August 23, 2018

Gary A. Stern  
Director, State Regulatory Operations  
Southern California Edison Company  
8631 Rush Street  
Rosemead, CA 91770

SUBJECT: Southern California Edison Company’s Demand Response Evaluation, Measurement and Verification Plan for 2018-2022 Pursuant to Decision 17-12-003

Dear Mr. Stern:

Advice Letter 3812-E is effective as of June 1, 2018.

Sincerely,

Edward Randolph  
Director, Energy Division
ADVICE 3812-E  
(U 338-E)

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA  
ENERGY DIVISION

SUBJECT: Southern California Edison Company’s Demand Response  
Pursuant to Decision 17-12-003

Southern California Edison Company (SCE) hereby submits this Advice Letter (AL)  
providing its five-year plan for conducting evaluation, measurement and verification  
(EM&V) activities for its Demand Response (DR) programs, pursuant to California  
Public Utilities Commission (Commission) Decision (D.)17-12-003.

PURPOSE

The purpose of this advice letter is to present SCE’s EM&V plan for its DR programs for  
years 2018-2022, in compliance with D.17-12-003.1

BACKGROUND

On December 21, 2017, the Commission issued D.17-12-003, Decision Adopting  
Demand Response Activities and Budgets for 2018 through 2022, which adopted and  
modified DR program budgets and programs for Pacific Gas and Electric Company,  
SCE, and San Diego Gas & Electric Company (collectively, the investor-owned utilities,  
or IOUs).

DISCUSSION

OP 44 of D.17-12-003 approves SCE’s EM&V program and budget, requires SCE to  
hold a meeting with parties of Application (A.)17-01-012 et al. to discuss the EM&V  
planning process and develop a five-year EM&V activity schedule, and requires SCE to  
submit the five-year schedule by June 1, 2018. On April 30, 2018 SCE complied with  
this directive by holding a meeting, noticed on the A.17-01-012 et al. service list, to

1 D.17-12-003, Ordering Paragraph (OP) 44, p. 197.
discuss development of its EM&V plan. In this AL SCE presents its five-year EM&V plan, found in Attachment A, in compliance with OP 44.

TIER DESIGNATION

Pursuant to General Order (GO) 96-B, Energy Industry Rule 5.1 and OP 44 of D.17-12-003, this advice letter is submitted with a Tier 1 designation.

EFFECTIVE DATE

This advice letter will become effective the same day as submitted, June 1, 2018.

NOTICE

Anyone wishing to protest this advice letter may do so by letter via U.S. Mail, facsimile, or electronically, any of which must be received no later than 20 days after the date of this advice letter. Protests should be submitted to:

CPUC, Energy Division
Attention: Tariff Unit
505 Van Ness Avenue
San Francisco, California 94102
E-mail: EDTariffUnit@cpuc.ca.gov

Copies should also be mailed to the attention of the Director, Energy Division, Room 4004 (same address above).

In addition, protests and all other correspondence regarding this advice letter should also be sent by letter and transmitted via facsimile or electronically to the attention of:

Gary A. Stern, Ph.D.
Managing Director, State Regulatory Operations
Southern California Edison Company
8631 Rush Street
Rosemead, California 91770
Telephone (626) 302-9645
Facsimile: (626) 302-6396
E-mail: AdviceTariffManager@sce.com
Laura Genao  
Managing Director, State Regulatory Affairs  
c/o Karyn Gansecki  
Southern California Edison Company  
601 Van Ness Avenue, Suite 2030  
San Francisco, California 94102  
Facsimile: (415) 929-5544  
E-mail: Karyn.Gansecki@sce.com

There are no restrictions on who may submit a protest, but the protest shall set forth specifically the grounds upon which it is based and must be received by the deadline shown above.

In accordance with General Rule 4 of GO 96-B, SCE is serving copies of this advice letter to the interested parties shown on the attached GO 96-B, A.14-06-001 et al, A.17-01-012 et al, and R.13-09-011 service lists. Address change requests to the GO 96-B service list should be directed by electronic mail to AdviceTariffManager@sce.com or at (626) 302-3719. For changes to all other service lists, please contact the Commission’s Process Office at (415) 703-2021 or by electronic mail at Process_Office@cpuc.ca.gov.

Further, in accordance with Public Utilities Code Section 491, notice to the public is hereby given by submitting and keeping the advice letter at SCE’s corporate headquarters. To view other SCE advice letters submitted with the Commission, log on to SCE’s web site at https://www.sce.com/wps/portal/home/regulatory/advice-letters.

For questions, please contact Nathanael Gonzalez at (626) 302-5150 or by electronic mail at Nathanael.Gonzalez@sce.com.

Southern California Edison Company

/s/ Gary A. Stern  
Gary A. Stern Ph. D.

