PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298

FILED
2-10-16
12:01 PM

February 10, 2016

Agenda ID #14656
Ratesetting

TO PARTIES OF RECORD IN APPLICATION (A.) 14-06-001, A.14-06-002, and A.14-06-003:

This is the proposed decision of Administrative Law Judge Kelly A. Hymes. Until and unless the Commission hears the item and votes to approve it, the proposed decision has no legal effect. This item may be heard, at the earliest, at the Commission's March 17, 2016 Business Meeting. To confirm when the item will be heard, please see the Business Meeting agenda, which is posted on the Commission's website 10 days before each Business Meeting.

Parties of record may file comments on the proposed decision as provided in Rule 14.3 of the Commission's Rules of Practice and Procedure.

The Commission may hold a Ratesetting Deliberative Meeting to consider this item in closed session in advance of the Business Meeting at which the item will be heard. In such event, notice of the Ratesetting Deliberative Meeting will appear in the Daily Calendar, which is posted on the Commission's website. If a Ratesetting Deliberative Meeting is scheduled, ex parte communications are prohibited pursuant to Rule 8.3(c)(4)(B).

/s/ MARYAM EBKE for
Karen V. Clopton, Chief
Administrative Law Judge

KVC:lil

Attachment

Decision **PROPOSED DECISION OF ALJ HYMES** (Mailed 2/10/2016)

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Application of Pacific Gas and Electric Company for Recovery of Costs to Implement Electric Rule 24 Direct Participation Demand Response (U39E).	Application 14-06-001 (Filed June 2, 2014)
And Related Matters.	Application 14-06-002 Application 14-06-003

DECISION ADDRESSING BUDGETS FOR REAL-TIME AND ANCILLARY SERVICES DURING THE INITIAL IMPLEMENTATION STEP OF THIRD-PARTY DEMAND RESPONSE DIRECT PARTICIPATION

Table of Contents

Title Pages

DECISION ADDRESSING BUDGETS FOR REAL-TIME AND ANCILLARY SERVICES DURING THE INITIAL IMPLEMENTATION STEP OF THIRD-PARTY DEMAND RESPONSE DIRECT PARTICIPATION

Summary

This decision adopts the following budgets to implement real-time and ancillary services during the initial implementation step of third-party demand response direct participation: $1,654,752 for Pacific Gas and Electric Company (PG&E), $806,900 for San Diego Gas and Electric Company (SDG&E), and $365,000 for Southern California Edison Company (SCE) (jointly, the Applicants). As discussed within, the Applicants' are limited to cost recovery for the reprogramming of customer meters from 60-minute intervals to 15-minute intervals only for the customer registration targets assigned in Decision 15-03-042.[1] In addition, this decision approves a settlement between Comverge, Inc., EnergyHub, Inc., OhmConnect, Inc., and PG&E regarding fees for reprogramming residential meters during the initial implementation step. Phase I of this proceeding is closed. Phase II remains open to address the intermediate implementation step.

1. Procedural Background

On March 26, 2015, the Commission approved Decision (D.) 15-03-042, which approved cost recovery by Pacific Gas and Electric Company (PG&E), San Diego Gas & Electric Company (SDG&E), and Southern California Edison Company (SCE) (jointly, the Applicants) for the implementation of an initial step of direct participation of demand response providers in the California

[1] D.15-03-042 directed PG&E to target 10,000 customer registrations, SDG&E to target 7,000 customer registrations, and SCE to target 14,000 customer registrations.

Independent System Operator's (CAISO) energy markets. While the decision required the Applicants to provide ancillary, real-time and day-ahead services, the record in the proceeding only contained budgets for day-ahead services. Hence, Ordering Paragraph 7 of D.15-03-042 required the Applicants to serve testimony proposing budgets to provide ancillary and real-time services in the initial implementation step of Demand Response Direct Participation in the CAISO energy market. On May 11, 2015, the Applicants each served testimony proposing budgets to provide these services.

Following the prehearing conference on June 4, 2015, the assigned Commissioner and Administrative Law Judge issued a joint Ruling and Scoping Memo on June 11, 2015 establishing the following issues for this portion of the proceeding:

- Whether the proposed changes to the Customer Information Service Request/Demand Response Provider Form (Request Form)[2] are required and are reasonable;
- Whether the budget proposals for the implementation of ancillary and real-time services for Third-Party Direct Participation as proposed by PG&E, SDG&E and SCE are reasonable and should be approved;
- Whether the implementation and cost differences between the three applications are reasonable and should be approved;
- Whether the timelines proposed by the three applicants are reasonable, and should be approved; and
- Whether there is any overlap of costs with other cost recovery that PG&E, SDG&E, and SCE either have already used or will

[2] The parties in this proceeding refer to this form as the CISR-DRP. For readability, it will be referred to in this document as the Request Form.

> need in order to bid their own demand response programs into the CAISO market.

A workshop was scheduled to assist in an improved understanding of the testimony. Following the June 15, 2015 workshop (June Workshop), as directed by the Administrative Law Judge, the Applicants filed a draft workshop report on June 22, 2015 (June Workshop Report). The CAISO filed a correction to the June Workshop Report on June 25, 2015. On August 19, 2015, the Administrative Law Judge granted an uncontested motion admitting the June Workshop Report into the record, with the correction filed by the CAISO.

In a June 19, 2015 Ruling, the Administrative Law Judge expanded the issue of reasonableness to include the following sub-issues, which arose from discussions during the June Workshop:

1. Whether it is reasonable for PG&E to charge customers a fee to reprogram a meter to change the granularity of interval data, when SDG&E and SCE do not propose to charge this fee;
2. Whether PG&E's demand response customers will be required to bear the incremental costs of upgrading their meters, as PG&E is requiring for non-utility demand response providers' customers; and
3. Whether it is an unfair disadvantage to charge this fee to the initial third party demand response provider when future providers to these same customers, including PG&E, will have access to the improved functionality without paying the additional fee.

An evidentiary hearing was held on July 24, 2015 at which time all cross-examination was waived and exhibits were received into evidence. Briefs were filed on August 10, 2015 and reply briefs on August 17, 2015.

On August 6, 2015, Comverge, Inc., EnergyHub, Inc., Ohmconnect, Inc. and PG&E filed a motion for adoption of residential fee settlement (August 6 Motion). The Office of Ratepayer Advocates (ORA) filed a response to the motion on August 21, 2015. On September 4, 2015, PG&E replied to ORA's response.

On November 6, 2015, the Administrative Law Judge issued a Ruling setting aside submission of the record of this proceeding to reopen the record for additional information. In the Ruling, PG&E was directed to file, as a supplement to its opening brief, a legible Request Form to serve as an example in order to identify the types of changes needed to the form. PG&E complied with the Ruling and no party objected to the supplemental filing. The record for Phase I of this proceeding was resubmitted on November 16, 2015.

2. Overview of Applications

2.1. PG&E Application

In its initial application, PG&E offers two options to the Commission: a) 10,000 meters to be reprogrammed from 60-minute to 15-minute intervals for residential customers and to 5-minute intervals for non-residential meters at a cost of $2.47 million; or b) 10,000 meters to be upgraded from 60-minute to 15-minute intervals for residential and non-residential customers at a cost of $1.912 million. In its opening brief, PG&E maintains its request to approve the use case of up to 50,000 Request Forms[3] to support 10,000 registrations for both residential and non-residential customers,[4] but at a lower cost of $1.912 million because of the procedures and processes developed in the residential fee

[3] PG&E anticipates that for every customer wanting to register in the demand response market approximately five Request Forms will be processed.

[4] PG&E presumes that 75 percent of the 10,000 registrations would entail reprogramming residential meters from 60-minute to 15-minute intervals and 25 percent would entail reprogramming non-residential meters from to 5-minute intervals. *(See PG&E Opening Brief at 12.)*

settlement.[5] The implementation time is estimated to be 12 months from the issuance of the decision. PG&E contends that the Request Form requires updating and provides recommended changes.

