performance (“MAP”) initiative, to the MRTUMA until these costs can  
8 be captured in the next GRC. In the 2012 GRC, SDG&E proposed that O&M and capital  
9 expenses previously recorded in the MRTUMA be rolled into the GRC revenue requirement and  
10 eliminate the use of the MRTUMA. The MRTUMA served a purpose during the development of  
11 the MRTU, however, now that the MRTU has been implemented for more than two years, it is  
12 time to dissolve the MRTUMA and combine all funding and costs associated with MRTU under  
13 the GRC for Test Year 2012.

14 **IV. CONCLUSION**

15 SDG&E requests that the Commission find that MRTU was implemented at SDG&E in a  
16 manner consistent with CAISO and Commission directives and SDG&E’s costs were reasonably  
17 incurred. SDG&E also requests the Commission to find that all 2010 MRTU-related costs, in the  
18 amount of \$2.62 million, are in compliance with SDG&E's approved MRTUMA tariff and grant  
19 the authority to transfer the recorded 2010 undercollected revenue requirement in the MRTUMA  
20 of \$1.58 million to the NGBA for future recovery in SDG&E's electric commodity rates in  
21 accordance with the approved disposition of the account. With regards to 2011 costs, SDG&E  
22 requests the Commission authorize SDG&E to seek MRTU cost recovery through the ERRA  
23 compliance proceeding.

24 This concludes my prepared direct testimony.  
25



1 **V. QUALIFICATIONS OF SUE E. GARCIA**

2 My name is Sue E. Garcia. My business address is 8315 Century Park Court, San Diego,  
3 CA 92123. I am currently employed by SDG&E as Manager – Settlements and Systems in the  
4 Electric and Fuel Procurement Department. My present duties include the settlements of all  
5 electric and fuel commodity transactions, management of the department systems, as well as the  
6 management and administration of existing agreements, including renewable agreements,  
7 Qualifying Facilities agreements, allocated California Department of Water Resources  
8 agreements and bilateral agreements. I have been employed by SDG&E since 1995. I have been  
9 in my current position since December 2011.

10 I received a B.S. in Business Administration, with an Accounting emphasis, from San  
11 Diego State University. I am a Certified Public Accountant and a Certified Internal Auditor.

12 I have previously testified before the Commission.



Application No.: A.12-01-  
Exhibit No.: \_\_\_\_\_  
Witness: Tony Choi  
Date: January 31, 2012

SAN DIEGO GAS & ELECTRIC COMPANY  
PREPARED DIRECT TESTIMONY OF  
TONY CHOI

BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA

January 31, 2012



## TABLE OF CONTENTS

I.	INTRODUCTION .....	1
II.	BACKGROUND .....	1
III.	MRTU SYSTEM REQUIREMENTS .....	2
IV.	RESEARCHING, DEVELOPING AND IMPEMETING MRTU SYSTEMS.....	6
V.	DESCRIPTION OF MAJOR SYSTEMS MODIFIED OR CREATED TO IMPLEMENT MRTU AND RATIONALE FOR DOING SO .....	7
VI.	CONCLUSION.....	12
VII.	QUALIFICATIONS OF TONY CHOI .....	13



1 Commitment (“STUC”) and Real-Time Pre-Dispatch (“RTPD”)), Congestion Revenue Rights  
2 (“CRRs”), new bidding and market power mitigation rules, convergence bidding and multi-stage  
3 generation modeling (“MSG”). Further, the CAISO introduced several new operating systems,  
4 including Scheduling Infrastructure Business Rules (“SIBR”) for accepting bids and schedules,  
5 CAISO Market Results Interface (“CMRI”) for conveying market awards and a new Open  
6 Access Same-Time Information System (“OASIS”). These new systems required new  
7 Information Technology (“IT”) tools and processes which drove the complexity and cost for  
8 market participants to do business in the MRTU market environment.

9 SDG&E successfully transitioned to the new market design and related operating systems  
10 in a responsive and cost-effective manner. SDG&E continues to incur additional MRTU-related  
11 costs to keep pace with ongoing CAISO operational changes and Federal Energy Regulatory  
12 Commission (“FERC”) mandated enhancements such as renewable energy integration and  
13 demand response functionality in the wholesale market. SDG&E proposes that such costs are  
14 recorded in and recovered through the MRTUMA until the next GRC period, which commences  
15 in 2012 for SDG&E. The direct testimony of SDG&E witness Gregory Shimansky provides  
16 more detail regarding the costs recorded in MRTUMA.

### 17 **III. MRTU SYSTEM REQUIREMENTS**

18 This section describes the major system and process changes imposed by MRTU and the  
19 factors that drove SDG&E’s strategy in implementing MRTU. Technical detail regarding new  
20 CAISO applications and external business requirements are available on the following CAISO  
21 website: <http://www.caiso.com/participate/Pages/ApplicationAccess/Default.aspx>.

