



California Independent
System Operator Corporation

June 26, 2009

The Honorable Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

**Re: Participating Load Pilot Agreement between San Diego Gas & Electric Company and the California Independent System Operator Corporation; Request for Approval
Docket No. ER09-_____**

Dear Ms. Bose:

The California Independent System Operator Corporation ("ISO") submits for Commission filing an original and five copies of a "Participating Load Pilot Agreement" between San Diego Gas & Electric Company ("SDG&E") and the ISO. The basis for filing is Federal Power Act Section 205 and FERC regulations Section 35.13.

The pilot agreement contains the terms governing an arrangement between SDG&E and the ISO to conduct a pilot program to investigate the efficacy and technical feasibility of bidding certain demand response resources into the ISO's day-ahead and real-time markets for ancillary services. The information garnered from the pilot will provide critical contributions to the efforts to increase the integration of demand response resources into the ISO's markets.

The ISO is requesting a waiver of the 60-day prior notice requirement in order to allow the pilot agreement to be made effective as of June 29, 2009, the next business day following this filing, in order to allow implementation of SDG&E's pilot agreement to proceed immediately, so that valuable data can be gained concerning the deployment and integration of demand response resources in California.

I. BACKGROUND TO THE PARTICIPATING LOAD PILOT AGREEMENT

General background

Participating load pilot projects are being developed by each of the three California investor owned utilities ("IOUs") through a process being conducted by the California Public Utilities Commission ("CPUC") as part of an overall effort to consider how to reshape utility demand response programs to best align with the ISO's new markets. Specifically, the SDG&E pilot project is intended to explore the feasibility of aggregating end use customer loads so that they may provide ancillary services, specifically non-spinning reserves, to the ISO in the form of economically bid demand response resources.

The pilot programs are an outgrowth of the ISO's collaborative activities with California stakeholders such as the CPUC, the IOUs, demand response providers, commercial aggregators, and large commercial end use customers (both bundled and direct access) to promote the development of demand response resources and their integration into the ISO's markets. This effort is consistent with the Commission's directive to regional transmission organizations and independent system operators to undertake pilot programs promoting wider integration of demand response in its Order 719.¹ In addition, the Commission directed the ISO specifically to undertake such efforts in its September 2006 and July 2007 orders regarding the ISO's new markets, and the pilot program activities are part of the ISO's compliance efforts.²

As the ISO has previously reported to the Commission in status reports, the ISO's collaborative efforts with stakeholders on the issue of demand response have included participation in the CPUC's rulemaking on development of demand response methodologies and alignment of IOU programs with the ISO's new markets (CPUC Proceeding R.07-01-041)³ and, most recently, in the

¹ *Wholesale Competition in Regions with Organized Electric Markets*, Docket Nos. RM07-19-000, AD07-7-000, 125 FERC ¶ 61,071 (issued October 17, 2008), at Paragraph 97.

² *California Independent System Operator Corp.* 116 FERC ¶ 61,274 (issued September 21, 2006) and *California Independent System Operator Corp.* 119 FERC ¶ 61,313 (issued June 25, 2007).

³ Specifically, in guidance issued on February 27, 2008 to the IOUs by the administrative law judge in Rulemaking (R.) 07-01-041 filed on February 27, 2008, the CPUC provided guidance to the three IOUs to develop programs that would integrate with the ISO's markets. The CPUC expressed strong interest in requiring the IOUs to modify or create products that can operate as participating load under release 1 of the ISO's new markets. Such products would allow demand response to be bid-in and compete with other resources in the wholesale markets: ancillary services, day-ahead and day-of energy markets.

IOUs applications to the CPUC for approval of specific demand response programs and budgets for the IOU current demand response program cycle. (CPUC Proceedings A.08-06-001, A.08-06-002 and A.08-06-003.)

Pilot Agreements. The ISO has entered into a pilot agreement with each IOU, for the purpose of outlining and memorializing the terms under which the IOUs and ISO will implement the pilot programs.

Size of pilots. SDG&E's pilot is anticipated to be sized at 3 to 5 MWs, while the PG&E pilot is anticipated to be 3 MW in size and SCE's pilot is intended to be 5 MW in size.

Adherence to Reliability and Ancillary Services Standards. The pilot programs do not provide for any departure from applicable reliability standards. Each IOU pilot provides for the demand response resource to provide Ancillary Services in the form of non-spinning reserve services, and each resource will be certified to provide ancillary services pursuant to the ISO Tariff.

Duration. The pilots are intended to be of limited duration, of no more than two years in length. Should the ISO and SDG&E desire to extend the duration beyond this time period, the ISO will submit a further filing to the Commission. The pilot is intended to operate during the summer period, which is California's peak demand period. It will begin operation during the summer of 2009. A formal close-out date for the pilot projects was not designated in the agreement, as the parties may choose to extend the pilots beyond the summer of 2009, to cover the period of summer 2010.

Description of SDG&E's pilot program

SDG&E's pilot program is intended to make small industrial and commercial demand response load in SDG&E's service area available to participate in the ISO's new markets for energy and non-spinning reserve. Specifically, SDG&E's pilot program targets approximately 3 MW of aggregated small commercial and industrial load. The pilot is intended to encompass both utility bundled customers and direct access customers. With respect to the latter, a curtailment service provider will act as the direct participant that aggregates the load reductions, and SDG&E will utilize the Automated Power Exchange as the scheduling coordinator to bid direct access demand curtailment into the ISO market.

In addition, in the consolidated IOU applications proceedings, (A.08-06-001, A.08-06-002 and A.08-06-003), the administrative law judge issued an August 7, 2008 ruling that required the IOUs to resubmit their demand response plans to include a pilot program to explore integration of demand response programs with ISO markets.

II. DESCRIPTION OF THE PARTICIPATING LOAD PILOT AGREEMENT

As stated above, the purpose of the pilot agreement between SDG&E and the ISO is to outline and memorialize the terms under which SDG&E and ISO will implement SDG&E's participating load pilot program. The pilot agreement is necessary in order to address certain challenges associated with the integration of small industrial and commercial aggregated demand resources into the ISO's markets, which in some cases require deviations from the current ISO standards for participating load.⁴

First, section 1.1 of the SDG&E pilot agreement addresses one goal of the pilot, which is to carry out a demonstration that fully integrated automation can be achieved between SDG&E's end user load and ISO telemetry. As such, SDG&E agrees to install equipment to meet ISO and Western Electricity Coordinating Council ("WECC") one minute and four second standards for providing non-spinning reserves and to send telemetry data directly to the ISO energy management system. However, the agreement recognizes that this may not be possible, due to the short amount of lead time available to reach the pilot phase where the customer demand response resource is placed online and bidding into the markets. Should that circumstance occur, SDG&E and the ISO will employ an alternative approach, developing acceptable proxies for the telemetry requirements.

Also, pursuant to section 1.2 of the agreement, SDG&E commits to make a reasonable effort to recruit a customer base of curtailable demand necessary to meet the ISO's 1 MW minimum load criteria for submitting participating load bids into the ISO's markets. However, because of the nature of small commercial and industrial load, the amount of load actually available will vary on a day-to-day basis, and therefore, the ISO has agreed that it will accept bids of less than 1 MW as part of SDG&E's pilot.

With respect to dispatch, section 1.3 of the agreement provides that a portion of the dispatch of the participating load under SDG&E's pilot may be dispatched on a manual basis. Nevertheless, any manual processes used to dispatch this load will meet the 10-minute dispatch criterion for non-spinning reserves.

With respect to metering requirements, because the dispatchable portion of the loads targeted in the SDG&E pilot program tends to be small, SDG&E and ISO have acknowledged that it may not be practical to individually meter 100 percent of the endpoint loads for purposes of satisfying the ISO's requirements currently in place for participating load. Therefore, the pilot agreement provides

⁴ The primary repository of these standards is the draft participating load user guide for the ISO's new markets, which is available on the ISO's website at <http://www.caiso.com/233c/233cd878397d0.pdf>.

that SDG&E will collect 15-minute interval data and interpolate and/or modify as necessary in order to submit 5-minute interval data for the aggregations that represent an individual participating load resource, and, as required, SDG&E will provide baseline data necessary to validate that the 5-minute interval demand reflects the ISO's real-time dispatches thereof. Also, in order to provide greater flexibility, the agreement provides that the meter data from participating loads under the pilot will be submitted to the ISO pursuant to the requirements for a scheduling coordinator metered entity rather than an ISO metered entity.