2.2. SDG&E Application

SDG&E offers multiple options to the Commission: a) 7,000 meters to be upgraded from 60-minute to 15-minute intervals for residential meters at a cost of $121,400; b) 100,000 meters to be upgraded from 60-minute to 15-minute intervals for residential meters at a cost of $1.598 million; c) 7,000 meters to be upgraded from 60-minute interval to 5-minute intervals for residential and commercial meters at a cost of $2.136 million; d) 100,000 new meters to provide 5-minute intervals to residential and commercial meters at an unknown cost; and e) reprogram all commercial meters to 15-minute intervals at an additional $200,000 extra to the Smart Pricing Project. The time needed for implementation ranges from 3 months plus the time to reprogram the meters (for option a) to 12 months for the Information Technology (IT) plus the time to reprogram the meters (for options b and c).[6] SDG&E also requests that the Request Form be updated.

2.3. SCE Application

SCE requests 9 months to reprogram 70,000 residential meters from 60 minutes to 15-minute intervals (currently, non-residential meters are programmed for 15-minute intervals) at a cost of $365,000. SCE requests to transfer funds from the 2014-2015 bridge funding previously authorized for the

[5] PG&E Opening Brief at 12.

[6] As is the case with PG&E, SDG&E presumes that for every one customer wanting to directly participate in the demand response market approximately five request forms will be processed.

Meter Data Management System (MDMS) upgrade. SCE also recommends revisions to the Request Form.

3. Overview of Motion to Approve Settlement

The proposed residential fee settlement filed by Comverge, EnergyHub, OhmConnect, and PG&E allegedly resolves the dispute over PG&E's plan to charge residential customers a $41.90 fee for remotely reprogramming a residential meter from 60-minute interval collection to 15-minute intervals. The reprogramming is necessary as part of the implementation of the demand response direct participation into the CAISO market (Rule 24/32). The scope of the settlement is limited to (1) PG&E fees for over-the-air reprogramming of PG&E retail meters to 15-minute intervals for residential customers in the Rule 24 Initial Implementation Step, and (2) the total number of meters that PG&E is obligated to reprogram. The settlement is also limited to retail meters for PG&E customers where PG&E is the meter service provider and the meter data management agent.

In the residential fee settlement, all parties agree that residential customers will not be charged a meter reprogramming fee for over-the-air reprogramming from 60-minute to 15-minute intervals, if the customer is successfully registered at the CAISO as part of the 10,000 customer active registrations for direct participation under the Rule 24 Initial Implementation Step. The settlement agrees upon a nine-step implementation process as described in Table 1 below.[7]

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[7] August 6 Motion at 4-6.

Table 1 **Settlement Implementation Process**
1. The residential customers or its demand response provider shall submit its request for reprogramming using the Request Form.
2. PG&E will track the customer locations/service account identification numbers submitting a reprogramming request, but will not proceed until CAISO registration is successfully completed.
3. PG&E will cross-check the customer location in the CAISO process with the list of meter programming requests submitted on the Request Form.
4. Following PG&E's validation of a customer's registration in the CAISO process, PG&E will implement a customer's request to reprogram a meter, assuming the required IT technology is in place.
5. If the required IT technology is not in place, and notwithstanding the requirements of D.15-03-42,[8] PG&E will maintain a list of up to 10,000 customers.[9]
6. The customer will not be charged a fee for over-the-air meter reprogramming, as provided by the provisions of the Settlement.
7. Notwithstanding the requirements of D.15-03-042,[10] the settlement limits PG&E's commitment to not charge for over-the-air meter reprogramming to the number of its meters serving retail residential customers locations that are registered through Rule 24 as part of the active 10,000 customer locations in the Initial Implementation Step established in D.15-03-042.
8. Notwithstanding the requirements of D.15-03-042,[11] the settlement limits the number of meters PG&E is obliged to reprogram to only those meters

[8] Requirements include (i) PG&E's target of 10,000 retail customer locations is a dynamic ceiling that will rise over time and (ii) PG&E will inform the Commission within 6 months if it anticipates reaching the target. *See* PGE-02 at 0-15 and Figures 1 and 2.

[9] These customers have submitted a reprogramming request and registered at the CAISO, and initiated the reprogramming requests within one week of such technology being made available for the Rule 24 Initial Implementation Step.

[10] *See* Footnote 6.

[11] *Ibid*.

that are registered through Rule 24 as part of the active 10,000 customer locations in the Initial Implementation Step established in D.15-03-042.
9. PG&E retains the discretion to develop more detailed processes and priorities for implementation of the over-the-air meter reprogramming to smaller intervals. PG&E will complete reprogramming for a given customer within two weeks of initiating reprogramming under step 4 above, subject to volume constraints and exceptions such as remote reprogramming failures.

4. Discussion

4.1. Motion to Approve Settlement

Pursuant to Commission Rules of Practice and Procedure, Rule 12.2(d),[12] we find the residential fee settlement to be reasonable in light of the whole record, consistent with the law, and in the public interest. As further described below, because it meets these three requirements, the motion to adopt the settlement should be granted.

The proposed residential fee settlement resolves the dispute between Comverge, EnergyHub, OhmConnect, and PG&E (Settling Parties) regarding PG&E's proposal to charge residential customers (or their demand response provider) a $41.90 fee for remotely reprogramming a residential meter from a 60-minute interval collection to a 15-minute interval collection for the purpose of enabling demand response direct participation in the CAISO market by residential customers. In the proposed settlement PG&E agrees to not charge the meter reprogramming fee if the customer is successfully registered at the CAISO for direct participation as part of the 10,000 active customer registrations under

[12] Rule 12.1(d) states that the Commission will not approve settlements, whether contested or uncontested, unless the settlement is reasonable in light of the whole record, consistent with the law, and in the public interest.

the direct participation initial implementation step.[13] All Settling Parties agree that the settlement is limited to retail meters for PG&E customers where PG&E is the meter service provider and the meter data management agent.

The Settling Parties contend that the Settlement should be approved because it is reasonable in light of the record, consistent with the law and in the public interest. Furthermore, the Settling Parties note that while the settlement is not an all-party settlement, the Commission has previously affirmed its willingness to consider and approve settlements that are not joined by all parties.

We find that the residential fee settlement is reasonable in light of the record. According to the conditions of the residential fee settlement, the settlement represents a negotiated compromise among all Settling Parties. In the settlement terms, the Settling Parties agree that the purpose of the settlement is to resolve the issue of meter reprogramming fees for over-the-air reprogramming of residential meters from 60-minute to 15-minute intervals, if the customer is successfully registered at the CAISO for Rule 24 direct participation as part of the 10,000 active customer registrations for the Rule 24 Initial Implementation step. Given that in D.15-03-042: a) the Commission directed PG&E to target 10,000 retail customer locations during the Initial Implementation step, b) the Commission directed the Applicants to provide ancillary and real-time services along with day-ahead services, and c) neither SDG&E nor SCE[14] are directly

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[13] PG&E states that if the residential fee settlement is approved, PG&E will follow the procedures and processes for residential customers, as contained in the settlement, and extend the procedures and processes to non-residential customers. See PG&E Opening Brief at 2.

[14] In the motion to adopt the settlement, the Settlement Terms state that, if necessary, PG&E may seek to recover the costs for the reprogramming through its currently authorized 2015-2016 demand response bridge funding. PG&E notes that SCE proposed a similar methodology in its testimony and that SDG&E proposed that its reprogramming costs are built into its estimates

Footnote continued on next page

charging customers for the reprogramming of meters from 60-minute to 15-minute intervals in the initial implementation step, we find that the residential fee settlement is reasonable in light of the record.