22 As a result of MRTU, the CAISO implemented SIBR which is the MRTU interface  
23 through which market participants (through their Scheduling Coordinator or “SC”) communicate  
24 bids and schedules for capacity, energy, ancillary services and Inter-SC Trades with the CAISO.  
25 As with most MRTU systems, data can be entered and viewed in SIBR manually through the  
26 CAISO-provided user interface or electronically through an application protocol interface  
27 (“API”). An API allows market participants to send and receive pre-formatted data files using  
28 internally developed or third-party software applications to and from SIBR. SIBR bids or  
29 schedules can require hundreds of individual values depending on the resource, and each bid or  
30 schedule must conform to hundreds of validation rules. Further, the bid or schedule must be  
31 updated daily and in some cases hourly, depending on operational or economic factors such as

1 unit commitment status and fuel price. Finally, SIBR only retains bid and schedule data for  
 2 seven days, therefore SDG&E required capability to store this data. It became evident that  
 3 creation, submission and storage of this data required a new software application given the large  
 4 number of resources within SDG&E’s portfolio and correspondingly extensive data  
 5 requirements; manually processes would not have been feasible.

6 CMRI is the MRTU interface through which market participants retrieve market awards  
 7 for load and resources. Market awards are determined on a resource by resource basis, for each  
 8 hour or sub-hourly interval, and for each of the various market runs (i.e. DAM, HASP, RTPD  
 9 and RTD). Further, market awards in the DAM are used as a starting point for bids and  
 10 schedules in the real-time markets. As with SIBR, SDG&E needed to acquire and implement an  
 11 application to retrieve, process and store this quantity of data.

12 OASIS was significantly modified to enable CAISO to publish MRTU-related  
 13 operational and market data, including market bids and clearing prices, convergence bidding  
 14 awards and CRR auction results. SDG&E relies on significant portions of this data to develop  
 15 market intelligence and support bid strategies. As with CMRI, there is more information in  
 16 OASIS than can be manually retrieved by SDG&E through the user interface; therefore SDG&E  
 17 relied upon a system to efficiently retrieve, process and store this data.

18 The table below summarizes these and other MRTU operational applications, key  
 19 implementation factors and the solution SDG&E implemented.

MRTU Requirement	Function / Purpose	Key Implementation Factors	SDG&E Solution
SIBR	<p>Accepts bids and trades for energy and energy-related commodities from SCs. Ensures that those bids and trades are valid and modifies bids for correctness when necessary.</p> <p>Enters those bids and trades into a database for processing by other components of CAISO’s management systems, and provides required feedback to SCs concerning bids and trades that have been submitted.</p>	<p>Portfolio Size: SDG&amp;E’s portfolio contains several dozen resources, requiring an application to automate the creation and submission of bids and trades.</p> <p>Resource Complexity / Diversity: SDG&amp;E portfolio includes peakers, combined cycle units, renewable generation and market power. An application was needed to apply appropriate logic to generate bids for these various resource types.</p> <p>Volume / Type of Transactions: Daily and hourly bids, schedules and Inter-SC trades (ISTs) must be submitted to SIBR on a timely basis each hour. For ISTs, an application was needed to consolidate deal entry (for risk and settlement purposes)</p>	<p>SDG&amp;E sought competitive bids from vendors specializing in turnkey applications for RTO markets. After thorough evaluation (described below), SDG&amp;E purchased and implemented software from Power Costs, Inc. to process and transmit data related to SIBR, OASIS, CMRI and ADS.</p>

	Data can be transmitted manually through user interface or electronically through an API.	<p>with SIBR scheduling to avoid errors that would result from multiple entries.</p> <p>Implementation Timeline: Limits on internal IT resources would have posed a challenge to developing in-house software within the announced MRTU launch time frames; therefore a solution was sought from vendors specializing in turnkey MRTU-related requirements.</p> <p>Legacy IT Systems / Pre-existing Vendors: SDG&amp;E's legacy system became obsolete for scheduling and bidding under MRTU so did not constrain the going-forward solution for MRTU. The legacy system provider was invited to bid on the new MRTU applications but was not selected.</p>	
CMRI	<p>Output proprietary information, wherein SCs will only be allowed to view their own set of transactions over a specified trade date range. Each report will have its own set of input query parameters where the report to be generated can be filtered according to the user's selection criteria.</p> <p>Data can be transmitted manually through user interface or electronically through an API.</p>	<p>Portfolio Size: SDG&amp;E's portfolio contains several dozen resources, requiring an application to automate the retrieval of market awards.</p> <p>Resource Complexity / Diversity: CMRI data is structurally uniform across different resource types; therefore this was not a key factor.</p> <p>Volume / Type of Transactions: Market awards are published in CMRI for convergence bids (DAM) and physical bids (DAM, HASP, RTD), requiring an application to automate the retrieval of market awards.</p> <p>Implementation Timeline: Limits on internal IT resources would have posed a challenge to developing in-house software within the announced MRTU launch time frames; therefore a solution was sought from vendors specializing in turnkey MRTU-related requirements.</p> <p>Legacy IT Systems / Pre-existing Vendors: SDG&amp;E's legacy system became obsolete for retrieving awards under MRTU so did not constrain the going-forward solution for MRTU. The legacy system provider was invited to bid on the new MRTU applications but was not selected.</p>	SDG&E sought competitive bids from vendors specializing in turnkey applications for RTO markets. After thorough evaluation (described below), SDG&E purchased and implemented software from Power Costs, Inc. to process and transmit data related to SIBR, OASIS, CMRI and ADS.
OASIS	Provides public bid and operational data to market participants including market clearing quantities	Portfolio Size: Under MRTU, the CAISO publishes market prices related to each of SDG&E's several dozen resources. Further, SDG&E uses the CAISO load	SDG&E sought competitive bids from vendors specializing in turnkey applications