The ISO believes that these deviations represent reasonable accommodations, given the nature and characteristics of the resources participating in this program, the exploratory and interim nature of the program, and the overriding goal of the pilot agreement to advance the knowledge of the ISO and market participants concerning the best strategies and practices for integrating demand response resources into the ISO's markets. Also, such deviations are not inconsistent with the provisions of the ISO tariff regarding the treatment of participating load. Section 4.7 of the ISO tariff provides for the submission of bids for energy and ancillary services from participating load pursuant to standards adopted by the ISO and published on the ISO website. Although the baseline set of such standards is provided in the draft participating load user guide for the ISO's new markets, there is no prohibition in the ISO tariff against promulgating alternative standards, or exemptions, through specific agreements, such as the pilot agreement. Indeed, the draft participating load user guide specifically recognizes that the ISO may grant exemptions to the metering and telemetry requirements for participating load under certain circumstances.⁵

The SDG&E pilot agreement also provides for confidentiality protections to augment the protections already provided in section 20 of the ISO tariff. These protections are intended to allow the ISO and SDG&E to designate and treat as confidential information, data, analyses, documents and materials furnished by SDG&E and its representatives to the ISO in connection with SDG&E's pilot program. These protections are necessary in order for the parties to be able to freely exchange sensitive information (such as customer-specific data) without concerns regarding disclosure, which will allow for a more thorough and complete analysis of the feasibility of demand response participation in the ISO markets. Moreover, given that the pilot will investigate technical challenges, it may not be clear at the outset just what data will become particularly meaningful later on. It is not inconceivable that pilot participants may discover that information that seemed unremarkable at first is later found to have critical

⁵ See draft participating load user guide for the ISO's new markets, section 2.4 ("The CAISO may allow some exemptions to these [telemetry] standards for Participating Loads with relatively small Loads where the CAISO deems this is acceptable. Such exemptions will be handled on a case-by-case basis.").

relevance. The confidentiality provision of the pilot agreement is intended to encourage the free flow of all data, so that initial screening for confidentiality does not inadvertently exclude information before its full relevance is ascertained.

Finally, the ISO notes that section 4.7 of the ISO tariff requires that in order to participate in the ISO markets, participating load must be covered by a "Participating Load Agreement" with the ISO.⁶ In the case of the SDG&E participating load pilot, the loads that will participate in the ISO markets subject to the pilot will be governed by the terms of the pilot agreement rather than a Participating Load Agreement. This is the case because of the special characteristics of the loads that will participate in the pilot and the exploratory nature of the program. Because the pilot agreement serves essentially the same function as the Participating Load Agreement -- providing the terms under which SDG&E (or its representatives) will submit, and the ISO will accept, bids for participating load -- the ISO believes that the pilot agreement serves as a reasonable proxy for the Participating Load Agreement for purposes of conducting the pilot program, and therefore, section 4.7 of the ISO tariff is satisfied. However, if the Commission does not agree that this arrangement meets the requirements of section 4.7, then the ISO respectfully requests that the Commission grant the ISO a limited waiver of section 4.7 and other provisions of the ISO tariff, to the extent that such provisions may conflict with the terms of the pilot, in order to allow the parties to carry out the terms of the pilot agreement and, in particular, to permit the ISO to accept bids for participating load under the pilot agreement, rather than a Participating Load Agreement with SDG&E. Such waiver meets the Commission's standards⁷ because: (1) good cause exists for the waiver due to the need to expeditiously implement SDG&E's participating load pilot program, for the reasons discussed above; (2) the waiver will not unfairly disadvantage any market participants, and, in fact, the availability of greater demand response resources will benefit the entire market; and (3) the waiver will be only for the limited duration of the pilot program, which the ISO expects to last, at the longest, until the end of the summer of 2010.

⁶ Terms used with initial capitalization and not otherwise defined herein have the meanings set forth in the master definitions supplement, appendix A of the ISO tariff.

⁷ See *Cal. Indep. Sys. Operator Corp.*, 118 FERC ¶ 61,226 at P 24 (2007) (granting waiver to generator interconnection procedures to facilitate efficient and cost-effective treatment of 4,350 MW of wind-related interconnection requests), *citing ISO New England*, 117 FERC ¶ 61,171 at P 21 (2006) (allowing a limited and temporary change to tariff to correct an error); *Great Lakes Gas Transmission Ltd. Partnership*, 102 FERC ¶ 61,331 at P 16 (2003) (granting emergency waiver involving force majeure event granted for good cause shown); and *TransColorado Gas Transmission Co.*, 102 FERC ¶ 61,330 at P 5 (2003) (granting waiver for good cause shown to address calculation in variance adjustment).

III. COMMUNICATIONS

Communications regarding this filing should be addressed to the following individuals, whose names should be placed on the official service list established by the Secretary with respect to this submittal:

Baldassaro "Bill" Di Capo Counsel California Independent System Operator Corporation 151 Blue Ravine Road Folsom, CA 95630 Telephone: (916) 608-7157 Email: bdicapo@caiso.com	Michael Kunselman ALSTON & BIRD LLP The Atlantic Building 950 F Street, NW Washington, DC 20004 Tel: (202) 756-3300 Fax: (202) 756-3333 E-mail: michael.kunselman@alston.com
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IV. EFFECTIVE DATE

The ISO respectfully requests waiver of the Commission's 60-day notice period, pursuant to Section 35.11 of the Commission's regulations, 18 C.F.R. § 35.11, to permit the pilot agreement provided in Attachment A to the present filing to become effective on June 29, 2009, the next business day after this filing. Good cause exists for this waiver because it will promote the successful implementation of SDG&E's participating load pilot program. Specifically, earlier effectiveness will allow SDG&E to more effectively recruit customers to participate in the program, and more customers will result in a more robust platform for testing the integration of demand response programs into the ISO markets. In addition, implementing this program during the summer peak-load months is important in order to allow for the greatest level of participation and also represents the best time period for assessment. Finally, no market participants will be adversely impacted by permitting this program to go into effect prior to the expiration of the 60-day notice period. In fact, doing so will benefit the market by making more demand response resources available during peak periods for the California system, which will improve overall grid reliability.

V. SERVICE

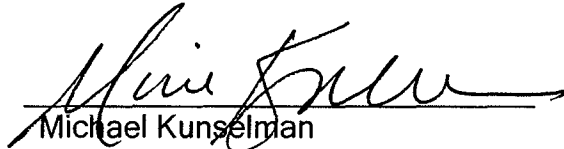
The ISO has served copies of this transmittal letter, and all attachments, on the California Public Utilities Commission, the California Energy Commission, and all parties with effective scheduling coordinator agreements under the ISO tariff. In addition, the ISO is posting this transmittal letter and all attachments on the ISO's stakeholder initiative web page for demand response, which can be found at the following internet address:
<http://www.caiso.com/1893/1893e350393b0.html>.

VI. ATTACHMENTS

The following documents, in addition to this transmittal letter, support this filing:

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|--------------|---|
| Attachment A | Participating Load Pilot Agreement by and between San Diego Gas & Electric Company and the California Independent System Operator Corporation, designated as ISO Service Agreement No. 1358. ⁸ |
| Attachment B | San Diego Gas & Electric Company Detailed Implementation Plan for Participating Load Pilot |

Respectfully Submitted,



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⁸ The ISO had not yet received a Schedule 1 for this agreement, which will contain a complete list of the resources participating in SDG&E's pilot program. The ISO will file that Schedule with the Commission as soon as it receives it from SDG&E.

ATTACHMENT A

**Participating Load Pilot Agreement by and between San Diego Gas & Electric
Company and the California Independent System Operator Corporation.**

**PARTICIPATING LOAD PILOT AGREEMENT WITH
SAN DIEGO GAS & ELECTRIC COMPANY**

Issued by: Laura Manz, Vice President, Market and Infrastructure Development

Issued on: June 26, 2009

Effective: June 29, 2009

Participating Load Pilot Agreement between San Diego Gas and Electric Company and California Independent System Operator

To explore the technical and economic feasibility of small industrial and commercial aggregated Demand Response (DR) as a potential participant in the Market Redesign and Technology Upgrade (MRTU) Measurement and Performance (MAP) markets for Participating Load (PL), including Dispatchable Demand Resource (DDR) and Proxy Demand Resource (PDR) products¹, San Diego Gas and Electric Company (SDG&E) and the California Independent System Operator Corporation (CAISO) have reached the following agreement ("Agreement") regarding SDG&E's Participating Load Pilot (PLP):

RECITALS

- 1. Background of SDG&E PLP Proposal.** SDG&E included a description of its proposed PLP in Chapter IV of its Application for Approval of Demand Response Programs and Budgets for 2009-2011 (A.08-06-002) filed with the California Public Utilities Commission (CPUC) on September 19, 2008. SDG&E's intent with the PLP is to make small industrial and commercial SDG&E DR load available to bid and curtail demand in MRTU starting on or about June 2009. SDG&E and CAISO expect that many lessons will be learned throughout the PLP and that the results of the PLP will determine what modifications may be required to increase the amount of DR load participating in the MRTU MAP PL market for DDR and PDR products. In addition, the PLP may result in recommended changes to CAISO PL requirements or technical specifications to make further participation by small industrial and commercial aggregated DR load feasible in MRTU MAP.