We also find that the residential fee settlement is consistent with the law. No party presented any inconsistencies of the settlement with the law. Furthermore, the Settling Parties complied with all aspects of Article 12 of the Commission Rules of Practice and Procedure, specifically Rule 12.1, which lays out the requirements for proposed settlements.[15]

Lastly, we find that the residential fee settlement is in the public interest based on our conclusions described below that 1) the settlement should aid in the success of the initial implementation step and 2) the settlement balances the interests of the stakeholders most impacted. As the Settling Parties pointed out in the August 6 Motion, the Commission has generally endorsed settlements because settlements tend to support the goals of the Commission.[16] The Settling Parties contend that the settlement fosters the Commission's goal of increased customer participation in the CAISO market for ancillary and real-time services because the settlement makes residential customer participation easier. We agree that providing free meter reprogramming to customers should encourage

for recovery of providing implementing real-time and ancillary services. *See Motion to Adopt Settlement at 8.*

[15] Rule 12.1(a) requires that a written motion proposing settlements be filed within 30 days of the last day of hearing. The last day of hearing was July 24, 2015 and the motion requesting adoption of settlement was filed on August 6, 2015 and followed the requirements of Rule 12.1(a). Pursuant to Rule 12.1(b), on July 17, 2015 the Settling Parties noticed a settlement conference for July 27, 2015.

[16] August 6 Motion at 6, Footnote 7 citing D.10-12-035, D.05-03-022, D.92-12-019, D.10-12-051, and D.10-11-035.

participation in the CAISO markets. Hence, we conclude that the residential fee settlement is in the public interest because it should aid in the success of the initial implementation step.

The Settling Parties argue that the residential fee settlement balances the various interests involved. The Settling Parties state that they represent the interests of 1) residential customers, 2) aggregators providing service to residential customers (including demand response providers), as well as a utility providing service to all customers.[17] Furthermore, ORA—a representative of residential customers—filed a response suggesting a modification to the settlement, but did not oppose the settlement. (We address the response of ORA and the suggested modification below.) Thus, because it represents the interests of all stakeholders most impacted by the settlement, we find that the residential fee settlement is in the public interest.

ORA filed a response to the August 6 Motion recommending that the Commission require that free reprogramming be limited to customers who register with the CAISO to provide ancillary and real time services.[18] In its response, ORA argues that customers participating solely in the day-ahead market do not require meter reprogramming, thus requiring the reprogramming limitation ensures that ratepayers are only paying for necessary reprogramming required to provide ancillary and real time services.[19] PG&E states that there is no way for the utility to know if the customer is going to be bid for ancillary or real-time services, unless the third-party aggregator, its scheduling coordinator,

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[17] August 6 Motion at 8.

[18] ORA Response to August 6 Motion, August 21, 2015 at 2.

[19] *Id.* at 3.

or its demand response provider gives that information to the utility.[20] PG&E argues that no utility is able to impose or enforce this limitation. Given that the residential fee settlement is limited to those customers successfully registered at the CAISO as part of the 10,000 customer active registrations for direct participation under the Rule 24 Initial Implementation Step, we find that it is in the public's interest to not create any further barriers to participation in the initial implementation step. The Commission will continue to explore this issue in the intermediate implementation step and beyond.

We have found that the residential fee settlement is compliant with the Commission Rules of Practice and Procedure, Rule 12.2(d), in that it is reasonable in light of the whole record, consistent with the law, and in the public interest, and therefore should be adopted. Hence, the Commission hereby adopts, in its entirety and without modification, the residential fee settlement filed by Comverge, EnergyHub, OhmConnect, and PG&E, which resolves the dispute over PG&E's plan to charge residential customers a $41.90 fee for remotely reprogramming a residential meter from 60-minute interval collection to 15-minute intervals.

4.2. Reasonableness of Proposals: Implementation Process, Timeline and Cost

There are two issues that impact all of the Applicants in this proceeding: 1) Whether the implementation of real-time and ancillary services necessitates a five-to-one ratio of Request Forms for every customer registering in the CAISO market; and 2) Whether the Commission should require a consistent approach to

[20] PG&E Reply to ORA Response to August 6 Motion, September 4, 2015 at 2.

the implementation of direct participation of real-time and ancillary services and adopt meter reprogramming from 60-minute intervals to 15-minute interval and/or 5-minute interval. Below, we address these two overarching issues first, followed by a discussion of each Applicant's request.

4.2.1. Reasonableness of Proposals: Overarching Issues

As described below, the Commission finds the five-to-one ratio of Request Forms for every customer registering in the CAISO market to be reasonable and analyzed the individual Applicant's cost recovery requests with this in mind. We also find it reasonable to limit the Applicants in this proceeding to cost recovery for reprogramming meters from 60-minute to 15-minute intervals only. Furthermore, we find that because the Applicants have different systems and currently have differing degrees of technology, the Commission should not require cookie cutter implementation of demand response direct participation for ancillary and real-time services, with the one exception of meter intervals.

4.2.1.1. Overarching Issues: Ratio of Request Forms

We first address whether it is reasonable to anticipate multiple Request Forms for every CAISO registration. In testimony, the three Applicants each contend that, for every customer that registers in the CAISO market, approximately five Request Forms may be necessary to implement the registration.[21] The Applicants have each projected cost estimates based on this five-to-one ratio and request cost recovery for this projection. The issue in this proceeding is whether this is a reasonable estimation and whether the

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[21] PGE-02 at 4; SGE-03 at 4-5; and SCE-02 at 7-8.

Commission should authorize cost recovery based on the estimated five-to-one ratio.

In the June Workshop, the Applicants were asked how the five-to-one ratio was determined. SCE responded that the ratio was an estimate for the purposes of establishing workload and budgets. SCE explained that it does not know what the ratio will be because the utility has no experience in direct participation but it expects that multiple Request Forms will be submitted for the same customer.[22] SCE noted that the ratio is consistently used by all three Applicants.[23]

In its opening brief, ORA opposed the use of the five-to-one ratio by SCE, stating that SCE's costs should be based on reprogramming only the meters of residential customers expected to register at the CAISO.[24] ORA further explores this issue by arguing that because some customers may choose to only participate in the CAISO day-ahead market, the customer will not need meter reprogramming. ORA surmises that SCE should instead use a one-to-one ratio for estimating its implementation costs.

ORA previously made a similar argument in its response to the August 6 Motion. As described in the settlement discussion above, ORA argues that customers participating solely in the day-ahead market do not require meter reprogramming. ORA recommends requiring that free reprogramming be limited to customers who register with the CAISO to provide ancillary and real time services, hence, ensuring that ratepayers are only paying for any necessary

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[22] June Workshop Report at 3.

[23] June Workshop Report at 2.

[24] ORA does not state an opposition to the use of this ratio either by PG&E or SDG&E.

reprogramming required to provide ancillary and real time services. PG&E responded to ORA's contention stating a utility does not know if the customer is going to bid for ancillary or real-time services, unless the third-party aggregator, its scheduling coordinator or its demand response provider gives that information to the utility.[25] In response to ORA's opening brief, SCE responded in a similar fashion, adding that ORA did not demonstrate how the one-to-one ratio would fully support the process of enabling residential participation during the initial implementation step.[26]

The Commission recognizes that there are many unknowns in the pursuit to implement direct participation of ancillary and real-time services. One of the unknowns is the number of Request Forms needed to be processed for each customer successfully registered in the CAISO market. It is possible that one customer may submit several Request Forms during the CAISO registration process; one reason may be that the customer has multiple meters connected to the account. Unknown issues are one of the reasons that the Commission determined it is prudent to take a small initial implementation step for direct participation. This initial implementation step presents the opportunity to learn what is necessary and what works in implementing direct participation.

While ORA's proposal to adopt a one-to-one ratio is an attempt to ensure ratepayers are not burdened with unnecessary costs, ORA's proposal does not provide assurances that the implementation is fully supported financially. Insufficient financial support could lead to implementation failure. It is through this initial implementation process that we will determine whether five Request

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[25] PG&E Reply to ORA Response to August 6 Motion, September 4, 2015 at 2.

Forms are needed, if one Request Form is sufficient, or something in between. But it is prudent to ensure that the Applicants have sufficient funding to support this initial effort. Hence, we find it reasonable, for purposes of the initial implementation step, to base cost analyses on the five-to-one ratio of Request Forms to CAISO registration. This ratio may be revisited during the Intermediate Implementation Step.

4.2.1.2. Overarching Issues: Implementation Consistency and Meter Granularity

We now turn to a discussion of whether the Applicants should be required to implement direct participation of ancillary and real-time services in a consistent manner and whether the Commission should require all three Applicants to reprogram customer meters to 15-minute intervals or allow one or more Applicants to reprogram customer meters to 5-minute intervals.