GAS:ng:cm  
Enclosures
Company name/CPUC Utility No.: Southern California Edison Company (U 338-E)

Utility type:

- ✔ ELC
- □ GAS
- □ PLC
- □ HEAT
- □ WATER

Contact Person: Darrah Morgan
Phone #: (626) 302-2086
E-mail: Darrah.Morgan@sce.com
E-mail Disposition Notice to: AdviceTariffManager@sce.com

EXPLANATION OF UTILITY TYPE

<table>
<thead>
<tr>
<th>ELC = Electric</th>
<th>GAS = Gas</th>
<th>PLC = Pipeline</th>
<th>HEAT = Heat</th>
<th>WATER = Water</th>
</tr>
</thead>
</table>

Advice Letter (AL) #: 3812-E
Tier Designation: 1

Subject of AL:
Southern California Edison Company’s Demand Response Evaluation, Measurement and Verification Plan for 2018-2022 Pursuant to Decision 17-12-003

Keywords (choose from CPUC listing):
Compliance

AL type:
- □ Monthly
- □ Quarterly
- □ Annual
- ✔ One-Time
- □ Other

If AL submitted in compliance with a Commission order, indicate relevant Decision/Resolution #:
Decision 17-12-003

Does AL replace a withdrawn or rejected AL? If so, identify the prior AL:

Summarize differences between the AL and the prior withdrawn or rejected AL:

Confidential treatment requested?
- □ Yes
- ✔ No

If yes, specification of confidential information:
Confidential information will be made available to appropriate parties who execute a nondisclosure agreement.
Name and contact information to request nondisclosure agreement/access to confidential information:

Resolution Required?
- □ Yes
- ✔ No

Requested effective date: 6/1/18
No. of tariff sheets: -0-

Estimated system annual revenue effect (%):

Estimated system average rate effect (%):

When rates are affected by AL, include attachment in AL showing average rate effects on customer classes (residential, small commercial, large C/I, agricultural, lighting).

Tariff schedules affected:
None

Service affected and changes proposed:

Pending advice letters that revise the same tariff sheets:
None

1 Discuss in AL if more space is needed.
Protests and all other correspondence regarding this AL are due no later 20 days after the date of this submittal, unless otherwise authorized by the Commission, and shall be sent to:

<table>
<thead>
<tr>
<th>CPUC, Energy Division</th>
<th>Gary A. Stern, Ph.D.</th>
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<tbody>
<tr>
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</tr>
<tr>
<td>505 Van Ness Avenue</td>
<td>Southern California Edison Company</td>
</tr>
<tr>
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<td>8631 Rush Street</td>
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<td>E-mail: <a href="mailto:EDTariffUnit@cpuc.ca.gov">EDTariffUnit@cpuc.ca.gov</a></td>
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<th>Laura Genao</th>
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<tbody>
<tr>
<td>Managing Director, State Regulatory Affairs</td>
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<tr>
<td>c/o Karyn Gansecki</td>
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<tr>
<td>Southern California Edison Company</td>
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<td>601 Van Ness Avenue, Suite 2030</td>
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ATTACHMENT A

June 1, 2018

Submitted in Compliance with D.17-12-003 Decision Adopting Demand Response Activities and Budgets for 2018 through 2022
Foreword

This Evaluation, Measurement, and Verification (EM&V) Program plan is provided in compliance with Ordering Paragraph (OP) 44 of the California Public Utilities Commission (CPUC) Decision Adopting Demand Response (DR) Activities and Budgets for 2018 through 2022, D.17-12-003, issued December 21, 2017. This plan is SCE’s estimate of EM&V activities it will undertake for DR programs over the next five years, and is subject to change.

Pursuant to D.17-12-003, OP 44:

Southern California Edison Company’s (SCE) Evaluation, Measurement and Verification Program is approved as requested. No later than April 30, 2018, SCE shall hold a meeting with the parties of this proceeding to discuss the evaluation planning process and develop a five-year evaluation, measurement and verification activity schedule. No later than June 1, 2018, SCE shall file the five-year schedule via a Tier One Advice Letter. SCE is authorized a five-year budget of $6.090 million.

Background

In D.17-12-003, the Commission approved SCE’s proposed EM&V proposal and budget\(^1\) and directed SCE to hold a meeting with parties of the 2018-2022 DR Application proceeding (A.17-01-012 et al.) to discuss the evaluation planning process and develop a five-year EM&V activity schedule.

Participants in the April 30\(^{th}\) meeting included California Independent System Operator (CAISO), California Large Energy Consumers Association (CLECA), Office of Ratepayer Advocates (ORA), and CPUC Energy Division. SCE received the following three questions from participants:

1. When was the last time SCE evaluated its Base Interruptible Program (BIP)?
2. When will SCE evaluate its Summer Discount Plan Programs (SDP)?
3. What are the individual projects of SCE’s five-year EM&V plan?