There are significant challenges when considering small industrial and commercial aggregated DR functioning as PL. For the PLP, SDG&E will recruit all types of small industrial and commercial customers with an annual maximum demand of 20kW or greater. In order to include Direct Access customers, SDG&E has hired APX to act as the Scheduling Coordinator for these customers in the PLP coordinating with the appropriate Energy Service Provider (ESP). Because the dispatchable portion of the loads targeted in the PLP tend to be small, SDG&E and CAISO acknowledge that it may not be practical to individually meter 100 percent of the endpoint loads for purposes of satisfying the CAISO's telemetry requirements currently in place for the participating load which is the subject of this PLP. To the extent reasonably possible both SDG&E and CAISO seek to ensure that any estimate of load available for curtailment, as well as the measurement of load reductions after dispatch, are sufficiently accurate and timely to support the CAISO markets and grid reliability.

¹ The CAISO PDR and DDR products are currently being defined and developed through a stakeholder process and to the extent that any emerging elements of these products can be implemented during the Participating Load Pilot, SDG&E and the CAISO will make best efforts to incorporate them into the pilot.

As described below, SDG&E's PLP may deviate from some of the current CAISO requirements for PL. The intent of the PLP will be to explore measurement and verification criteria for small industrial and commercial DR load and to determine whether any proxies developed for telemetry are acceptable to CAISO. Specific deviations for the PLP may be agreed upon and documented by SDG&E and CAISO in accordance with the provisions below.

OPERATIVE TERMS OF THE SDG&E PLP

1. Primary Parameters

1.1. Telemetry. SDG&E desires to demonstrate in the PLP that fully integrated automation can be achieved between the end user load and the CAISO inclusive of telemetry. SDG&E's current plan for the telemetry is as follows:

- SDG&E will install equipment to meet CAISO and Western Electricity Coordinating Council (WECC) one (1) minute and (4) second standards to provide Non-Spinning product.
- SDG&E, with mutual agreement with the CAISO, will send telemetry data directly to the CAISO Energy Management System (EMS).

To the extent that this cannot be accomplished due to the short lead up time for the pilot, SDG&E will work with the CAISO to develop acceptable proxies for the telemetry and Settlement requirements.

1.2. Bidding

- The SDG&E Participating Load Pilot will place bids for Energy and Non-Spinning Reserve Ancillary Service into CAISO's Day-Ahead Market.² SDG&E's PLP bids shall be subject to the provisions of the CAISO Tariff applicable to bids from Participating Load, including the requirements regarding Energy bids associated with Non-Spinning Reserve bids. SDG&E will make reasonable efforts to recruit a customer base of curtailable demand to meet the 1 MW minimum load criteria. However, because of the nature of the small industrial and commercial loads, the amount of load will vary from day to day, based on many factors, including temperature. Therefore, to facilitate testing as part of the PLP, CAISO agrees to accept bids of less than 1 MW for the PLP, and, if the PLP results suggest that a 1 MW minimum bid criterion may be a barrier to the success of PL programs, CAISO will undertake modification of this criterion.

1.3. Dispatch

- In 2009, a portion of dispatch of participating load subject to this PLP may remain a manual process. SDG&E and APX acting as the Scheduling Coordinator representing Direct Access customers will receive notification from CAISO whether the PLP bid was accepted through the California Market

² Capitalized terms used in this Agreement shall have the meaning set forth in the CAISO Tariff, Appendix A, Master Definitions Supplement, unless otherwise defined in this agreement.

Results Interface (CMRI) system and should be dispatched through the Automated Dispatch System (ADS). The actual dispatch will involve a combination of technology enabled automatic Demand Response and may, in some instances, require supplemental voice notification to the end use customer. In any case, real-time processes are designed to meet the 10 minute dispatch criterion for Non-Spinning Reserves.

1.4. Metering & Settlement

- Meter data for the participating load which is the subject of this PLP shall be submitted pursuant to the CAISO Tariff requirements for a Scheduling Coordinator Metered Entity rather than by a CAISO Metered Entity.
- For purposes of this PLP, SDG&E will collect 15 minute interval data and interpolate and/or modify as needed to submit 5-minute interval data for the aggregations that represent an individual PL resource. To the extent required, SDG&E will supply any baseline data necessary to validate that the 5-minute interval demand reflects any CAISO real-time dispatch(es).
- Subject to the foregoing provisions of this Section 1.4, Settlement for the services provided by SDG&E under the PLP shall be conducted in accordance with the provisions of the CAISO Tariff regarding Settlements for Participating Load.

1.5. Information and Technology

- SDG&E, APX and CAISO will attempt to integrate the PLP processes into the systems supporting MRTU Release 1, to the extent possible. However, business process and systems development to support all aspects of PL bidding, telemetry, dispatch, metering and settlement will take time to implement and will require some manual work around solutions in the near term. Further integration will be pursued and coordinated for MRTU MAP, as mutually agreed upon by SDG&E and CAISO.

2. Funding and Authorization

- SDG&E has applied for PLP funding in its application for Approval of Demand Response Programs and Budgets for Years 2009 Through 2011 (A.08-06-002), filed with the CPUC on June 1, 2008 and amended on September 19, 2008, and also requested and received funding for the PLP as part of the 2009 "bridge" period authorized by the CPUC in Decision 08-12-038. PLP implementation funds for 2010 and 2011 are pending with the Approval of Demand Response Programs and Budgets for Years 2009 through 2011. SDG&E's implementation of the PLP is subject to approval from the CPUC, and the scope and budget of the PLP is constrained by any CPUC decisions approving the PLP. SDG&E acknowledges and agrees that CAISO will not bear any responsibility for expenses or costs that SDG&E or APX incurs in undertaking the PLP other than what it would normally incur to support a Scheduling Coordinator in its markets.

- 3. Effective Date and Term.** This Agreement shall be effective as of the date of: (i) MRTU implementation; or (ii) a Federal Energy Regulatory Commission (FERC) order accepting this Agreement, whichever is earlier. If this Agreement is accepted by FERC, it shall remain effective until terminated pursuant to Section 5.
- 4. Termination.** Any party may terminate this Agreement upon thirty (30) days advance written notice to the other parties. Any notice of termination given pursuant to this section must be filed at FERC and shall become effective when FERC accepts the termination for filing. If this Agreement is terminated, such termination shall not affect rights or obligations for payment of money for services provided or obligations incurred prior to termination.
- 5. Dispute Resolution.** The parties shall make reasonable efforts to settle all disputes arising out of or in connection with this Agreement. In the event any dispute is not settled, the parties shall adhere to the CAISO Alternative Dispute resolution (ADR) Procedures set forth in Section 13 of CAISO Tariff, which is incorporated herein by this reference, except that any reference in Section 13 of the CAISO Tariff to Market Participants shall be read as a reference to SDG&E, and references in Section 13 of the CAISO Tariff to the CAISO Tariff shall be read as references to this Agreement.
- 6. Notices.** Any notice, demand or request which may be given to or made upon either party regarding this Agreement shall be made in accordance with Section 22.4 of the CAISO Tariff and be provided to the representative of the other party identified in Schedule 3 of SDG&E's PLA.
- 7. Confidentiality.** All documents, data, and information provided by the parties to one another pursuant to this Agreement shall be treated in accordance with CAISO Tariff Section 20 governing the confidentiality of documents provided to CAISO by Market Participants, subject to the following:
- 7.1. Confidential Information.**
- For purposes of this Agreement, "Pilot Specific Confidential Information" means
 - certain written, orally conveyed or recorded information, data, analyses, documents, and materials furnished or made available by SDG&E, APX or its representatives to CAISO or its representatives which, SDG&E or APX has pre-designated as Pilot Specific Confidential Information and transmitted to the CAISO in connection with the PLP; and
 - certain analyses, compilations, studies, documents, or other material prepared by CAISO which contains or is based upon Pilot Specific Confidential Information provided by SDG&E, APX or their representatives.
 - Prior to the implementation of the PLP under this Agreement, the parties shall conduct a meeting to identify and discuss what types or categories of Pilot Specific Confidential Information will likely to be transmitted to CAISO and used in connection with the PLP, and how such confidential data (and in particular, customer data) shall be aggregated or otherwise redacted to

protect confidentiality while remaining useful as supporting data for reports, filings, or other appropriate disclosure in connection with FERC Order 719, CPUC Proceedings A.08-06-001 (SDG&E Application) and R-7-01-041 (demand response rulemaking), or other writings intended to communicate the results of the PLP.