	<p>and prices, transmission usage, load data and historical bid data.</p> <p>Data can be transmitted manually through user interface or electronically through an API.</p>	<p>data in its daily processes. The quantity of available data required an application to automate the retrieval of OASIS data.</p> <p>Implementation Timeline: Limits on internal IT resources would have posed a challenge to developing in-house software within the announced MRTU launch time frames; therefore a solution was sought from vendors specializing in turnkey MRTU-related requirements.</p> <p>Legacy IT Systems / Pre-existing Vendors: SDG&amp;E did not have existing systems to query OASIS prior to MRTU due to lower data requirements.</p>	<p>for RTO markets. After thorough evaluation (described below), SDG&amp;E purchased and implemented software from Power Costs, Inc. to process and transmit data related to SIBR, OASIS, CMRI and ADS.</p>
ADS	<p>Messaging system that allows for resource-specific dispatch instructions to be sent from the CAISO to SCs. Primary communication to SC's in Real Time to view all generation and all tie instructions dispatched by the CAISO.</p> <p>ADS was updated for MRTU to include 15-minute ancillary service awards and MSG configuration transitions.</p> <p>Data can be retrieved manually through user interface or electronically through API.</p>	<p>Portfolio Size: SDG&amp;E's portfolio contains several dozen resources, requiring an application to automate the retrieval of ADS instructions.</p> <p>Resource Complexity / Diversity: ADS data includes commitment instructions, ancillary service awards and energy dispatches, depending on the resource.</p> <p>Volume / Type of Transactions: ADS instructions are issued several hours ahead for some unit commitments, hourly for intertie awards, each 15 minutes for ancillary services and each 5 minutes for dispatched energy. The variety and frequency of ADS instructions required an application to automate data retrieval.</p> <p>Implementation Timeline: Limits on internal IT resources would have posed a challenge to developing in-house software within the announced MRTU launch time frames; therefore a solution was sought from vendors specializing in turnkey MRTU-related requirements.</p> <p>Legacy IT Systems / Pre-existing Vendors: SDG&amp;E did not have existing systems to retrieve ADS data.</p>	<p>SDG&amp;E sought competitive bids from vendors specializing in turnkey applications for RTO markets. After thorough evaluation (described below), SDG&amp;E purchased and implemented software from Power Costs, Inc. to process and transmit data related to SIBR, OASIS, CMRI and ADS.</p> <p>PCI's functionality is limited to retrieval of ADS data. SDG&amp;E provides operating personnel at plant sites direct access to the ADS instructions specific to their resource. Therefore, SDG&amp;E did not require an application to parse and disseminate ADS data.</p>
SLIC	<p>Scheduling and logging system used to submit resource-specific and transmission outage requests and supporting information. From a user standpoint, SLIC was not updated for MRTU.</p>	<p>Portfolio Size: SDG&amp;E's portfolio contains several dozen resources. Given this portfolio size, it was operationally feasible to continue entering data directly into SLIC manually upon MRTU launch. However, SLIC requirements grew following MRTU launch as SDG&amp;E added new resources and converted existing ones</p>	<p>SDG&amp;E's SLIC application is part of the PCI solution initially purchased for other MRTU functionality. Therefore incremental costs were incurred to</p>

	<p>Data can be transmitted manually through user interface or electronically through API.</p>	<p>to MSG. To ensure that outage data was consistent between SLIC and SDG&amp;E’s resource optimization and scheduling applications, SDG&amp;E transitioned to a front end application to consolidate the entry and processing of SLIC data.</p> <p>Resource Complexity / Diversity: SLIC data is structurally uniform across different resource types; therefore this was not a key factor.</p> <p>Volume / Type of Transactions: SLIC cards are submitted for planned and forced outages, ambient derates, unit testing and a variety of other reasons that constrain resource operations. As discussed, it was feasible for SDG&amp;E to initially submit such data manually into SLIC. As volume and type of transactions increased due to new resources and MSG modeling, SDG&amp;E required an application to automate SLIC functions.</p> <p>Implementation Timeline: Limits on internal IT resources would have posed a challenge to developing in-house software within the announced MRTU launch time frames; therefore a solution was sought from vendors specializing in turnkey SLIC-related requirements.</p> <p>Legacy IT Systems / Pre-existing Vendors: SDG&amp;E did not have existing systems to submit SLIC data.</p>	<p>customize the application to SDG&amp;E’s resources.</p> <p>PCI’s functionality is limited to entry and submission of SLIC data by SDG&amp;E personnel only, rather than directly from its resources. SDG&amp;E is exploring such a solution, which would require additional resources from IT or vendors.</p>
--	---	---	--

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11

**IV. RESEARCHING, DEVELOPING AND IMPEMETING MRTU SYSTEMS**

The implementation of MRTU at SDG&E was a collaborative process that involved many departments across the company including, but not limited to, Electric & Fuel Procurement (“E&FP”), IT, and Supply Management. Each department worked closely together striving to achieve best practices and successfully implement MRTU.