Currently, residential meters in the service territory of all three Applicants only read 60-minute intervals. As we confirm below, CAISO requires those participating in the ancillary and real-time markets to provide 5-minute interval data either through 15-minute interval meters divided equally by three or through 5-minute interval meters. In the case of commercial accounts, PG&E and SCE's commercial customers currently have 15-minute interval meters,[27] and SDG&E currently provides 15-minute data for most of its commercial customers.[28]

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[26] SCE Reply Brief at 4.

[27] PGE-02 at and SCE 02 at 5.

[28] SGE-03 at 4.

Parties have opposing views regarding whether the Commission should authorize cost recovery to allow one or more of the Applicants to reprogram 60-minute interval meters to 5-minute intervals or require the Applicants to reprogram only to 15-minute intervals. PG&E requested funding to reprogram 25 percent of its 10,000 customer registrations from 60-minute interval meters to 5-minute intervals. PG&E contends its proposal "would enable some information and experience to be obtained for future evaluation of the potential usefulness and value that may arise from use of more granular intervals for ancillary and real-time services."[29] While SDG&E provided a proposal for reprogramming meters to 5-minute intervals, both SDG&E and SCE argue that the Commission should only approve reprogramming to 15-minute intervals as "such an approach would be consistent with the Commission's directive in D.15-03-042."[30] ORA maintains that there is no explicit requirement from the CAISO that 5-minute granularity is needed for participation of ancillary and real-time services and opposes spending ratepayer money on such reprogramming.[31]

In D.15-03-042, the Commission required the Applicants to provide budgets for providing ancillary and real-time services. In that decision, the Commission stated that we must create a pathway for providers to participate in wholesale demand response markets and that enabling third parties to access real-time and ancillary service markets could help make the integration of

[29] PG&E Reply Brief at 4. PG&E also references a statement in the June Workshop Report that "5-minute interval data will be required for any flexible ramping products." *See* June Workshop Report at 4.

[30] SDG&E Opening Brief at 8. See also SCE Opening Brief at 7-8.

[31] ORA Opening Brief at 4.

demand response more commercially viable for customers and third-party providers. The 15-minute interval is one pathway to access these markets. We now compare the 15-minute pathway with the 5-minute pathway.

In its testimony, PG&E compares the project costs to support 15-minute residential ($2.472 million) and 5-minute non-residential reprogramming with the project costs to support 15-minute residential reprogramming only ($1.911 million).[32] The difference between the two projects is $.56 million, which PG&E contends is driven by the volume of data.[33] PG&E states that 5-minute intervals require three times the amount of data storage space as those of 15-minute intervals. PG&E explains that as the interval length becomes smaller, there is a related need to increase storage and processing capacity for the increased data volume.[34] Hence, we find that 5-minute interval data is costlier than 15-minute data.

While it is more than likely that the Commission would gain experience and information from working with 5-minute intervals, the additional expense of the 5-minute interval makes the 15-minute interval a more reasonable pathway to adopt for this initial implementation step. Hence, we require all three Applicants to reprogram meters from 60-minute intervals to 15-minute intervals.

4.2.2. Reasonableness of Proposals and Budgets: PG&E's Application

For reasons described below, we approve the following revisions to PG&E's proposal and cost recovery budget to support ancillary and real-time

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[32] PGE-02 at Tables 3 and 4.

[33] *Id*. at 14.

[34] *Id*. at 10.

services for third-party demand response direct participation in the CAISO market: 1) Pursuant to our determination above, PG&E's request to reprogram commercial customers meters from 15-minute to 5-minute intervals is denied; and 2) PG&E is authorized a budget of $1,654,752 cost recovery to implement ancillary and real-time services for a target of 10,000 residential and commercial customers while taking into consideration the five-to-one ratio of Request Forms for every customer CAISO registration. We do not reiterate the previous discussion concerning the issues of Request Form to registration ratio or meter intervals.

As previously described, PG&E proposes to provide support of existing interval metering for up to 10,000 CAISO registrations and 50,000 customer information service requests forms based on the five-to-one ratio of forms to registrations. This will require the implementation of new or modified processes and systems and a time period of 12 months from authorization. PG&E offers two estimates of costs in its testimony. The first estimate of $2.472 million supports reprogramming for 15-minute intervals for residential customers and 5-minute intervals for commercial customers.[35] PG&E also offers an estimate of $1.912 million to support reprogramming for 15-minute intervals for residential customers only.[36] PG&E explains that the primary difference between the two estimates is driven by the volume of data.[37] In its opening brief, PG&E

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[35] PGE-02, Table 3 at 14.

[36] *Id.*, Table 4 at 15.

[37] *Ibid*. PG&E also explains that a residential meter transitioning from 60 minutes to 15 minutes is the equivalent of four meters worth of data storage. Thus, a 60-minute interval read equals four 15-minute reads whereas a 15-minute interval read would equal twelve five-minute reads.

Footnote continued on next page

revised its budget request for the implementation reprogramming for 15-minute intervals for residential customers and 5-minute intervals for commercial customers to $1.912 million.[38] PG&E adds that this revised estimate is conditioned on Commission adoption of the residential fee settlement in the August 6 Motion.

No party objected to the implementation timeline of one year proposed by PG&E. While the Commission would prefer a faster implementation, we recognize the technical nature of this project and find the implementation timeline reasonable.

ORA argues that PG&E's costs are excessive in comparison to the other two Applicants. Furthermore, ORA contends that it is not reasonable for PG&E to need five times the budget as SCE for achieving the same capabilities.[39]

In its reply brief and in response to PG&E's revised budget request of $1.912 million, ORA provides an updated recommendation of $1.684.[40] ORA explains that this recommendation is predicated on three assumption: 1) PG&E's cost would only cover reprogramming meters from 60-minute to 15-minute intervals; 2) PG&E's cost should be based on only reprogramming those residential meters that are registered at the CAISO, which is 10,000; and 3) 10,000 registrations equal 40,000 reference meters which equals $1.35 per

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As the interval length becomes smaller, the need to storage and processing increases. (*See PGE-02 at 10.*)

[38] PG&E Opening Brief at 12-13. This presumes 75 percent of the 10,000 targeted registrations will require programming residential meters at 15-minute intervals and 25 percent will require reprogramming non-residential meters at 5-minute intervals.

[39] ORA Opening Brief at 9-10.

[40] ORA Reply Brief at 4.

reference meter.[41] ORA adds that this estimation is only related to the decrease in data requirements to 40,000 reference meters and does not account for what it considers excessive costs relative to other Applicants.

All three Applicants contend that it is reasonable for each of the Applicants to have different costs due to differing billing and metering systems and being at different starting points with respect to implementation.[42] PG&E points to the differences between its implementation proposal and SCE's proposal noting that SCE is taking advantage of a network already in place that can absorb the increase in traffic whereas PG&E needs additional capacity for its entire effort.[43]

In response to ORA's calculations based on a lower number of meters, PG&E contends that costs cannot be calculated on a per meter basis. PG&E argues that costs to support additional service agreements are incremental load added to the existing systems used for all SmartMeter data collection.[44] PG&E further explains that costs for implementation of ancillary and real-time services are not incurred on a per reference meter basis and cannot be avoided on this basis.[45] PG&E adds that "costs to support a volume of 60,000 to 160,000 reference meters are consistent with the costs provided in PGE-02 at Table 4 assuming

[41] According to ORA, a reference meter represents one customer meter recording and reporting data at a 60-minute interval. *See* ORA Opening Brief, Footnote 24 at 7.

[42] SCE Opening Brief at 5 and SDG&E Opening Brief at 9-10.

[43] PG&E Reply Brief at 7.

[44] PG&E Reply Brief at 5.