- Information which may have been designated as Pilot Specific Confidential Information shall nevertheless not be or no longer be considered confidential (i) when it is furnished or becomes available to the public other than as a result of a disclosure by CAISO, or (ii) is already in the possession of or becomes available to CAISO on a non-confidential basis from a source other than SDG&E or APX, provided that, to the best knowledge of CAISO, such source is not and was not bound by an obligation of confidentiality to SDG&E, or (iii) CAISO can demonstrate that the information has been independently developed without a violation of this Agreement.

7.2. Use of Customer Data. Both parties agree that no SDG&E or third party Scheduling Coordinator customer-specific confidential data shall be disclosed by either party at any time. All SDG&E customer data will be aggregated before being disclosed.

7.3. Restriction on Disclosure of Confidential Information.

- Neither CAISO nor its Representatives will disclose Pilot Specific Confidential Information obtained or reviewed in the course of participating in the PLP without express prior written authorization by SDG&E. CAISO agrees that only authorized Representatives of CAISO who need to know Pilot Specific Confidential Information for the purposes of conducting the PLP ("Authorized Representatives") will have access to Pilot Specific Confidential Information. Prior to receiving any Pilot Specific Confidential Information, CAISO shall advise such Authorized Representatives of the desire that SDG&E maintain confidentiality of Pilot Specific Information and shall direct such Authorized Representatives to comply with the confidentiality requirements of Section 7 of this Agreement.
- CAISO shall immediately notify counsel for SDG&E of the receipt of any discovery requests, orders or other legal process to produce Pilot Specific Confidential Information in connection with any judicial, regulatory or administrative proceeding.

7.4. Marking of Pilot Specific Confidential Information.

- All Pilot Specific Confidential Information shall be marked as "Pilot Specific Confidential Information", hard copy versions of Pilot Specific Confidential Information retained by CAISO shall be maintained and treated in such manner as CAISO treats confidential information under the CAISO Tariff.

8. Liability. The provisions of Section 14 of the CAISO Tariff will apply to liability arising under this Agreement, except that all references in Section 14 of the CAISO Tariff to "Market Participants" shall be read as references to "this Agreement."

9. Governing Law. This Agreement is entered into and to be performed in the State of California and shall be construed and enforced in accordance with the laws of the State of California without regard to conflict of laws principles.


10. Entire Agreement and Amendments. This Agreement constitutes the entire agreement between the parties and supersedes any and all written or oral agreements previously existing between the parties with respect to the subject matter hereof. Any amendments to this Agreement shall be in writing and duly executed by both parties.

11. Other Obligations Unaffected. Nothing contained in this Agreement shall alter SDG&E's obligations under the CAISO Tariff or any other agreement.

12. Schedule of Load Subject to Agreement. The participating load subject to this PLP is identified in the attached Schedule 1 to this Agreement.

13. Date: This Agreement is dated as of _____, 2009.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed on behalf of each by and through their authorized representatives as of the date herein written below.

 April 24, 2009

Vince Bartolomucci
Manager of Energy Supply & Dispatch
San Diego Gas & Electric Company
8315 Century Park Court, CP21D
San Diego, CA 92123
858-650-6164

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Infrastructure Development
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Roger Yang
Vice President of Power Markets
APX
5201 Great America Pkwy, #522
Santa Clara, CA 95054
408-517-2146

9. Governing Law. This Agreement is entered into and to be performed in the State of California and shall be construed and enforced in accordance with the laws of the State of California without regard to conflict of laws principles.

10. Entire Agreement and Amendments. This Agreement constitutes the entire agreement between the parties and supersedes any and all written or oral agreements previously existing between the parties with respect to the subject matter hereof. Any amendments to this Agreement shall be in writing and duly executed by both parties.

11. Other Obligations Unaffected. Nothing contained in this Agreement shall alter SDG&E's obligations under the CAISO Tariff or any other agreement.

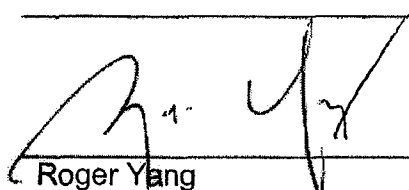
12. Schedule of Load Subject to Agreement. The participating load subject to this PLP is identified in the attached Schedule 1 to this Agreement.

13. Date: This Agreement is dated as of April 24, 2009.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed on behalf of each by and through their authorized representatives as of the date herein written below.

Vince Bartolomucci
Manager of Energy Supply & Dispatch
San Diego Gas & Electric Company
8315 Century Park Court, CP21D
San Diego, CA 92123
858-650-6164

Laura Manz, Vice President, Market &
Infrastructure Development
California Independent System Operator
151 Blue Ravine Road
Folsom, CA 95630
916-351-4400


Roger Yang
Vice President of Power Markets
APX
5201 Great America Pkwy, #522
Santa Clara, CA 95054
408-517-2146

9. Governing Law. This Agreement is entered into and to be performed in the State of California and shall be construed and enforced in accordance with the laws of the State of California without regard to conflict of laws principles.

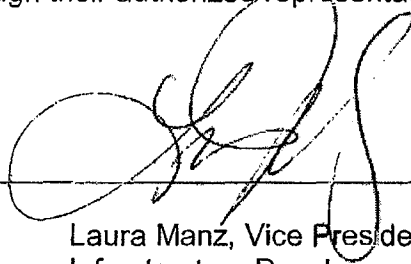
10. Entire Agreement and Amendments. This Agreement constitutes the entire agreement between the parties and supersedes any and all written or oral agreements previously existing between the parties with respect to the subject matter hereof. Any amendments to this Agreement shall be in writing and duly executed by both parties.

11. Other Obligations Unaffected. Nothing contained in this Agreement shall alter SDG&E's obligations under the CAISO Tariff or any other agreement.

12. Schedule of Load Subject to Agreement. The participating load subject to this PLP is identified in the attached Schedule 1 to this Agreement.

13. Date: This Agreement is dated as of April 24, 2009.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed on behalf of each by and through their authorized representatives as of the date herein written below.



Vince Bartolomucci
Manager of Energy Supply & Dispatch
San Diego Gas & Electric Company
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SCHEDULE 1

Technical Characteristics of Individual or Aggregated Loads per Participating Load Pilot Agreement

Name of Participating Load Resource	ISO Assigned Resource ID (List Pseudo Gen Resource ID & CLAP Load ID)	Custom LAP CNodes (List CNode(s) that define the CLAP)	Custom LAP Max. Load (MW)	Pseudo-Generator Scheduling Point (List CNode for the Pseudo Generator)	Pseudo-Generator Max. Capacity ¹ (MW)	Pseudo-Generator Ramp Rate ^{1,2} (MW/min)	Ancillary Service Provider (Yes or No)	Limitations ² (Yes or No)
							Yes	

¹ Current effective values for purposes of scheduling Energy and bidding to provide Energy and/or Ancillary Services in ISO markets may differ from those set forth in this Schedule 1, depending on the results of ISO performance testing pursuant to Sections 8.9 and 8.10 of the ISO Tariff.
² If "Yes," limitations should be specified in the Participating Load's implementation plan.

ATTACHMENT B

**SAN DIEGO GAS & ELECTRIC COMPANY
DETAILED IMPLEMENTATION PLAN
For
PARTICIPATING LOAD PILOT**



Participating Load Pilot

Detailed Implementation Plan



Participating Load Pilot

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Participating Load Pilot

1. EXECUTIVE SUMMARY

As San Diego Gas & Electric Company (SDG&E) undertakes this Participating Load Pilot (PLP) for the summer of 2009, the focus of the effort and expenditure is designed to support integrating Demand Response into the wholesale electricity market. Product and system design are being developed within the context of the California Independent System Operator (CAISO) stakeholder process that is defining the requirements and products for participation in the wholesale electricity market in 2010 and beyond. The CAISO stakeholder process is comprehensive and is a cooperative effort inclusive of the California Public Utility Commission, and the California Energy Commission. While the notion of a pilot may imply a short term study period that has a definitive end, in this case the pilot is anticipated to be the commencement of SDG&E's effort to transition Demand Response programs into the wholesale electricity market providing dispatchable, price responsive demand response to meet California's energy needs.