The majority of SDG&E’s MRTU system costs were incurred in earlier years to acquire and implement the set of MRTU software applications from Power Costs Incorporated (“PCI”), as explained later in this section. SDG&E continues to incur ongoing PCI costs, such as license fees, vendor support and software enhancements, to maintain these systems and respond to new CAISO products such as Convergence Bidding and Multi-Stage Generation. These ongoing PCI

1 costs are incremental to the up-front PCI costs already incurred and therefore lower than  
2 alternative solutions from other vendors that would require a new software and hardware  
3 platform. Also, incremental PCI solutions lowered implementation costs and time because of  
4 SDG&E's existing PCI platform and user expertise.

5 The initial decision to purchase and implement PCI software followed a competitive and  
6 thorough selection process. In 2006 SDG&E issued a Request for Proposal ("RFP") seeking  
7 bids for software and services for the following applications: portfolio optimization, MRTU  
8 scheduling/settlement and data capture/analysis/reporting. SDG&E's Supply Management  
9 department managed this bidding process. SDG&E received bids from PCI and four other  
10 vendors. SDG&E then compared short-listed bidders' responses across several criteria including  
11 technical aspects, functionality, vendor viability/vendor support, reports and pricing. PCI was  
12 the highest rated vendor over this set of evaluation criteria and was the successful bidder.

13 Importantly, SDG&E did not rely on vendor solutions to meet all MRTU requirements.  
14 SDG&E uses internally-developed (including manual) solutions to manage data processes with  
15 some interfaces including Customer Inquiry, Dispute and Information ("CIDI"), CRR and  
16 Demand Response System ("DRS"). Other systems such as OMAR and SLIC were not  
17 modified for MRTU and required no initial process or IT changes for SDG&E. Of note, SDG&E  
18 did not require significant process or system changes to retrieve MRTU settlement data, as  
19 SDG&E's settlement outside service was able to adapt to MRTU requirements at little cost to  
20 SDG&E. These solutions, which may not have been available to some market participants with  
21 more challenging portfolio size, diversity and legacy systems and vendors issues, enabled  
22 SDG&E to mitigate total charges to the MRTUMA. However, higher cost solutions may  
23 ultimately be needed for these and other CAISO systems depending on future market design  
24 developments and SDG&E's functional requirements.

## 25 **V. DESCRIPTION OF MAJOR SYSTEMS MODIFIED OR CREATED TO** 26 **IMPLEMENT MRTU AND RATIONALE FOR DOING SO**

27 In order to minimize the risk of meeting the CAISO's published implementation schedule  
28 the development and deployment plan for MRTU at SDG&E was divided into the following  
29 phases:

- 30 • Phase 1: Beginning in March 2007, SDG&E implemented portfolio optimization  
31 using PCI GenPortal and GenTrader products in the pre-MRTU market.

- Phase 2: Beginning in August 2007, SDG&E initiated preparation for MRTU scheduling and data capture using PCI GenPortal and GenManager. These items were completed by the MRTU launch.
- Phase 3: Following MRTU go-live up to the present, SDG&E maintained a steady pace of PCI enhancements to meet expanding CAISO requirements as well as changes within its resource portfolio. Also, SDG&E purchased the PCI Bid Evaluator module to forecast energy awards, revenues, operating costs and day-ahead bid analysis.
- Phase 4: Beginning in 2010, SDG&E initiated the E&FP Data Mart project with PCI.
- The large amount of data generated by the MRTU environment required SDG&E to efficiently acquire data analytics software to automate data management, analysis and reporting. The automation provided by such software freed up procurement staff to focus on analyzing useful data to continuously improve portfolio management decisions.

During 2010, SDG&E incurred capital and operation and maintenance (“O&M”) costs totaling \$2.62 million (incremental to costs established for 2010 in the most recent GRC ) to meet ongoing MRTU requirements, as previously presented in SDG&E’s A.11-06-003.<sup>2</sup> As further explained in Mr. Shimansky’s testimony, SDG&E is seeking approval to include \$1.73 million of capital costs in its rate base, and to recover \$0.89 million in O&M expenses. SDG&E recorded a revenue requirement of \$1.58 million for the undercollected MRTU-related costs in the MRTUMA for capital, O&M and interest costs in 2010. Tables 1 and 2 summarize MRTU-related costs SDG&E incurred in 2010:

**Table 1: Capital Costs**

<b>2010 MRTU/Market Capital Summary</b>	<b>2010</b>
AFUDC Settlement	\$ 45,522
Computer Hardware	\$ 178,467
Contractor/Consultant	\$ 917,805
Labor	\$ 79,055
Overhead	\$ 81,969
Software	\$ 429,713
<b>Grand Total</b>	<b>\$ 1,732,531</b>

<sup>2</sup> SDG&E Application 11-06-003, Prepared Direct Testimony of Andrew Scates, Section XI, page 21.