[45] *Ibid.*

reprogramming meters on a 75 percent residential and 25 percent non-residential ratio."[46]

First, we address the contention by ORA that the three Applicants should have more similar funding requests to provide ancillary and real-time services in the initial implementation step. We previously addressed this issue in D.15-03-042 where we acknowledged that the Applicants are at differing technological capabilities that may require differing budgets. Hence, we do not repeat that discussion here. Second, the recommendation by ORA to approve a budget of $1.684 million is predicated on the assumption that the one-to-one ratio of Request Forms to registrations is reasonable and that costs can be calculated on a per meter basis. We previously determined the five-to-one ratio of Request Forms to registrations to be reasonable during the initial implementation step. Furthermore, we accept PG&E's explanation that costs are not incurred on a per reference meter basis. For these reasons, we deny ORA's request to adopt its recommended $1.684 million budget for PG&E.

However, PG&E noted that the costs to support a volume of 60,000 to 160,000 reference meters are consistent with the costs provided in Table 4 of its testimony assuming a 75 percent residential and 25 percent non-residential ratio. Because we denied the request to reprogram non-residential meters to 5-minute intervals, we must re-calculate PG&E's requested amount based on the elimination of reprogramming non-residential meters.

In its testimony, PG&E presented two budget summaries: 1) $2.472 million to support the reprogramming of 10,000 meters including residential

[46] *Id*. at 6.

meters from 60-minute intervals to 15-minute intervals and non-residential meters from 15-minute intervals to 5-minute intervals; and 2) $1.91 million to support the reprogramming of 10,000 residential meters from 60-minute intervals to 15-minute intervals.[47] PG&E explains that the major differences between the two budgets are the lack of non-residential meter reprogramming and a decrease of $560,352 in the second budget.[48]

Table 2 provides the budgets for costs with and without reprogramming from 60-minute intervals to 5-minute intervals.[49]

[47] PGE-02 at 14-15.

[48] *Id*. at 14.

[49] *See* PG&E Excel spreadsheet workpapers labeled Table 3 and Table 4 contained in ORA-01.

TABLE 2 **Comparison of Costs with and without Reprogramming to 5-minute intervals**					
Cost Category	**Cost Subcategory**	**Impacted Area**	**Brief Description**	**Cost to provide re programming to 15-minute intervals and 5-minute**	**Cost to provide reprogram ming to 15-minute intervals**
Capital	Hardware and services	Silver Springs Network (SSN) Changes	Hardware needed for SSN and MDMS to collect, process, manage, and store incremental interval meter data	888,000	708,000
Capital	Hardware and services	MDMS Changes	Hardware needed for downstream customer data and data analytics repositories to store, present and aggregate intervals for other consuming	73,122	0
Capital	Hardware and services	Customer Data and Analytics	Hardware for customer data, analytics systems and presentment systems	110,400	27,600
Capital	Direct Capital Labor Costs	SSN Changes	Labor effort to install hardware for SSN systems	156,000	96,000
Capital	Direct Capital Labor Costs	MDMS Changes	Performance tuning and optimization for MDMS systems to ensure no downstream impacts	47,340	47,340
Capital	Direct Capital	Customer data	Labor effort to	78,489	46,840

TABLE 2

Comparison of Costs with and without Reprogramming to 5-minute intervals

Cost Category	**Cost Subcategory**	**Impacted Area**	**Brief Description**	**Cost to provide re programming to 15-minute intervals and 5-minute**	**Cost to provide reprogram ming to 15-minute intervals**
	Labor Costs	and Analytics Systems	install hardware for internal customer data, analytics systems and presentment systems		
Capital	Direct Capital Labor Costs	Project Delivery Resources	Resources to support project delivery	362,880	362,880
Capital	Capital Overheads			100,974	84,784
Capital	Allowance for Funds Used During Construction (AFUDC)			148,282	111,340
Expense	Labor	Rule 24 Implementation Systems	Update Business Process Management workflows to manage internal length changes	12,000	12,000
Expense	Labor	Smart Meter Operations	Updates to processes, reporting and documentation and implementation of new processes	63,360	63,360
Expense	Labor	Meter Engineering	Meter engineering testing for new 5-minute interval	48,000	0

TABLE 2 **Comparison of Costs with and without Reprogramming to 5-minute intervals**					
Cost Category	**Cost Subcategory**	**Impacted Area**	**Brief Description**	**Cost to provide re programming to 15-minute intervals and 5-minute**	**Cost to provide reprogramming to 15-minute intervals**
			meter programs		
Expense	Labor	MDMS and Customer Data and Analytics systems integration and regression testing	Data migration and verification/regression testing of interfaces to address impacts to downstream systems	94,180	94,180
O&M	Business O&M	DRP Services	Additional staff needed to support process to validate, manage, and coordinate all reprogramming requests resulting from an approved Request Form	216,115	216,115
O&M	Business O&M	Billing Operations	Additional staff needed to support potential increase in electric validation and estimation meter data exceptions	41,279	41,279
			Total	**2,440,421**	**1,911,718**

Based on this data, we find it reasonable to decrease PG&E's revised requested budget of $1.91 million by the same amounts that were eliminated by PG&E in its proposed budget that did not include the reprogramming to

5-minute intervals: $73,211 and $48,000.[50] Subtracting these amounts from PG&E's revised requested budget of $1.91 million decreases PG&E's revised requested budget to $1,790,507.

We now review the cost items that PG&E had decreased in its proposed budget without the 5-minute interval reprogramming. We review these cost decreases in order to account for the now-required elimination of the 5-minute interval reprogramming. However, we must ensure that costs are not considered on a per meter basis, but rather, in consideration of the incremental data added to the existing systems used for all SmartMeter data collection. Hence, we subtract the difference between the two budgets for the Capital budget item, AFUDC, which equals $36,942. We consider this subtraction reasonable because the difference between the two budget estimates is not dependent upon incremental data. The other cost items decreased by PG&E in its proposed budget without the 5-minute interval reprogramming are presented in Table 3 below.

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[50] In its proposed budget not including meter reprogramming to 5-minute intervals, PG&E did not include the costs for the budget items: Capital Hardware and Services: Meter Data Management System Changes: Hardware needed for downstream customer data and data analytics repositories to store, present and aggregate intervals for other consuming and Expense: Labor: Meter Engineering: Meter engineering testing for new 5-minute interval meter programs.

TABLE 3 Cost Items Decreased In Budget Excluding Reprogramming to 5-minute Intervals					
Cost Category	Cost Subcategory	Impacted Area	Brief Description	Costs to reprogram to 15-minute and 5-minute intervals	Costs to reprogram to 15-minute intervals
Capital	Hardware and services	SSN Changes	Hardware needed for SSN and MDMS to collect, process, manage, and store incremental interval meter data	888,000	708,000
Capital	Hardware and services	Customer Data and Analytics	Hardware for customer data, analytics systems and presentment systems	110,400	27,600
Capital	Direct Capital Labor Costs	SSN Changes	Labor effort to install hardware for SSN systems	156,000	96,000
Capital	Direct Capital Labor Costs	Customer data and Analytics Systems	Labor effort to install hardware for internal customer data, analytics systems and presentment systems	78,489	46,840

In analyzing the differences between the two budgets in Table 3, we find that the cost decreases due to not including the 5-minute interval programming, range from 75 percent to 20 percent. Given our prior determination to consider the incremental data added to the existing systems used, we determine it is reasonable to use the same decreases used by PG&E. Hence, we decrease PG&E's revised proposed budget by the following amounts: 20 percent for the hardware needed for SSN and MDMS, 75 percent for the hardware for customer data, etc., 38 percent for the labor effort to install hardware for SSN, and 40 percent for the labor effort to install hardware for internal customer data processing. The new budget cost amounts are presented in Table 4, below.