The responses to questions 2 and 3 are contained in the description of SCE’s plan below. SCE last evaluated its BIP program in 2009 with assistance from KEMA, Inc.

In the execution of its EM&V plan, SCE intends to consult the Demand Response Measurement and Evaluation Committee (DRMEC) where applicable, although not required to do so. Previous CPUC decisions created the DRMEC to oversee the evaluation of statewide demand response activities; this authority was confirmed in CPUC decisions D.06-11-049, D.08-05-027, and D.12-04-045. The DRMEC is composed of members from the CPUC, the California Energy Commission (CEC), and a representative from each of the three Investor Owned Utilities (IOUs).

SCE’s 5-Year Evaluation, Measurement, and Verification Plan

SCE’s 2018-2022 evaluation plan includes a variety of research activities ranging from narrowly-focused load impact estimation, to studies with a broader scope, such as program process evaluations as described in SCE’s 2018-2022 DR application (A.17-01-018, Exhibit SCE-02, pp. 58-62). EM&V studies provide the CPUC, the CEC, the IOUs, CAISO, and other interested parties with verifiable quantification of demand reductions achieved and DR potential.

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\(^1\) See pages 99-100, Conclusion of Law 49, and Ordering Paragraph 44.
SCE is proposing the following EM&V activities for program years 2018-2022, which are described in more detail below:

A. Conduct annual load impact studies; and
B. Perform process evaluations for selected programs in its DR Program portfolio

A. SCE will continue its annual load impact studies which are concerned with the quantitative assessment of program outcomes.

In accordance with DR load impact protocols\(^2\), SCE will estimate both *ex post* and *ex ante* DR program load impact on an annual basis. Under the guidelines established by the DR load impact protocols, SCE proposes to conduct evaluation research designed to support DR program administration, resource availability and operational dispatch by the CAISO and SCE’s Grid Control Center, resource adequacy, and long-term resource planning. SCE’s evaluation activities will continue to focus on programs with load reduction capability and those that are expected to expand or change significantly. Where appropriate, DR programs of similar design will be evaluated on a statewide basis, thereby reducing total study costs. With advice from DRMEC, SCE also proposes to evaluate programs unique to SCE (see Table 1).

*Ex post* load impacts are summarized for all programs that experienced events during the program year. *Ex post* load impacts determine what savings or load reductions were achieved based on the conditions in effect. Because historical performance is tied to past conditions such as weather, price levels, and dispatch strategy (e.g., localized dispatches), *ex post* load impacts may not reflect the full potential capacity of the DR resource.

*Ex ante* load impacts are estimated for each DR program. *Ex ante* load impacts summarize the load reduction that can be expected from SCE’s DR programs if dispatched individually or jointly with the entire DR portfolio. Portfolio level load impacts avoid double counting impacts from dually-enrolled customers. *Ex ante* load impacts are forward-looking and reflect the load reduction capability of a DR resource under a standard set of conditions. *Ex ante* load impacts are estimated under normal (1-in-2 year) and extreme (1-in-10 year) weather conditions. Estimates have also been developed for two sets of weather conditions, one based on SCE-specific peak conditions and one based on CAISO system peak conditions.

*Ex ante* impact evaluations are used for determining resource adequacy, long-term resource planning, and MW amounts for resource bidding into the CAISO market. Additionally, the results of *ex ante* impact evaluations is a factor used to estimate customer settlement (e.g., payment of incentives) when conducting program cost-effectiveness analysis.

SCE’s load impact evaluations and their frequency are outlined in Table 1:

Table 1: Proposed Demand Response M&E Activities for SCE for 2018-2022

<table>
<thead>
<tr>
<th>Program Area</th>
<th>Work Description</th>
<th># of Years Covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity Bidding Program (CBP)</td>
<td></td>
<td></td>
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<tr>
<td>Base Interruptible Program (BIP)</td>
<td></td>
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<td>Critical Peak Pricing (CPP)</td>
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<tr>
<td>Agriculture and Pumping Interruptible Program (API)</td>
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<td>Real-Time Pricing Rate (RTP)</td>
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<tr>
<td>Residential Summer Discount Plan Program (SDP-R)</td>
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<tr>
<td>Commercial Summer Discount Plan Program (SDP-C)</td>
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<tr>
<td>Smart Energy Program (formerly Peak Time Rebate) (SEP)</td>
<td></td>
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</tr>
<tr>
<td>Annual load impact evaluations for 2018-2022</td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>

B. SCE will Conduct Process Evaluations for Selected DR Programs, PY 2018-2022

In addition to load impact studies, SCE recognizes the need to conduct program process evaluations through customer surveys, which can play an important role in program planning.