1 The largest categories of capital costs were Software and Contractor/Consultant, which  
2 represented 78% of total capital. The primary MRTU-related software cost was the purchase of  
3 the Data Warehouse/Data Mart and additional enhancement upgrades provided under the  
4 GenManager product from PCI. Additional licensing support purchased from Allegro  
5 (SDG&E's E&FP's primary software application used both pre- and post-MRTU  
6 implementation) also contributed to capitalized software cost. The functionality of these  
7 software purchases are described below:

- 8 - The Data Warehouse/Data Mart implementation provides an efficient means to store,  
9 retrieve and analyze critical procurement data, including economic, operational and  
10 settlement information. SDG&E acquired Data Warehouse Schema, Data Link, and  
11 Data Mart Builder software and initiated a Data Mart proof of concept. This  
12 investment will lead to development and implementation of a Data Warehouse  
13 platform, comprised of selected Data Mart applications, which should enable  
14 SDG&E's E&FP group to more effectively process data and enhance management of  
15 its portfolio.
- 16 - GenManager contains the functionality to prepare complex bid files and submit them  
17 to the CAISO. It communicates with CAISO systems to validate bid status and  
18 market awards. Upgraded capabilities include support and solutions to bid in new  
19 product types into the MRTU market, including Proxy Demand Resources, Multi-  
20 Stage Generation and Convergence Bids (preparation for February 2011 go-live).

21 Capitalized Contractor/Consultant costs were incurred for software implementation work  
22 performed by PCI and Allegro.

- 23 - The PCI GenManager and Data Warehouse products are used in several markets  
24 across the United States and needed to be customized to meet SDG&E and CAISO  
25 requirements. PCI performed much of this work including modeling and configuring  
26 each of SDG&E's resources, ensuring that all bid and schedule calculations complied  
27 with market rules, designing/creating user interfaces and testing CAISO  
28 communication protocols. Additional costs were incurred to adapt to CAISO's  
29 frequent requirements modifications during the Market simulation phases.
- 30 - The Allegro software and server costs reflect work performed by the vendor to  
31 specify, design, deliver and test the Allegro Power Module and PCI interface.

1 Other categories of MRTU/Market-related capitalized costs are described below:

- 2 - Capitalized Labor costs reflect IT work in the following areas: definition of MRTU/  
3 Market business process and systems requirements, assessment and selection of  
4 vendors and products, development and integration of systems (for example, building  
5 an interface between PCI and Allegro to transfer transaction data), and product  
6 testing.
- 7 - Overhead costs reflect applicable labor and non-labor overheads to the costs charged  
8 as capital.
- 9 - Computer Hardware costs were incurred to procure and implement application  
10 servers used to host MRTU/Market application software in production, QA, and  
11 Disaster Recovery environments.
- 12 - Allowance for Funds Used During Construction (“AFUDC”) represents the cost of  
13 borrowing funds until a project is placed into operation.

14 **Table 2: O&M Expenses**

2010 MRTU/Market O&M Summary	2010
Contractor/Consultant	\$ 435,687
Employee Travel	\$ 14,248
Labor	\$ 285,901
Other	\$ 2,627
Overhead	\$ 66,424
Software	\$ 87,060
<b>Grand Total</b>	<b>\$ 891,947</b>

15 The largest categories of O&M expenses were Contractor/Consultant and Labor. These  
16 represented about 81% of total O&M costs and are described below:

- 17 - PCI performed post-installation work and continued software support in the following  
18 areas: bid strategy implementation, resource modeling including Multi-Stage  
19 Generation, implementation of Outage Management module, automation of certain  
20 workflows and preparation of Convergence Bidding functionality.
- 21 - Allegro performed post-installation work to customize their software to meet  
22 SDG&E-specific requirements related to data table configuration and communication  
23 with PCI and CAISO interfaces.
- 24 - Customized Energy Solutions (“CES”) performed detailed analysis of CAISO  
25 MRTU/Market settlement statements to validate revenues and charges.

- 1 - Czarnecki-Yester Consulting Group (“CYCG”) provided support for SDGE’s  
2 procurement settlement business process performance. Through the ISOSettlePro  
3 support package, CYCG provided a full function CAISO settlement system producing  
4 soon after trade date CAISO predictive settlements, shadow settlements, settlement  
5 statement validations, reconciliation, allocations, reporting, and down-stream system  
6 integration.
- 7 - Software costs primarily reflect annual license fees and maintenance costs paid to  
8 Allegro and PCI for software upgrades and product support from the software  
9 vendors. These charges began to accrue once the software products were delivered  
10 and placed into production in 2009.
- 11 - Labor costs reflect 4 dedicated employees who performed the following  
12 MRTU/Market-related work:
- 13 • Project implementation management, resource coordination
  - 14 • Participation in CAISO stakeholder processes
  - 15 • PCI configuration and acceptance testing
  - 16 • Training and procedures development
  - 17 • Market simulation
  - 18 • Strategy development
  - 19 • CRR valuation, strategy, bidding, portfolio management
  - 20 • Market data analysis, report generation
  - 21 • Settlement support, predictive reports
  - 22 • Scheduling support
  - 23 • Integration of new initiatives (*e.g.*, MAP)
- 24 Other categories of MRTU/Market-related O&M expenses are described below:
- 25 - Overhead costs reflect applicable labor and non-labor overheads to the costs charged  
26 as O&M.
- 27 - Employee Travel costs primarily reflects travel costs to/from the CAISO offices by  
28 various SDG&E personnel in 2010 to participate in MRTU/Market  
29 implementation/market simulation meetings.