TABLE 4
Cost Items Decreased When Proposing the Elimination of 5-minute Intervals

Impacted Area	Brief Description	Costs to provide re programming to 15-minute and 5-minute intervals	Costs to provide reprogramming to 15-minute intervals	Percentage Difference	Revised Budget Line Item Amount
SSN Changes	Hardware needed for SSN and MDMS to collect, process, manage, and store incremental interval meter data	888,000	708,000	20	564,486
Customer Data and Analytics	Hardware for customer data, analytics systems and presentment systems	110,400	27,600	75	6,900
SSN Changes	Labor effort to install hardware for SSN systems	156,000	96,000	38	59,076
Customer data and	Labor effort to install	78,489	46,840	40	27,952

TABLE 4 Cost Items Decreased When Proposing the Elimination of 5-minute Intervals					
Impacted Area	Brief Description	Costs to provide re programming to 15-minute and 5-minute intervals	Costs to provide reprogramming to 15-minute intervals	Percentage Difference	Revised Budget Line Item Amount
Analytics Systems	hardware for internal customer data, analytics systems and presentment systems				

Hence, PG&E is authorized a budget of $1,654,752 to support its proposal, as revised by the Commission, for ancillary and real-time services for the initial implementation step of third-party demand response direct participation in the CAISO market.

4.2.3. Reasonableness of Proposals: SDG&E's Application

SDG&E is authorized a budget of $606,900 for cost recovery to implement ancillary and real-time services for a target of 7,000 residential customers, taking into account the adopted five-to-one ratio of Request Forms for every CAISO registration. Additionally, SDG&E is authorized a budget of $200,000 to support the implementation of making 15-minute data available to all commercial customers through SDG&E's customer energy network program. As is the case with the other two Applicants in this proceeding, SDG&E is limited to reprogramming meters to 15-minute intervals, as required by the CAISO

Business Practice Manual. We discuss the specifics of the approved proposals and authorized budget below.

As previously discussed, SDG&E provided several proposals for the implementation of ancillary and real-time services for direct participation in the CAISO market, but recommends that the Commission approve its proposal to reprogram up to 100,000 residential meters from 60-minute intervals to 15-minute intervals at a cost of $1.598 million.[51] Additionally, SDG&E requests authorization, in this proceeding, for cost recovery of $200,000 to make the 15-minute interval data from commercial customers available through SDG&E's Customer Energy Network Platform.[52] SDG&E estimates a timetable of 12 months to implement the conversion of the 100,000 residential meters but noted that "it would still be able to achieve completion of up to 7,000 meter conversions within three months plus the time to convert the meters via remote meter configuration."[53]

SDG&E explains that the request for cost recovery to convert 100,000 meters is based on a presumption of the five-to-one ratio for Request Forms to actual market participation and that more than one meter may be assigned to a customer account, especially in the case of commercial customers. SDG&E surmised that requesting 100,000 may be more representative of the true cost of having 7,000 market participating meters.[54] Furthermore, SDG&E notes

[51] Here too, SDG&E presumes the five-to-one ratio of Request Forms to registrations.

[52] SDG&E plans to reprogram all commercial meters from 60-minute intervals to 15-minute intervals as part of the SDG&E 2015 Smart Pricing Project.

[53] SDG&E Opening Brief at 11.

[54] SDG&E Opening Brief at 8-9.

that it is authorized to recover only its actual costs incurred up to any designated cap.

ORA recommends that the Commission approve cost recovery for the conversion of only 7,000 customer meters at a cost of $121,400. ORA supports Commission adoption of the request for cost recovery of $200,000 to make 15-minute interval data available to all commercial customers through SDG&E's Customer Energy Network Platform. No party opposed the implementation timeline proposed by SDG&E.

As we indicated above, we limit all three Applicants to cost recovery of converting meters from 60-minute to 15-minute intervals. Additionally, as discussed in Section 4.2.1.1 Overarching Issues: Ratio of Request Forms, we adopt the five-to-one ratio of Request Forms to registrations during the initial implementation step. Hence, we do not find it reasonable or necessary to fund cost recovery of 100,000 meters because it exceeds the five-to-one adopted ratio.

We approve SDG&E's proposal to provide ancillary and real-time services for up to 7,000 registrations based on a five-to-one ratio of Request Forms to registrations but we limit the cost recovery to a budget that covers 35,000 Request Forms. We find it reasonable to presume that the conversion of 100,000 meters at a cost of $1,598,400 would equate to $15.98 per meter and the conversion of 7,000 meters at a cost of $121,400 would equate to $17.34 per meter. As a result, there is a minor savings per meter for a larger quantity of meter conversions. Again, the adopted five-to-one ratio of Request Forms to registrations equates to a need for 35,000 Request Forms or meters. At a per meter cost of $15.98, the cost of 35,000 meter conversions is $559,300 and at a per meter cost of $17.34, the cost of 35,000 meter conversions is $606,900. To ensure the adequate financial support for 7,000 registrations, we find the higher calculation of $606,900 to be reasonable.

We also find the request for cost recovery of $200,000 to make 15-minute interval data available to all commercial customers through the SDG&E Customer Energy Network Platform to be reasonable. We adopt the proposal and authorize cost recovery of $200,000.

Finally, we find the time schedule of three months plus the time to convert the 7,000 meters via remote meter configuration to be reasonable and we approve this schedule.

4.2.4. Reasonableness of Proposals: SCE Application

SCE is authorized a budget of up to $365,000 for cost recovery to implement ancillary and real-time services for a target of 14,000 residential customers, taking into account the five-to-one ratio of customer information service requests forms for every customer CAISO registration. As is the case with the other two Applicants in this proceeding, SCE is limited to reprogramming meters to 15-minute intervals, as permitted by the CAISO Business Practice Manual for ancillary and real time demand response service.

SCE requests cost recovery of $365,000 to implement ancillary and real-times services for 14,000 registrations and the processing of 70,000 Request Forms. SCE states that this is a one-time cost for the meter data management enhancements. SCE proposes that the funds be shifted from the demand response systems budget previously authorized in D.14-05-025 authorizing

2015-2016 bridge funding. .[55] SCE further explains that in D.15-03-042, the Commission authorized a similar shift of funds in order to support the Initial Implementation step. As was the case with PG&E and SDG&E, SCE bases its estimated costs on a five-to-one ratio of Request Forms per CAISO registration. SCE anticipates an implementation time of nine months from authorization.

ORA opposes the proposal by SCE to adopt a five-to-one ratio of Request Forms for each registration and hence recommends a reduced budget of $128,900. We have already determined the reasonableness of the five-to-one ratio. No other party opposes any other aspect of SCE's proposal, timeline, or budget. We find it reasonable to adopt SCE's proposal to implement within nine months, ancillary and real-time services to enable a target of 14,000 residential customers to be registered in the CAISO market. We also find it reasonable for SCE to use remaining funds previously authorized in D.15-03-042 for the initial implementation step. We authorize a budget of $365,000 for this implementation.

4.3. Revisions to the Customer Information Service Request Form

During the course of this proceeding, the Applicants expressed a necessity to revise the Request Form. While some of the recommended revisions are directly related to the addition of ancillary and real-time services to direct participation, other revisions are related to the implementation of direct participation as authorized in D.12-11-025,[56] and another set of changes are related to the day-ahead services authorized in D.15-03-042. As further

[55] SCE-02 at 10.

[56] Modifications to this decision were adopted in D.13-12-029.

explained below, the Applicants each filed Advice Letters requesting all three sets of changes. The Advice Letters were not protested and have been approved by the Energy Division through disposition letters.

The Applicants request revisions to the Request Form. In testimony, PG&E explained that the Request Form does not provide customer authorization to allow a demand response provider to request a change in the customer's meter interval length, i.e. from 60-minute intervals to 15-minute intervals. PG&E stated an intention to file proposed changes to the form to accommodate faster processing of meter reprogramming requests, and in addition, include minor clean up and clarifications to the existing form.[57] SDG&E and SCE make a similar request in testimony.[58]

At the June Workshop, representatives of each of the Applicants presented the proposed modifications to the Request Form. Parties discussed three options for modifying the form so that aggregators and demand response providers could both get information from the same Request Form.[59]

Pursuant to a November 6, 2015 Ruling, PG&E filed a legible copy of the Request Form to serve as an example to identify the types of changes needed to the form. In the November 16, 2015 filing, PG&E stated that, on August 14, 2015, PG&E began coordinating a series of weekly stakeholder meetings to collaborate

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[57] PG&E-02 at 7.

[58] SGE-03 at 7 and SCE-02 at 7.