Conceptually, commercial and industrial customers that are capable of electively determining how much energy is consumed at a distinct location (typically identified by a single meter or collection of meters) can provide Demand Response as Participating Load under the CAISO MRTU Tariff. This load is included in a custom load aggregation that can be represented to the CAISO as a distinct resource. SDG&E has targeted 3MW for participation in the pilot during 2009 with the intention of working with existing Demand Response Aggregators or Curtailment Service Providers (CSP) to identify end-use customers for participation in the PLP. The CSP will act as the direct participant in the PLP by aggregating smaller load reductions to meet the 1MW minimum requirement from the CAISO and to achieve the 3MW target.

The success of the pilot is dependent upon participation. Since a significant amount of the participation may be load already participating in the Capacity Bidding Program (CBP) program, its SDG&E's intent to provide capacity payments to participants in the PLP consistent with those associated with the CBP program. SDG&E provided systems and devices to enable participation has been identified by CSPs as an additional incentive. Coupling this with Technical Assistance and Technology Incentives TA/TI funding enables CSPs, representing a broader spectrum of end-use customers, to participate in market-based demand response during the pilot and beyond.

The pilot is designed to allow both SDG&E bundled customers and Direct Access customers to participate. Due to existing commercial relationships, bundled customers and Direct Access customers cannot be represented in the same custom aggregation. As a result SDG&E will utilize a third party SCID for bidding Direct Access participants' demand reduction into the CAISO market. All demand included in a custom aggregation must be scheduled for all hours of a trade day (even during hours that are not designated as DR hours) since the demand resides in the portfolio of the SC representing demand participating in the PLP. In some cases it may be necessary to execute an Inter Scheduling Coordinator Trade (IST) to maintain appropriate financial relationships with Energy Service Providers (ESP) and Direct Access participants.

If the PLP demand represented to the CAISO, or a portion thereof, is bid as price sensitive demand and the Day Ahead clearing price for the location is greater than the bid price, the PLP participant will be notified that its use should be curtailed. If the CAISO awards Non-Spin capacity, the amounts will be communicated to the PLP participant and the CAISO Automatic Dispatch System (ADS) will be monitored for real-time energy dispatch associated with those awards, notifying the PLP participant that they are expected to curtail the committed demand within 10 minutes.



Participating Load Pilot

Compliance with Day Ahead energy awards or Real-time dispatch is measured by comparing an energy baseline for the custom aggregation to the actual metered demand. CAISO imbalance energy charges, whether instructed or uninstructed, will be allocated to the PLP SC as appropriate. The PLP SC will create a method to allocate these charges to the CSP and/or end-use customer.

Under the MRTU design, Participating Loads must be scheduled and settled at Custom Load Aggregation Points (CLAP). A CLAP consists of a set of one or more load nodes designated by the Scheduling Coordinator and approved by CAISO. A CLAP must, at minimum, be entirely within a single Local Capacity Area. As part of the pilot implementation, SDG&E will define CLAPs based on the location of the participating resources.

The PLP is currently proposed for one (1) year and will operate during the summer of 2009; however, SDG&E envisions that this pilot may be extended for the full three (3) years of the budget period, evolving as appropriate to support the transition of Non-Participating Load (NPL) into the market under MRTU. The results of this pilot are intended to provide information to the CAISO, CA IOUs and the CPUC to support the development of products to further integrate Demand Response into the California wholesale electricity markets and identify behavioral changes required for market transformation necessary to meet California's energy objectives. To this end, the longer pilot period will support a seamless transition into a more robust market environment, enabling SDG&E to provide increased transparency to the customer and the market, and the longer pilot will also support additional analyses and year over year comparisons.



Participating Load Pilot

2. PARTICIPATING LOAD PILOT OBJECTIVES & PERFORMANCE MEASUREMENTS

2.1 Participating Load Pilot Objectives

The overall objectives of SDG&E's Participating Load pilot are:

- (1) To test the program design that will potentially replace SDG&E's existing "price responsive" programs once MRTU is fully implemented as an alternative for customers who opt out of CPP-D.
- (2) To develop program management and infrastructure requirements prior to Demand Response integration with MRTU.
 - Provide Curtailable Demand under a Participating Load Agreement with CAISO
 - Participate in Day Ahead Energy and Non Spinning reserve markets
 - Receive CAISO real-time dispatch instructions
 - Schedule and settle at a custom load aggregation point
 - Determine/demonstrate the path to the demand response products being developed by the CAISO, Proxy Demand Resource (PDR) and Dispatchable Demand Resource (DDR) after the initial MRTU Release.

2.2 Participating Load Pilot Deliverables

During the pilot, individual aspects of load participation will be analyzed and reviewed to determine lessons learned and provide input into the development of both PDR and DDR products currently in the design phase. The pilot will also provide a detailed roadmap as to specific infrastructure or system changes that would be required to support the inclusion of these products in the portfolio on both a small and large scale.

Deliverables include:

1. Monthly Status Reports to measure progress, identify issues and changes to the plan. This is intended to be an abbreviated version of the Quarterly Reports (without budget status).
2. Process Evaluation Study
 - a. Are the financial incentives appropriate?
 - b. What concerns do customers or aggregators have about responding to demand response events?



Participating Load Pilot

- c. How effectively is Auto DR promoted and implemented?
 - d. For Auto DR projects, does the load shed testing procedure include consideration of the impact on customers' operations and comfort levels?
 - e. What changes in program design and implementation would make the programs more effective?
 - f. How would customers respond to frequency calls?
 - g. Do customers have different price thresholds?
 - h. What spillover benefits occur for customers such as operational improvements, energy efficiency savings, customer education, etc.?
 - i. How do customers perceive their role in providing participating load for demand response?
 - j. What additional information or assistance do customers or aggregators need?
3. Performance Analysis and Participation Report
 - a. Market Analysis
 - b. Performance Metrics
 - c. Participation Feedback and Lessons Learned
 4. Pilot Load Impact Study

Interim Deliverables will be required in order to achieve success during the pilot. The following items will be required during the implementation of the phase of the project:

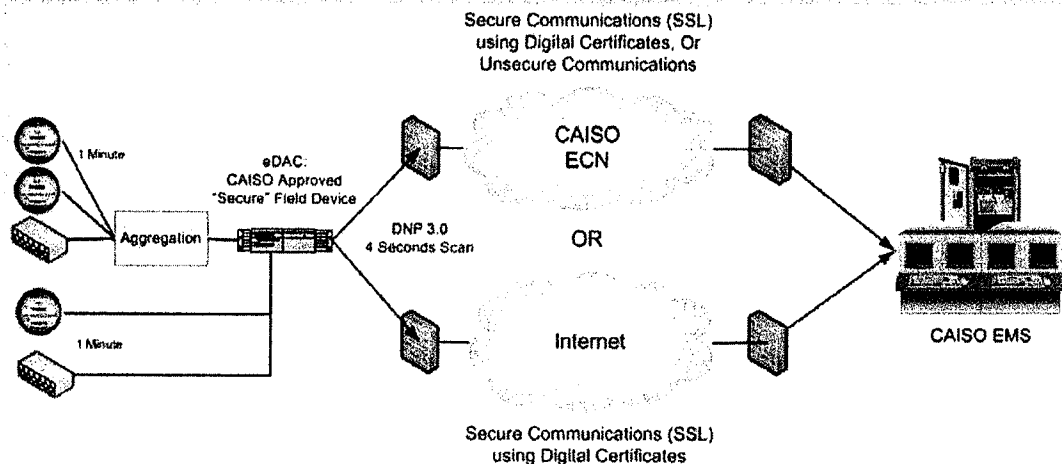
Implementation of Assessment of Telemetry:

Participating Loads that provide Ancillary Services must provide the CAISO Energy Management System (EMS) real-time telemetry. For this purpose, Participating Loads may use a CAISO approved energy Data Acquisition and Concentration (eDAC) device or system. Participating Loads may employ a Data Aggregation system to collect data from distributed Participating Load components for transmission to the CAISO EMS by eDAC. The data can be collected by the Data Aggregation system through a direct and persistent connection like a leased line (not a dial-up). The CAISO EMS Telemetry requirements for the Aggregated Load must be met, in the same manner as for individual Loads, through the entire data transfer process, from the Load to eDAC to the CAISO Energy Management System.

The diagram below provides a high level overview of the Participating Load telemetry data flow options for loads directly communicating with an eDAC, an approved CAISO field device. The exact implementation for providing CAISO EMS Telemetry is at the discretion of the pilot, subject to approval by the CAISO.



Participating Load Pilot



For distributed Aggregated Loads, Aggregated Loads at a single site, and individual Loads represented as a SC Metered Entity, the Participating Load is required to provide telemetry for:

- Aggregated Power - This telemetry provides the current value of the Participating Load's power consumption in MWs. It is assumed that the Participating Load has provided CAISO with hourly upper and lower limits of its load available for participation in the Ancillary Service market.
- Voltage at the load connection to the distribution grid;
- Load Control Connectivity Status - Load Control Connectivity Status will provide status indication of the load management or control system responsible for adjusting the load in response to the CAISO ancillary service dispatch signal.
- eDAC Status – eDAC heartbeat status signal will provide the indication that eDAC device/system is in a sound operating condition and is scanning and exchanging data as required.