1 **VI. CONCLUSION**

2 SDG&E successfully implemented new systems and changes to existing processes to  
3 meet MRTU requirements. SDG&E managed this transition to the “new market” in a  
4 methodical and organized fashion working closely with other departments to ensure that MRTU  
5 was implemented in a cost effective, efficient and reliable manner.

6 SDG&E reasonably incurred incremental and verifiable costs to prepare for and to meet  
7 the CAISO requirements and Commission directives. The major systems SDG&E relies upon  
8 were researched, procured and implemented in accordance with best practice to enable SDG&E  
9 to continue to operate through the MRTU transition.

10 This concludes my prepared direct testimony.  
11



1 **VII. QUALIFICATIONS OF TONY CHOI**

2 My name is Tony Choi. My business address is 8315 Century Park Court, San Diego,  
3 CA 92123. I am currently employed by SDG&E as Market & Policy Analysis Manager. My  
4 current responsibilities include representing SDG&E in CAISO stakeholder proceedings,  
5 overseeing analyses related to the SDG&E's resource portfolio and wholesale power market and  
6 coordinating implementation of front-office solutions to meet new CAISO requirements. I  
7 assumed my current position in January, 2011.

8 I previously managed the Market Operations and Power and Fuels Trading desks for  
9 SDG&E. Prior to joining SDG&E in 2002, my experience included two years as a power plant  
10 engineer, four years as an energy trader and three years as a wholesale energy transaction  
11 originator.

12 I hold a Bachelors degree in Chemical Engineering and a Masters degree in Business  
13 Administration from the University of California, Berkeley.

14 I have previously testified before the Commission.



Application No.: A.12-01-  
Exhibit No.: \_\_\_\_\_  
Witness: Gregory D. Shimansky  
Date: January 31, 2012

SAN DIEGO GAS & ELECTRIC COMPANY  
PREPARED DIRECT TESTIMONY OF  
GREGORY D. SHIMANSKY

BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA

January 31, 2012



**TABLE OF CONTENTS**

I. INTRODUCTION .....1

II. BACKGROUND .....1

III. 2010 ERRA COMPLIANCE FILING.....2

IV. 2011 AND 2012 ACTIVITY .....3

V. PROPOSED PROCEDURAL VEHICLE FOR MRTUMA COST  
RECOVERY .....4

VI. CONCLUSION.....4

VII. QUALIFICATIONS OF GREGORY D. SHIMANSKY .....5



1 Recovery of the MRTUMA shall be addressed in the annual ERRA  
2 Reasonableness proceeding, or other proceeding determined by the  
3 Commission. The balance in the MRTUMA shall be transferred to the  
4 Non-fuel Generation Balancing Account (NGBA) upon Commission  
5 approval.<sup>1</sup>

6 On June 1, 2010, SDG&E filed Application (“A.”) 10-06-001 (ERRA Compliance  
7 Application for 2009) for, among other things, review and approval of its MRTU-related costs  
8 through December 31, 2009. Subsequently, A.10-06-001 was bifurcated into two phases. Phase  
9 1 addressed all issues except those related to 2009 outages at the San Onofre Nuclear Generating  
10 Station (“SONGS”). The MRTUMA balance through December 31, 2009, was included in  
11 Phase 1.

12 Decision (“D.”) 11-10-029, approved on October 20, 2011, authorized SDG&E to  
13 recover \$2.58 million in revenue requirement in its MRTUMA for the years 2007, 2008, and  
14 2009, subject to refund, based on the Commission’s determination regarding the need for an  
15 audit of the MRTUMA. No party, including the Division of Ratepayer Advocates, contested  
16 SDG&E’s requested recovery of amounts recorded in the MRTUMA through the end of 2009.  
17 The cumulative balance as of December 31, 2009 recorded in the MRTUMA was \$2.58 million  
18 undercollected.

### 19 **III. 2010 ERRA COMPLIANCE FILING**

20 On June 1, 2011, SDG&E filed A.11-06-003 (ERRA Compliance Application for 2010)  
21 for, among other things, review and approval of its MRTU-related costs during 2010. At the  
22 time SDG&E filed A.11-06-003, a decision in A.10-06-001 was still pending. Therefore, in  
23 A.11-06-003, SDG&E’s MRTUMA request was limited to 2010 activity.

24 SDG&E’s 2010 MRTUMA included both capital and O&M costs, primarily for software-  
25 related items, contracted support, and incremental direct labor. MRTU/Market-related costs for  
26 2010 totaled \$2.62 million, including Capital costs of \$1.73 million and O&M costs of \$0.89  
27 million.<sup>2</sup> Of the capital dollars spent, only Capital Revenue Requirement-related costs, such as  
28 Depreciation, Return, Income Taxes, and Interest were recorded in the MRTUMA. Those

---

<sup>1</sup> The request to establish SDG&E’s MRTUMA Preliminary Statement was filed in AL 1867-E on January 29, 2007 and approved by the Commission on June 11, 2007 in Resolution E-4088, with an effective date of May 24, 2007.

<sup>2</sup> SDG&E Application 11-06-003, Prepared Direct Testimony of Andrew Scates, Section XI, page 21.

1 Capital Revenue Requirement-related costs are combined with O&M costs and recorded in the  
2 MRTUMA, as shown in Attachment A.