[59] June Workshop Report at 9. The three options included a) a three party form; 2) a two party form where aggregator and customer and the provider and customer sign separate forms; and c) a commercial arrangement between the provider and aggregator to share information.

towards a mutually agreeable modified Request Form.[60] PG&E explained that the Request Form attached to the filing is the most recent version of the form developed through the stakeholder meeting. The revised Request Form includes the following changes:

- Authorizes a third-party to reprogram a residential customer's SmartMeter from 60-minute to 15-minute intervals;
- Allows customers to sign one form to release data to both an aggregator and a CAISO demand response provider;
- Includes authorization to release a customer's Local Capacity Area to the CAISO demand response provider or aggregator;
- Contains spaces where a customer can authorize the release of up to 25 accounts, saving time and paper processing;
- Removes the optionality of releasing certain information needed to participate in the CAISO market, improving efficiency; and
- Reorganizes section to make clear when a data release request is being made versus being revoked.

In the November filing, PG&E remarked that, in preparation for direct participation in 2016, the stakeholders plan to file a Tier 2 Advice Letter within the next week requesting corresponding changes to the Request Form.[61] No other party to this proceeding opposed the filing or the Request Form.

On November 20, 2016, PG&E, SDG&E and SCE each filed an advice letter requesting approval of proposed modifications to the Request Form. The changes to the form include the changes listed above. On February 3, 2016 and

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[60] PG&E included a list of the other participants of the stakeholder meetings: representatives of the other two Applicants, EnerNOC, Inc., Comverge, Inc., Johnson Controls, Inc., Alliance for Retail Energy Markets, the Direct Access Customer Coalition, ORA, OhmConnect, EnergyHub, Weatherbug, Olivine, and APX. *See* PG&E Compliance Filing, November 16, 2015 at 2.

February 5, 2016, Energy Division issued disposition letters, approving each of the advice letters.

Given that the changes requested in the filed advice letters as developed through a stakeholder process and approved through disposition letters are the same changes requested in this proceeding, we find it unnecessary for the Commission to address the Request Form any further in this decision.

4.4. Reasonableness of Charging a Meter Reprogramming Fee

During the June Workshop, new but related issues arose regarding the reasonableness of charging customers or demand response providers a fee for reprogramming a meter from the current 60-minute intervals to 15-minute intervals, as required by CAISO for ancillary and real-time services. As described below, this decision concludes that, because the motion to approve the residential fee settlement is granted, it is no longer necessary to address, in this decision, the issues regarding the reasonableness of charging a meter reprogramming fee. These issues may be relevant in the second phase of this proceeding and thus may be considered when discussing subsequent implementation steps.

At the June Workshop, it became clear that PG&E intended to charge a fee for the remote reprogramming of a customer's meter from 60-minute to 15-minute intervals in order to allow for the provision of ancillary and real-time services. PG&E stated that, consistent with its tariff E-DRP,[62] it would charge $41.90 for remote reprogramming. During the discussion, both SDG&E and SCE

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[61] PG&E Compliance Filing at 3.

[62] Authorized by the Commission in D.15-03-042.

stated that they would not be charging remote reprogramming fees during the initial implementation step. However, SDG&E and SCE clarified that the expenses for meter reprogramming were built into the estimates for the overall implementation project and would be collected elsewhere.[63] PG&E responded that including the cost for meter reprogramming in the project budget would increase the overall project cost by $2 million.[64]

Following the June Workshop, the Administrative Law Judge issued a Ruling expanding the issue of reasonableness to include the sub-issues of whether it is reasonable for PG&E to charge this reprogramming fee when SDG&E and SCE do not charge the fee; whether PG&E's demand response customers will also pay this fee; and whether it is an unfair disadvantage to charge this fee to the initial third-party demand response provider when future providers will have access to the improved functionality without paying the fee.

As we previously discussed, the residential fee settlement between PG&E and several other parties has resolved the issue of meter reprogramming fees during the initial implementation step. Because none of the Applicants intend to charge a reprogramming fee during the initial implementation step, the three sub-issues discussed above are now irrelevant and will not be addressed here. However, the Commission may address this issue in future implementation steps, if it deems it necessary.

[63] For example, SDG&E's commercial customers are slated for 15-minute interval data through its Smart Pricing Project.

[64] June Workshop Report at 7.

5. Comments on Proposed Decision

The proposed decision of Administrative Law Judge Hymes in this matter was mailed to the parties in accordance with Section 311 of the Public Utilities Code and comments were allowed under Rule 14.3 of the Commission's Rules of Practice and Procedure. Comments were filed on _____, and reply comments were filed on _____ by _____.

6. Assignment of Proceeding

Michel Peter Florio is the assigned Commissioner and Kelly A. Hymes is the assigned Administrative Law Judge in this proceeding.

Findings of Fact

1. The Settling Parties agree that the purpose of the residential fee settlement is to resolve the issue of fees for over-the-air reprogramming of residential meters from 60-minute to 15-minute intervals, if the customer is successfully registered at the CAISO for Rule 24 direct participation as part of the 10,000 active customer registrations for the Rule 24 Initial Implementation step.
2. D.15-03-042 directed PG&E to target 10,000 retail customer locations during the initial implementation step and directed the Applicants to provide day-ahead, ancillary and real-time services.
3. Neither SDG&E nor SCE are directly charging customers or demand response providers for the reprogramming of meters from 60-minute to 15-minute intervals in the initial implementation step.
4. The residential fee settlement is reasonable in light of the entire record.
5. No party presented any inconsistencies of the residential fee settlement with the law.
6. Settling Parties complied with all aspects of Rule 12.1, which lays out the requirements for proposed settlements.

7. The residential fee settlement is consistent with the law.

8. Providing no cost meter reprogramming to participating customers or their demand response providers should encourage participation in the CAISO market.

9. The residential fee settlement should aid in the success of the initial implementation step of direct participation.

10. The residential fee settlement balances the interests of the stakeholders most impacted by the settlement.

11. The residential fee settlement is limited to those customers successfully registered at the CAISO as part of the 10,000 PG&E customer active registrations in the initial implementation step of direct participation.

12. It is in the public interest not to create barriers to participation in the initial implementation step.

13. The residential fee settlement is in the public interest.

14. The Utilities have asserted that they are unable to determine whether a customer is going to bid for ancillary or real-time services at the time of CAISO registration.

15. It is reasonable not to impose a requirement that only customers providing ancillary and real-time services in the CAISO market can receive free reprogramming of their meter from a 60-minute to a 15-minute interval.

16. There are many unknowns in the pursuit to implement direct participation of ancillary and real-times services in the CAISO market.

17. One of the many unknowns in implementing direct participation is the number of Request Forms needed to be processed for each customer successfully registered in the CAISO market.

18. Unknowns are one of the many reasons the Commission determined it prudent to take a small initial implementation step for direct participation.

19. A small initial implementation step presents the opportunity to learn what is necessary and what works in implementing direct participation.

20. ORA's proposal does not provide assurances that implementation is fully supported financially.

21. Insufficient financial support could lead to implementation failure.

22. It is reasonable, during the initial implementation step, to base cost analyses on a five-to-one Request Form to CAISO registration ratio.

23. In D.15-03-042, the Commission stated that it must create a pathway for providers to participate in wholesale demand response markets and enabling third parties to access real-time and ancillary service markets could help make the integration of demand response more commercially viable for customers and third-party providers.

24. The 15-minute interval meter provides a pathway to access CAISO markets.

25. The five-minute interval meter is costlier than the 15-minute meter.

26. The additional expense of the five-minute interval meter makes the 15-minute interval data a more reasonable pathway.

27. No party objected to the implementation timeline of one year proposed by PG&E.

28. The Commission recognizes the technical nature of direct participation implementation.

29. The Commission has previously acknowledged that, regarding the implementation of direct participation, the Applicants are at different technological capabilities requiring differing budgets.

30. The recommendation by ORA to approve a budget for PG&E of $1.684 million is predicated on the assumption that a one-to-one ratio of Request Forms to registrations is reasonable.