Collection and Submission of Meter Data:

Participating Loads from SC Metered Entities may use any revenue quality interval meter that meets the standards of and is approved by the CPUC or a Local Regulatory Authority, and that meets all other applicable CAISO requirements including:

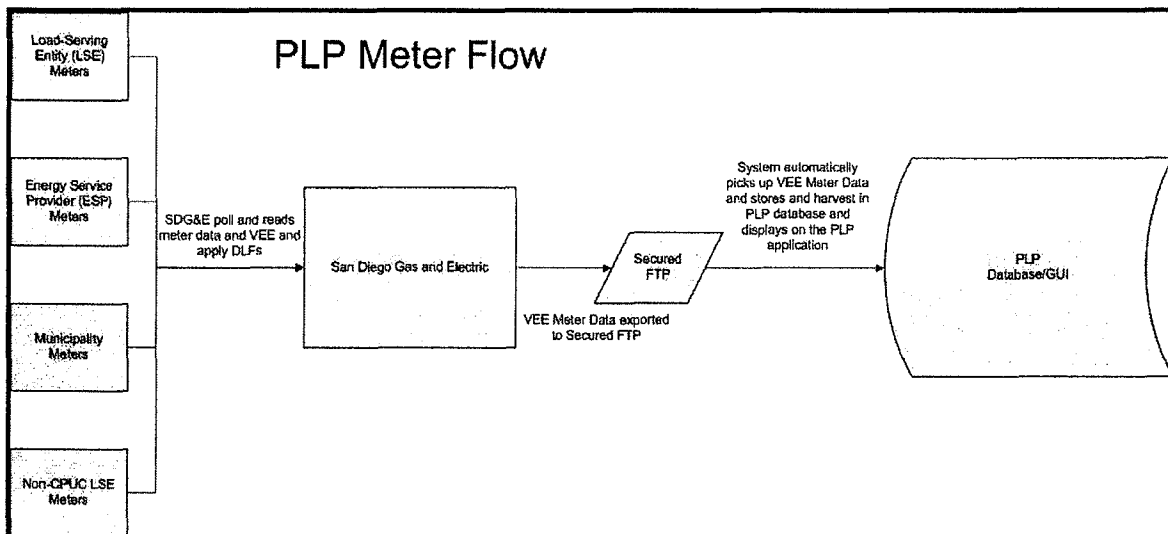
- Interval meter must record at no less than 15-minute intervals if the Participating Load is providing ancillary services and/or real-time Imbalance Energy
- SCs will be responsible for providing the CAISO with SQMD for all Loads that they represent at the same granularity as scheduled.



Participating Load Pilot

- Individual contributor Load data that comprises aggregated SQMD must be readily available to the CAISO for audit and review.
- Aggregated Loads will be treated like any other SC Metered Entity for purposes of financial settlements.
- SCs must ensure that validation, editing, and estimation are completed, and SQMD is provided to the CAISO within the required schedule. SCs must also use the established mechanisms for data exchange and must comply with all other applicable requirements in the CAISO Tariff and CAISO Metering Protocol.

Meter data for the PLP will be read and Validated, Edited, and Estimated (VEEed) by SDG&E's internal metering group on behalf of Load Aggregators. Below is a flow chart showing the PLP Meter Flow:



Meter data is provided to the PLP validation software by utility metering departments or Load Aggregators' contracted Meter Data Management Agent (MDMA). The PLP system will be able to download hourly meter data from utility metering departments or their contracted MDMA. The data will be formatted in California Metering Exchange Protocol (CMEP) format. These downloads will be performed automatically, via File Transfer Protocol, on an hourly basis. Meter data will be harvested and stored in the database for display and settlement calculation purposes.

In addition to the above automated imports, meter data can also be manually downloaded and imported into the database by the system administrators.

Meter data is associated with registered meters, based on the CMEP Sender Customer ID and CMEP Meter ID fields. If both fields are populated for a registered meter, then both must match the corresponding fields in the CMEP file in order for a match to occur. If only one of the two fields is populated, then only that one field needs to match.



Participating Load Pilot

Execute Participating Load Agreement with CAISO:

The CAISO requires a Participating Load Implementation Plan to be submitted and approved by the CAISO prior to participation as a Participating Load in the CAISO markets. The implementation plan must identify and include the following:

- The plan shall describe roles and responsibilities of end-use customers, the Load Aggregator, UDC and SC, as appropriate, including detailed contact information for the different parties involved.
- The plan shall indicate if the PL resource will be counted as a Resource Adequacy Resource and which LSE will be counting this resource, including the RA capacity quantity to be counted.
- The plan shall summarize details of the demand resource being developed, including the total peak load of the single or aggregate PL resource, the peak-load reduction capability of the PL resource, the end use types to be curtailed, the PL resources geographic location, the UDC service territory, the PL resources operating characteristics and limitations, availability, and sensitivities, such as weather, day-types, etc.
- The plan shall describe metering data and metering data interfaces and the process for submitting Settlement Quality Meter Data (SQMD) to the CAISO.
- For Participating Loads providing Ancillary Services, the plan shall detail how the eDAC device or system will satisfy CAISO telemetry requirements so that the CAISO has visibility to the Participating Load when providing ancillary services.
- The plan shall indicate how the resource will respond to a CAISO initiated ADS dispatch signal, i.e. the manual and/or automated steps required to curtail the demand. Describe the automated DR function, technology and capability that are employed to effectuate the dispatch.
- The plan shall include, as appropriate, data acquisition, data aggregation and control data flow diagrams to demonstrate systems and key touch points with PL metering and demand response capabilities.

Measurement and Validation

Either SDG&E or a third party will be responsible for ensuring that verified actual usage data for the participants on the event day is submitted to the CAISO. The load reductions will be verified using a baseline methodology. The baseline methodology applied is anticipated to be the same as is currently utilized for the Capacity Bidding Program (CBP).

The CBP uses a 3 in 10 (3 highest usage days in the last 10 similar days – excluding holidays and event days) baseline for measurement and evaluation. There is currently an aggregator/CSP baseline study in process for 2008. Preliminary results of this study will be available no later than March 15th and the report is scheduled to be final by April 1st. A more extensive verification process other than the settlement baseline may be used after reviewing the results of this study.

Registration and Validation



Participating Load Pilot

The PLP will be managed using a comprehensive system that will allow SDG&E personnel and participants to handle all registration, nomination, deployments, baseline/performance validations and reporting directly on the system through a user interface to support detailed tracking of activities and analyses.

- SDG&E personnel will be able to manage the list of PLP program participants, including adding new participants as they enroll in the PLP program and registering meters for program participation.
- CSPs will specify the meters that will be participating in the PLP products and identify the curtailable capacity of these meters for support of the bidding process and forecasting of the load reductions.
- CSPs participating in the PLP program will be notified through the system when the conditions are triggered via email, phone, text message and/or fax.
- The system will calculate baselines and include the ability to settle with a specific participant allocating the CAISO wholesale charges to the appropriate CSP.

Process Evaluation and Final Report

Load Impact Studies

2.3 Participating Load Pilot Milestones

Design Complete	February 27
Participant Recruitment and Registration Begin	March 1
Software Coding Complete	March 27
Execute CAISO Agreements	March 31
Participating Load Agreement	
Participating Load Implementation Plan	
System Delivery	April 15
Telemetry/Metering Installation Complete	May 15
Complete CAISO Participating Load Acceptance Test	May 22
Program Testing and Training Complete	May 27
Pilot Start	June 1
Pilot End	October 31
Program Final Report	December 15



3. PARTICIPATING LOAD PILOT SCOPE, ASSUMPTIONS, DEPENDENCIES AND CONSTRAINTS

3.1 Participating Load Pilot Scope

The PLP is comprehensive and will incorporate all aspects required to bring Demand Response into the CAISO wholesale energy markets under MRTU. While many elements from the current Capacity Bidding Program can be adopted either in whole or part, modification to existing program elements and/or development of new elements is within scope of the PLP. The following elements are within the scope of the pilot:

Recruitment of Pilot Participants

Identifying pilot participants early in the implementation phase is critical to the success of the pilot. With a goal of identifying participants with a total of 3MW by the end of April it is essential that SDG&E begin active recruiting as soon as possible. A critical part of this recruitment process, which has already begun, is customer profiling and data analyses working with account management to identify customers for participation. Since the PLP is open to all classes of non-residential customers both Direct Access and bundled customers will be targeted.