3 The costs and expenses recorded to the MRTUMA for 2010 were appropriate, correctly  
4 stated and recoverable in accordance with applicable Commission policy and decisions. SDG&E  
5 requested recovery of the activity in the MRTUMA for 2010 and authorization to transfer that  
6 activity to the NGBA, consistent with the disposition set forth in the tariff. As noted above,  
7 SDG&E sought recovery of the balance in the MRTUMA as of December 31, 2009 in its ERRA  
8 Compliance Application for 2009.<sup>3</sup> The MRTUMA undercollected balance as of December 31,  
9 2010 is \$4.16 million. Subtracting the undercollected balance as of December 31, 2009<sup>4</sup> of  
10 \$2.58 million produces 2010 activity in the MRTUMA of \$1.58 million undercollected, the  
11 amount of revenue requirement for which SDG&E sought recovery in the ERRA Compliance  
12 Application for 2010. See Table 3 on page GDS-10 of my prepared direct testimony in the  
13 ERRA Compliance Application for 2010.

14 Pursuant to the Ruling Providing Further Guidance for the Purpose of Reviewing MRTU  
15 Costs, dated August 12, 2011 (“August 12 Ruling”), SDG&E filed a Motion to Withdraw  
16 MRTU-Related Issues from A.11-06-003 and supporting testimony on August 26, 2011.<sup>5</sup>  
17 Accordingly, SDG&E requests in this Application recovery of the 2010 activity in the  
18 MRTUMA as described above.

#### 19 **IV. 2011 AND 2012 ACTIVITY**

20 The transactions recorded as revenue requirement in the MRTUMA from January 1, 2011  
21 through December 31, 2011 are expected to be approximately \$2 million undercollected. As  
22 further discussed below, SDG&E plans to provide additional details regarding 2011 recorded  
23 costs during SDG&E’s 2011 ERRA reasonableness proceeding, which will be filed June 1, 2012.

24 In SDG&E’s pending General Rate Case (“GRC”) Application (A.10-12-005),<sup>6</sup> the  
25 forecasted MRTU-related expenditures for Test Year 2012 are \$1.5 million.

---

<sup>3</sup> D.11-10-029.

<sup>4</sup> *Ibid.*

<sup>5</sup> Ruling Providing Further Guidance for the Purpose of Reviewing MRTU Costs page 8, Ruling paragraph 1.

<sup>6</sup> SDG&E Application 10-12-005, Revised Prepared Direct Testimony of Sue E. Garcia, Section I.C.2, page 7.

1 **V. PROPOSED PROCEDURAL VEHICLE FOR MRTUMA COST RECOVERY**

2 As noted, SDG&E was granted authority to record the revenue requirements associated  
3 with incremental expenditures for the MRTU, less the amount previously approved in the last  
4 GRC, in the MRTUMA.<sup>7</sup> In accordance with Resolution E-4088, SDG&E is authorized to seek  
5 recovery of the amounts recorded in the MRTUMA in the ERRA reasonableness proceeding,  
6 subject to demonstrating that its entries are incremental and have been reasonably incurred.  
7 SDG&E is proposing to continue to request recovery of MRTU-related expenses in the ERRA  
8 reasonableness proceedings until such time as SDG&E shifts the O&M and related capital costs  
9 from the MRTUMA to its pending GRC proceeding (A.10-12-005).<sup>8</sup>

10 In A.10-12-005, the forecasted MRTU-related expenditures for Test Year 2012 are \$1.47  
11 million. If approved, all costs for the MRTU initiative would be managed and recovered through  
12 GRC, closing the MRTUMA and returning any over or undercollection in rates at that time. A  
13 detailed description of this proposal is addressed in Ms. Garcia's prepared testimony. SDG&E  
14 believes its proposal is reasonable and consistent with other Commission directives.

15 **VI. CONCLUSION**

16 SDG&E requests that the Commission find that the 2010 entries recorded in the  
17 MRTUMA are appropriate, correctly stated and recoverable in accordance with applicable  
18 Commission policy and decisions. In addition, SDG&E seeks authorization to transfer that  
19 activity to the NGBA, consistent with its tariff. SDG&E has made the entries to the MRTUMA  
20 in accordance with its adopted tariffs and in compliance with relevant Commission decisions.

21 This concludes my prepared direct testimony.  
22

---

<sup>7</sup> Resolution E-4088, dated May 24, 2007, page 9, Ordering Paragraph 3.

<sup>8</sup> SDG&E Application 10-12-005, Revised Prepared Direct Testimony of Sue E. Garcia, Section I.C.2, page 7.



1 **VII. QUALIFICATIONS OF GREGORY D. SHIMANSKY**

2 My name is Gregory D. Shimansky. I am employed by San Diego Gas & Electric  
3 Company (SDG&E), as the Financial Services and Regulatory Accounts Manager in the  
4 Financial Analysis Department. My business address is 8330 Century Park Court, San Diego,  
5 California 92123. My current responsibilities include managing the process for the development,  
6 implementation, and analysis of regulatory balancing and memorandum accounts. I also have  
7 oversight responsibility over the Utility Treasury function. I assumed my current position in July  
8 2010.