31. Costs are not incurred on a per reference meter basis.

32. The budget to support a volume of 60,000 to 160,000 reference meters is consistent with the costs provided in Table 4 of PG&E's testimony, assuming a 75 percent residential and a 25 percent non-residential ratio of meters.

33. The total budget provided in Table 4 of PG&E's testimony is $1,911,718.

34. The major differences between the budget provided in Table 4 and the budget provided in Table 3 of PG&E's testimony is the lack of non-residential meter reprogramming in Table 4 and a decrease of $560,352.

35. It is reasonable to decrease PG&E's requested budget to reflect amounts absent in of the budget without the five-minute interval meter reprogramming (Table 4).

36. It is reasonable to decrease PG&E's requested budget to reflect the decreases in individual line items of the budget without the five-minute interval reprogramming.

37. The costs to implement the provision of ancillary and real-time services in the initial implementation step of demand response direct participation in the CAISO market should not be considered on a per meter basis but rather the incremental data impact on the existing systems.

38. Decreasing PG&E's requested budget by the same amount decreased in Table 4 for the line item AFUDC is reasonable because the decrease is not dependent upon incremental load.

39. Other items decreased in PG&E's Table 4 may have been decreased dependent upon incremental data and therefore we make the same relative level of decrease.

40. No party opposed the implementation timeline proposed by SDG&E.

41. The request, by SDG&E, to fund the reprogramming of 100,000 customer meters exceeds the adopted five-to-one ratio of Request Forms to registrations.

42. It is reasonable to budget for the reprogramming of 35,000 SDG&E customer meters based on the five-to-one ratio of Request Forms to registrations.

43. SDG&E contends that it provided cost estimates at the meter level because of the relationship between the account and the potential number of meters.

44. It is reasonable to consider that the reprogramming of 100,000 SDG&E meters at a total cost of $1,598,400 equates to a cost of $15.98 per meter and reprogramming 7,000 meters at a cost of $121,400 equates to a cost of $17.34 per meter.

45. To ensure the adequate financial support for 7,000 registrations, it is reasonable to adopt a budget of $606,900.

46. No party opposed the proposal to make 15-minute interval date available to all commercial customers through the SDG&E Customer Energy Network Platform at a budget of $200,000.

47. Other than ORA's opposition to the five-to-one ratio of Request Forms per registration, no party opposed any other aspect of SCE's proposal, timeline or budget.

48. PG&E, SDG&E and SCE each filed an advice letter requesting approval of proposed modifications to the Request Form, which are consistent with the requested changes in this proceeding.

49. On February 3, 2016 and February 5, 2016, Energy Division issued disposition letters, approving each of the advice letters requesting changes to the Request Form.

50. The changes requested in the filed advice letters were developed through a stakeholder process.

51. It is unnecessary for the Commission to address the Request Form any further in this decision.

52. The residential fee settlement has resolved the issue of PG&E charging meter reprogramming fees during the initial implementation step.

53. No residential reprogramming fee will be charged by any of the Applicants during the initial implementation step of direct participation.

54. The subissues regarding the reasonableness of the reprogramming fees are no longer relevant in the case of the initial implementation step.

Conclusions of Law

1. The residential fees settlement among Comverge, EnergyHub, OhmConnect and PG&E should be adopted.

2. It is reasonable to limit the reprogramming of meters to 15-minute intervals for the provision of ancillary and real-time services in the initial implementation step of demand response direct participation in the CAISO market.

3. It is reasonable to approve a one-year timeline for PG&E to implement the provision of ancillary and real-time services in the initial implementation step of demand response direct participation in the CAISO market.

4. It is not reasonable to accept ORA's recommendation to adopt a budget of $1.684 million for PG&E to implement the provision of ancillary and real-time

services in the initial implementation step of demand response direct participation in the CAISO market.

5. It is reasonable to recalculate PG&E's revised requested budget because of the disallowance of reprogramming meters to 5-minute intervals.

6. It is reasonable to authorize a budget of $1,654,752 for PG&E to implement the provision of ancillary and real-time services in the initial implementation step of demand response direct participation in the CAISO market.

7. It is reasonable to adopt the proposal to make 15-minute interval date available to all commercial customers through the SDG&E Customer Energy Network Platform at a budget of $200,000.

8. It is reasonable to adopt the SDG&E time schedule of three months plus the time to reprogram the 7,000 meter for the implementation of the provision of ancillary and real-time services in the initial implementation step of demand response direct participation in the CAISO market.

9. It is reasonable to authorize a budget of $365,000 for SCE to implement the provision of ancillary and real-time services in the initial implementation step of demand response direct participation in the CAISO market.

O R D E R

IT IS ORDERED that:

1. The August 6, 2015 motion of Comverge, Inc., EnergyHub, Inc., OhmConnect, Inc., and Pacific Gas and Electric Company (PG&E) for adoption of residential fee settlement agreement among Comverge, EnergyHub, OhmConnect and PG&E is granted. The Settlement Agreement Among Converge, EnergyHub, OhmConnect, and PG&E on Meter Reprogramming Fees for Retail Customers to Participate in the California Independent System

Operator's Wholesale Market in the Ancillary Services and Real-time Pricing Phase is adopted.

2. Pacific Gas and Electric Company (PG&E) shall file a tier one advice letter, within fifteen days of the issuance of this decision, modifying its tariffs to reflect the waiver of reprogramming fees in accordance with the Settlement Agreement Among Converge, EnergyHub, OhmConnect, and PG&E on Meter Reprogramming Fees for Retail Customers to Participate in the California Independent System Operator's Wholesale Market in the Ancillary Services and Real-time Pricing Phase.

3. Pacific Gas and Electric Company, San Diego Gas and Electric Company, and Southern California Edison Company are prohibited from reprogramming customer meters from 60-minute to 5-minute intervals for the provision of ancillary and real-time services in the initial implementation step of demand response direct participation in the California Independent System Operators energy market.

4. Pacific Gas and Electric Company's (PG&E) proposal to implement ancillary and real-time services for targeting 10,000 residential and commercial customers in the initial implementation step of demand response direct participation in the California Independent System Operators energy market is granted. PG&E shall begin to implement this proposal immediately with a timeline of completion no more than 12 months from the approval of this decision.

5. Pacific Gas and Electric Company is authorized a budget of $1,654,752 to implement ancillary and real-time services for targeting 10,000 residential and commercial customers in the initial implementation step of demand response

direct participation in the California Independent System Operators energy market.

6. San Diego Gas and Electric Company's (SDG&E) proposal to implement ancillary and real-time services for targeting 7,000 residential and commercial customers in the initial implementation step of demand response direct participation in the California Independent System Operators energy market is granted. SDG&E shall begin to implement this proposal immediately with a timeline of completion no more than 3 months from the approval of this decision.

7. San Diego Gas and Electric Company is authorized a budget of $606,900 to implement ancillary and real-time services for targeting 7,000 residential customers in the initial implementation step of demand response direct participation in the California Independent System Operators energy market.

8. San Diego Gas and Electric Company's proposal to implement the ability of its commercial customers to access their 15-minute interval data through the customer energy network program is adopted.

9. San Diego Gas and Electric Company is authorized a budget of $200,000 to support the implementation of providing commercial customers access to their 15-minute interval data through the customer energy network program.

10. Southern California Edison Company's (SCE) proposal to implement ancillary and real-time services for targeting 14,000 residential and commercial customers in the initial implementation step of demand response direct participation in the California Independent System Operators energy market is granted. SCE shall begin to implement this proposal immediately with a timeline of completion no more than nine months from the approval of this decision.

11. Southern California Edison Company (SCE) is authorized a budget of $365,000 to implement ancillary and real-time services for targeting 14,000 residential customers in the initial implementation step of demand response direct participation in the California Independent System Operators energy market. SCE is authorized to use the remaining funds previously authorized in Decision 15-03-042 for the initial implementation step of direct participation.

12. Phase I of Application 14-06-001, Application 14-06-002, and Application 14-06-003 is closed. This application remains open to address Phase II issues.

This order is effective today.

Dated ____________________________, at San Francisco, California.