The CBP has demonstrated that qualified Aggregators/CSPs are also essential to enrolling larger multi-site customers, which are considered a high potential target for the PLP. Leveraging the success of this approach and the ability of CSPs to mitigate the risk and negotiate the reward with a cross section of smaller businesses SDG&E intends to make CSPs the cornerstone for marketing the PLP with CSP campaigns complementing SDG&E marketing and outreach efforts.

Another inducement, of significant value, is the opportunity for first-hand experience of Auto-DR. Auto-DR is integral to the PLP and many CSPs have yet to utilize the technology. The pilot includes a TA/TI budget will help fund the Auto-DR infrastructure introducing and educating customers & CSPs to the benefits of Auto-DR.

A campaign for recruitment inclusive of seminars and direct marketing is planned to be launched by March 1.

Eligibility and Registration

Eligibility will be determined through a screening process established by PLP rules. Eligible Demand is registered with the Program and each end use meter is assigned to the SDG&E SC if it



Participating Load Pilot

represents bundled demand or the independent SC if it represents direct access demand. If the party that registers Eligible Demand is not the Load Serving Entity for that demand, it must execute an agreement (or certification) to ensure that the demand is not being scheduled with the CAISO by a non-Program SC to assure compliance with Section 19 of the CAISO Tariff.

CAISO Wholesale Market Interactions

Masterfile

The SC representing registered Eligible Demand will submit a Resource Data Template (RDT) to the CAISO form Custom Load Aggregation Point(s) (CLAP) to represent the Eligible Demand participating in the Program. If the demand represents more than one congestion pocket, there may be the need to create and register a separate CLAP for each congestion pocket. Aggregated Eligible Demand characteristics (max, min, ramp rates etc...) will be conveyed to the CAISO in the RDT.

Bidding and Forecasting

The responsible SC will bid the Program Demand into the Day Ahead Market within the characteristics consistent with each resource (CLAP) with an energy bid curve and Non-Spin and capacity bids.

An hourly forecast of the demand response expected from participants will be provided to the ISO each day the program is eligible to be called. The load reduction expected from bundled participants in the pilot will be forecasted based on aggregators nominated load reduction adjusted based on the historical performance of the aggregator and for variables such as weather, day of the week, and holidays. The process for forecasting load reductions expected from Direct Access participants in the pilot will be coordinated through the responsible Scheduling Coordinator. Load reductions from new participants with no event history will be included in the forecast but may be discounted as necessary in order to reflect the greater uncertainty associated with these customers. In order to ensure that load reduction forecasts are sufficiently accurate SDG&E will have the right to require aggregators to exclude customers from participating in the pilot who have unpredictable loads.

CAISO Awards and Operating Instructions

Day Ahead Market awards are required to be conveyed to the end use customer(s) that is affected by the market award. Day Ahead market awards for capacity require submittal of energy curves by the responsible SC in the RT market to cover the capacity award. The Scheduling Coordinator is responsible for monitoring the CAISO Automated Dispatch System (ADS) for Real-time energy dispatches associated with Non Spinning capacity. If a dispatch is received, the Auto DR mechanism will be activated by the Scheduling Coordinator to notify the Program Demand of a Real-time dispatch.

Monitoring of Committed Demand in Real-time

Preferred Method



Participating Load Pilot

- Program Participant with approved 1-minute interval meter and communication equipment installed and communicated through the Scheduling Coordinator to meet CAISO telemetry requirements
- Real-time meter data streamed to the CAISO through an eDAC or similar device
- Auto Demand Response enabled technology at participant site to facilitate load reduction when dispatched.

Alternate Method

- Modeled response utilizing baseline(s) developed from response characteristics from Participating Load Acceptance Test or partially telemetered based on subset of the load aggregation that makes up the Participating Load resource
- Program demand available for contingency dispatch by the CAISO

Measurement and Validation

Response to real-time dispatch or DA price responsive behavior is validated against the after-the-fact meter data and meter data during period of dispatch, or DA price responsive is compared to similar days without and event. Real-time dispatch response is interpolated at a 5 minute basis to facilitate CAISO instructed energy settlement. DA price responsive settlement deviation is not differentiated from RT when both occur during the same period. CAISO settlement process, including production of Expected Energy files, ultimately determine compliance with dispatch instructions

Settlement and Billing

An allocation method will be developed for the determination of any CAISO revenue allocation among DA Program Participants. Once this methodology is complete a decision will be made as to whether these charges will be incorporated into the settlement with the CSPs. Any application of this allocation will be done by an independent party. CAISO imbalance Charges (debits and credits) can be allocated among the meters that compose each CLAP based on baseline performance. CAISO uplift Charges (debits and credits) will be distributed equally among the meters that compose the CLAP. Imbalance surpluses created by collection and distribution inequities will be retained for the duration of the Pilot and distributed pro-rata among registered participants on last operating day of Pilot

3.2 Participating Load Pilot Assumptions and Dependencies

Demand that participates in the pilot will be bid/scheduled with the CAISO only by the Scheduling Coordinator who has registered the custom load aggregation with the CAISO. This will prevent the demand from being scheduled twice and assure compliance with Section 19 of the CAISO Tariff.



Participating Load Pilot

The existing CBP measurement methodology will be used as the framework to establish compliance with CAISO market results and dispatch events. The short development and implementation timeframe prevents designing and implementing a completely new method. The existing framework may require some modifications to accommodate the overall program design.

There will be predetermined energy and AS bid prices in the Participating Load Pilot for a determined period which may be weekly, monthly or even for the duration of the pilot. This could include being a "price taker" and submitting demand self schedules and Non Spinning Capacity bids to best ensure that the demand in the program is "cleared" by the MRTU market. Consistent bidding will assure consistency across any program studies and analysis by eliminating one variable. While in the long run adjusting bid prices hourly to reflect market conditions and manage variable consumption factors, the overall program is not designed to optimize bids.

A key dependency is adoption of an emerging technology to meet the CAISO Participating Load telemetry requirements. The technology, an Energy Data Acquisition and Concentration device (eDAC) allows multiple meters to be polled on a one minute basis and aggregate the meter data into a single signal which is telemetered to the CAISO.



Participating Load Pilot

4. RISK FACTORS AND MITIGATION STRATEGY

Legend :

Probability : 0 (No chance of the Risk occurring) to 1 (Risk has already occurred)

Impact : 1-LOW , 2-MEDIUM, 3-HIGH

Risk Exposure : Probability X Impact

Item	Probability	Impact	Exposure	Mitigation
Limited timeframe for launch results in system flaw	.5	2	1	Leveraging the CBP system and capabilities to limit new development
Delays in telemetry implementation	.3	3	.9	A standard approach will be required for all participants initially
Delays in collecting meter data	.1	1	.1	Same method as CBP will be used.
Delays in recruiting participants	.5	3	1.5	Early identification of participants and use of CSPs, leveraging current CBP participants.



Participating Load Pilot

5. PARTICIPATING LOAD PILOT PROJECT PLAN

5.1 High Level Plan Timeline

1. Participating Load Pilot

- | | |
|---|----------------|
| a. Design | February |
| Program Requirements | |
| i. Participants Requirements | |
| ii. System Requirements | |
| iii. Measurement and Evaluation | |
| b. Build | March |
| i. Procurement | |
| ii. Installation | |
| iii. Code | |
| c. System Testing | April |
| i. Unit Test | |
| ii. Communication Test | |
| iii. Integration Test | |
| iv. End to End Test | |
| d. Participant Engagement | March - May |
| i. Marketing/Outreach | |
| ii. Setup | |
| iii. Enrollment | |
| e. CAISO Set-up | February - May |
| i. Participating Load Agreement | |
| ii. Resource Data Template | |
| iii. Participating Load Plan | |
| iv. Participating Load Acceptance Test (PLAT) | |
| f. Program Testing and Training | May |
| i. Participant Training | |
| ii. Program Staff Training | |
| iii. Simulation | |



Participating Load Pilot

g. Pilot Period	June - Sep
i. Quarterly Reports	
h. Program Closeout	October - December
i. Analysis	
ii. Process Evaluation	

5.2 High Level Program Budget

Forecast of quarterly expenditures in major categories

2009	Q1	Q2	Q3	Q4	Total
Labor	\$55,858	\$55,859	\$55,859	\$55,859	\$223,435
Device and Install	\$5,000	\$60,000	\$3,000		\$68,000
Systems and Tech	\$800,000	\$1,500,000	\$163,565	\$75,000	\$2,538,565
Incentives		\$48,000	\$149,000	\$18,000	\$215,000
Other	\$160,000	\$208,000	\$220,000	\$120,000	\$708,000
Total	\$1,020,858	\$1,871,859	\$591,424	\$268,859	\$3,753,000

5.3 Detailed Plan

Design

Program Requirements

- Overall program design including development of process flow definitions, data flow diagrams and integration requirements
- Includes defining CAISO scheduling and trading elements, notification processes to participants and telemetry requirements

Participant Requirements

- Determination and definitions of all elements required of end use customers and aggregators to qualify for the Pilot
- Includes clarification of metering and registration requirements, necessary agreements and participating in CAISO certification testing

System Requirements

- Definition of software and hardware requirements for all necessary systems inclusive of metering, telemetry, enrollment and registration

Measurement and Evaluation



Participating Load Pilot

- Development of Baseline methodology for use in the program
- Analysis and evaluation of current study CBP baseline study to determine if appropriate pilot adoption

Build

Procurement

- Acquisition of hardware and programs required for programming telemetry, database, metering and validation software.