9 I have been employed with SDG&E and Sempra Energy since June 30, 2003. In addition  
10 to my current position in Regulatory Affairs, I served as Financial Planning Manager for Sempra  
11 Energy Corporate (Parent) and was responsible for the completion of the 5-year financial plan  
12 and accompanying analysis, was the Regulatory Reporting Manager in charge of the monthly  
13 close and reporting of revenues, cost of goods sold and balancing accounts, was responsible for  
14 the filing of financial data as required to the CPUC and FERC – such as FERC form 1 reports,  
15 and was in charge of yearly outlooks, the 5-year forecast, monthly actual variance reporting, and  
16 ad hoc analysis.

17 I received a Bachelors of Science degree in Economics from the University of California,  
18 Los Angeles in June 1993. I also received a Masters of Science in Management, with  
19 concentrations in Finance and Marketing, from Purdue University in May 1998.

20 I have previously testified before the Commission.

# Attachment A

**SAN DIEGO GAS & ELECTRIC CO.**  
**MARKET REDESIGN TECHNOLOGY UPGRADE MEMORANDUM ACCOUNT**  
**FOR THE PERIOD JANUARY 1, 2010 - DECEMBER 31, 2010**

	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	TOTAL 2010
<b>O&amp;M EXPENSES</b>	\$ 76,767	\$ 183,109	\$ 182,011	\$ 49,896	\$ 120,452	\$ (147,547)	\$ 38,848	\$ 84,732	\$ 57,425	\$ 345,900	\$ (185,664)	\$ 86,018	\$ 891,946
<b>CAPITAL REVENUE REQUIREMENT:</b>							\$ -						
Depreciation	\$ 51,009	\$ 50,717	\$ 50,718	\$ 50,717	\$ 50,718	\$ 50,717	\$ 50,717	\$ 50,717	\$ 50,717	\$ 50,717	\$ 50,717	\$ 50,717	\$ 50,717
Return on Rate Base	\$ 13,801	\$ 13,094	\$ 12,435	\$ 11,917	\$ 11,398	\$ 10,880	\$ 10,362	\$ 9,844	\$ 9,326	\$ 8,808	\$ 8,238	\$ 7,617	\$ 7,617
Income Tax on Return	\$ (8,853)	\$ (3,041)	\$ (3,385)	\$ (3,656)	\$ (3,927)	\$ (4,198)	\$ (5,069)	\$ (4,138)	\$ (5,009)	\$ (5,280)	\$ (5,577)	\$ (5,902)	\$ (5,902)
<b>Total Capital Revenue Requirement</b>	\$ 55,957	\$ 60,770	\$ 59,768	\$ 58,978	\$ 58,189	\$ 57,399	\$ 56,011	\$ 56,423	\$ 55,034	\$ 54,245	\$ 53,379	\$ 52,432	\$ 678,585
<b>TOTAL Balancing Account Expenses</b>	\$ 132,724	\$ 243,879	\$ 241,779	\$ 108,874	\$ 178,641	\$ (90,148)	\$ 94,858	\$ 141,155	\$ 112,459	\$ 400,145	\$ (132,286)	\$ 138,450	\$ 1,570,531
<b>Net Current Month Under / (Over) Collection</b>	\$ 132,724	\$ 243,879	\$ 241,779	\$ 108,874	\$ 178,641	\$ (90,148)	\$ 94,858	\$ 141,155	\$ 112,459	\$ 400,145	\$ (132,286)	\$ 138,450	
<b>CUMULATIVE BALANCE</b>	\$ 2,697,336	\$ 2,941,215	\$ 3,182,994	\$ 3,291,868	\$ 3,470,509	\$ 3,380,361	\$ 3,475,219	\$ 3,616,375	\$ 3,728,834	\$ 4,128,979	\$ 3,996,693	\$ 4,135,143	
<b>INTEREST RATE</b>	0.16%	0.13%	0.15%	0.20%	0.23%	0.28%	0.32%	0.27%	0.25%	0.24%	0.23%	0.23%	
<b>INTEREST</b>	\$ 353	\$ 307	\$ 385	\$ 543	\$ 652	\$ 804	\$ 919	\$ 802	\$ 770	\$ 790	\$ 783	\$ 784	
<b>CURRENT MONTH INTEREST</b>	\$ 353	\$ 307	\$ 385	\$ 543	\$ 652	\$ 804	\$ 919	\$ 802	\$ 770	\$ 790	\$ 783	\$ 784	\$ 7,892
<b>CUMULATIVE INTEREST</b>	\$ 16,933	\$ 17,240	\$ 17,625	\$ 18,168	\$ 18,820	\$ 19,624	\$ 20,543	\$ 21,345	\$ 22,115	\$ 22,905	\$ 23,688	\$ 24,472	
<b>CURRENT BALANCE WITH INTEREST</b>	\$ 133,077	\$ 244,186	\$ 242,164	\$ 109,417	\$ 179,293	\$ (89,344)	\$ 95,777	\$ 141,957	\$ 113,229	\$ 400,935	\$ (131,503)	\$ 139,234	\$ 1,578,422
<b>CUMULATIVE BALANCE WITH INTEREST</b>	\$ 2,714,269	\$ 2,958,455	\$ 3,200,619	\$ 3,310,036	\$ 3,489,329	\$ 3,399,985	\$ 3,495,762	\$ 3,637,719	\$ 3,750,948	\$ 4,151,883	\$ 4,020,380	\$ 4,159,614	\$ -