Installation

- Set-up of servers and physical build-out of platforms and various environments, e.g. development, test and production.
- Includes physical connections between various components and appropriate security elements.

Code

- Development of the required tables, algorithms, user screens and communication protocols necessary for execution of the program elements
- Rework based on unit regression testing

System Testing

Unit Testing

- Functional testing of each individual element/application that has been coded to ensure that they perform the functions specified
- Expected applications to be developed and tested would be enrollment/registration, validation, telemetry accumulation and dispatch notification.

Communication

- Various systems are required to communicate with each other and pass data files back and forth in defined timeframes
- Static data in specified formats is used to establish connectivity and adequate bandwidth.

Integration

- Determine if the system and process work together as specified.

End to End

- Full on process interaction with all systems as they will be used in production including data traceability from input(s) to output(s)



Participating Load Pilot

Participant Engagement

Marketing and Outreach

- Identification of potential participants, development of marketing materials and customer contact

Enrollment and Registration

- Determination of qualifications, access to Pilot system for meter registration

Set-up

- Acquisition/ installation of meters (if required), registration of meters into Pilot system

CAISO Set-up

Participating Load Agreement

- Development and execution of the necessary agreement(s) with the CAISO to register the PLP resource for participation in the MRTU market

Resource Data Template

- Accumulation of meter data for make up of custom load aggregations, determination and definition of aggregation operational characteristics culminating in the submittal to the CAISO

Participating Load Plan

- Submittal of plan as required by the CAISO for Participating Loads

Participating Load Acceptance Test

- Actual real-time test for resource response
- Due to the need for all elements of the program to be in place and functional, this test would occur very close, if not after, the pilot period begins.

Program Testing and Training

Participant Training

- Phased approach that provides user interface training in the first phase, transitions to operations training (procedural walkthroughs) and culminates during the simulation period

Program Staff Training



Participating Load Pilot

- Training for internal staff including any third party contractors responsible for execution of the program
- Includes registration, dispatch and post processing.

Simulation

- Full execution of the programs and systems by end users
- Mock or actual load drops would apply and potentially run concurrent with the CAISO PLAT

Pilot Period

Quarterly Reports

- Reporting during the development and testing phase to report on progress and budget
- Transitions to usage reporting during the pilot period

Incident Reporting

- Ad hoc reports during Pilot to explain anomalous events such as any communication errors that result in missed dispatches or missed scheduling deadlines



6. Expected Outcomes and Next Steps

The PLP is intended to be a transitory mechanism to carry SDG&E Demand Response from current customer programs to fully integrated products that conform to the Demand products that are currently being defined by the CAISO to allow participation wholesale markets. The processes, systems and protocols implemented during the pilot are mindful of the design element of the CAISO Proxy Demand Resources (PDR) and Dispatchable Demand Resources (DDR). Given the short development and implementation timeline for the PLP, the goal of meeting the full requirements of DDR will not be met during the PLP but in general the emerging requirements of PDR will be incorporated.

It is anticipated that the pilot will support the development of a thorough assessment of the available demand response within SDG&E's territory that may be appropriate for MRTU participation and provide insights into the segmentation of the market. Clearly documenting the challenges associated with reducing demand as consistently and quickly as with generators will allow the development of methods to overcome those barriers. Educating the Curtailment Service Providers as well as the end use customer throughout should provide for a smooth transition as additional products are introduced and ensure that available demand response is not lost during the uncertainty to CSP's businesses during such a transition.

Likely Outcomes:

- Revision to telemetry requirements: The current CAISO telemetry requirements for Participating Load are not conducive for small Industrial and Commercial customer to adopt due to their high cost and technological complexity. The pilot is demonstrating that either; 1) alternative technology can deliver the real time visibility required to monitor behavior or 2) validated response characteristics indicate that Demand Response performs consistently when dispatched. This should provide empirical evidence that the CASIO should adopt changes to their current telemetry requirements for Participating Load.
- Available and alternative technology options brought to bear: The successful use of a collection and concentration device, as contemplated in the pilot design, to aggregate a number of meters that individually are less than 1MW and to be able to transmit their real-time consumption to the CAISO, furthers the case that demand response can be monitored at the same levels of generation resources and contribute to the reliable operation of the grid.
- Market confidence in the reliability of demand response resources: Price sensitive demand is a cornerstone of a successful energy market. In particular, if demand demonstrates that it will not consume above the quantities cleared in the spot energy market, it reduces the need (and associated cost) to commit additional generation resources. Additionally the pilot is designed to demonstrate that demand that provides a economic signal can be responsive to wholesale energy prices, which serves to reduce the offer price of resources that bid on the assumption that load will consume without regard to the cost. While the pilot may not have the volume of energy required to significantly influence the spot market clearing price, it will demonstrate that the mechanisms and processes to participate in the wholesale market are available to a wider audience.
- Additional CSP's entering the CA market: The pilot is expected to demonstrate that demand response goes beyond price sensitivity to energy. By demonstrating that demand can be a viable contingency resource in the form of Non-Spinning reserve, additional products are made available



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to CSPs encourages their expansion in the California energy market. Anecdotal information indicates that the opportunity for capacity payments, whether in the form of Resource Adequacy contracting or spot market contingency reserves, provide the revenue stream necessary to attract new players

- Significant growth in accessible demand response resources: By demonstrating that perceived barriers to demand directly participating in the wholesale market can be addressed in the short term by emerging technology and tightly controlled processes and procedures, more end use customers may be willing to participate in demand response.
- Redesign/delay of the implementation of Dispatchable Demand Resources (DDR). All of the elements of the pilot inform the stakeholder process that is designing the next generation of demand response products at the CAISO. In particular, if the Non Spinning reserve element of the Pilot is reasonably successful, the concept of Dispatchable Demand Resources and its feasibility will, for the most part, be proven.

Next Steps:

- Development and participation by CSPs as a stakeholder group
- Integration of EE and DR plans due to available onsite technologies
- Pilot Results Review Committee
- Update of the Pilot for 2010 providing for further convergence between wholesale prices and retail rates, inclusive of PDR.



7. GLOSSARY

CSP (Curtailment Service Provider): Essentially an Aggregator in current parlance. An entity, not necessarily a Load Serving Entity or Energy Service Provider, that represents end use load participating in Demand Response

Custom LAP: A Custom Load Aggregation Points or Custom LAP (CLAP) consists of a set of one or more load nodes (with specific Load Distribution Factors) and is used for scheduling, pricing, and settlement with Participating Loads. Participating Loads must follow specified procedures to request CLAPs that they wish to use to schedule or bid into CAISO markets

eDAC (Energy Data Acquisition and Concentrator): An energy data collection device or system that is capable of both acquiring and concentrating energy data and timely communicating that data to the CAISO's Energy Management System with the appropriate protocol, security level and timing as set forth in the CAISO's standards for Participating Loads.

Load Aggregator: A Load-serving Entity (LSE), Energy Service Provider (ESP), municipality, or other non-CPUC jurisdictional load-serving entity representing single or multiple loads under a Participating Load Agreement with the CAISO. The Load Aggregator can be a separate entity from the Scheduling Coordinator that is responsible for scheduling and bidding the Load Aggregator's Participating Load into the CAISO markets.



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Appendix 1

Quarterly Report Template

Overview

Text describing the overall state of the project

Quarterly Milestones

Description	Due Date	Status	Comment
A		Complete	
B		On Track	
C		Delinquent	
D			

Issues

Text describing issues encountered, impacts to the project and mitigation actions.
 Performance metrics and activity summary to be included during operational months.

Budget (Thousands)

2009	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual YTD
	Q1		Q2		Q3		Q4		Total	
Labor										
Devices and Install										
Systems and Technology										
Other										
Incentive Payments										
Total Program Budget										

Summary