The main objective of process evaluations is to improve the program being evaluated. Process evaluations not only assess the way a program is designed, operated, and delivered as authorized, but also document program operations for stakeholder visibility. According to California’s evaluation protocols,

...process evaluation is a systematic assessment of Demand Side Management program for the purposes of documenting program operations at the time of the examination and identifying improvements that can be made to increase the program’s efficiency or effectiveness for acquiring energy resources. In addition, a process evaluation can also help increase the effectiveness of other programs by providing other program planners and administrators with the evaluation results. These planners can then review the process evaluation results to determine if their programs can benefit from the evaluation’s findings and recommendations.³

SCE expects the results of the process evaluations to provide information that will be useful to program staff for improving features such as program efficiency, cost effectiveness and customer satisfaction.

Process evaluations are effective management tools that focus on improving both the design and delivery of demand response programs. Process evaluations are also effective at diagnosing problems in programs that are underperforming or experiencing operational challenges. Since process evaluations most often examine program or portfolio operations, they can identify improvements that lead to program or portfolio enhancements, reduce costs, expedite delivery, improve customer satisfaction, and fine-tune objectives. These evaluations can also be used to assess the effectiveness of various incentive programs and rebated technologies.

The timing of when to conduct program process evaluations depends on where a program lies within its implementation cycle. As stated in the California Evaluation Framework, most programs do not need a process evaluation every year of their implementation cycle. Rather,

process evaluations are conducted when sufficient time has passed for processes to mature so that studies can identify inefficiencies, areas of improvements, and benefits of the programs being evaluated.

CPP, SEP (formerly PTR) and SDP have been identified by SCE as programs that can benefit from process evaluation during the PY 2018-2022 cycle. Since last evaluated during the 2012-2014 cycle, these three programs have undergone significant design modifications. Enrollment in CPP and SEP is expected to expand substantially as these programs play an increasingly important role in creating a more flexible load management portfolio. As these programs develop, process evaluations that assess how customers become aware of a particular DR program, and the overall customer experience, can provide useful recommendations for program improvement (See Figure 1 and Appendix Table A).

In contrast, SCE does not plan to evaluate the API, BIP, CBP, and RTP programs at this time. SCE’s API and BIP are established programs for non-residential customers willing to reduce electrical demand during system contingencies. In operation for many years, these programs are well-understood by long-standing customers, have maintained stable capacity levels, and have not undergone significant design modifications. As for RTP, there are only 147 participants, with a rate design change scheduled for 2019. SCE will revisit whether an evaluation is warranted for RTP if enrollment expands substantially. CBP is an aggregator program where the marketing, customer enrollment, incentive payments, and event dispatch to the customer are the responsibility of a third-party DR aggregator, not the utility. For these reasons, SCE does not recommend process evaluations in the foreseeable future for these four programs.
Figure 1. Key research objectives for Process Evaluations being proposed for 2018-2022 DR program cycle.

**Key Research Objectives**

**Program Participation & Experience**

- **Awareness Generation**
  - How did customers learn about enrollment?
  - Knowledge & understanding DSM program options

- **Enrollment**
  - Why did they enroll?
  - Why didn’t they enroll (barriers to participation)?

- **Engagement**
  - Experience with DR event notifications
  - Plan for responding to DR event
  - Decision-maker reached?
  - Smart/enabling tech assist in responding?
  - Interest in continued participation in DR programs?

- **Delivery**
  - Explore opportunities to increase demand responsiveness, especially in voluntary programs such as CPP

- **Customer Satisfaction**
  - Is satisfaction tied to (improved) environment?
  - Is satisfaction tied to (decrease) energy costs?
  - Would customer enroll in more events if paid more?
  - Satisfaction with service with their SCE account manager
  - Satisfaction with their 3rd party aggregator

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**Program Administration & Continuous Improvement**

- Employee/operational experience with responding to DR events
- Are non-responders easy to identify?
- Are non-responders decreasing our cost-effectiveness?
Figure 2. Key Milestone Timelines for Proposed Load Impact and Process Evaluations for 2018-2022

**Key Activities and Milestones (subject to change)**

- **Load Impact Evaluations**
  - Issue and file LI studies
    - April of each year
  - DRMEC public workshop on utilities’ Load Impact studies
    - May of each year
  - Updates/progress report will be provided to DRMEC in a non-impact workshop
    - September ’21
  - File 2023–2027 DR Application

- **Process Evaluations**
  - Issue and file first wave of Process Evaluation Studies
    - September ’20
  - Issue and file second wave of Process Evaluation Studies
    - September ’22
EM&V Studies Not Within the Scope of A. 17-01-012 et al

There are several other programs and/or activities that are currently excluded from SCE’s current 5-year EM&V plan. These programs and/or activities are:

- DRAM (Demand Response Auction Mechanism) Pilot
- IDSM (Integrated Demand Side Management)
- DR Energy Storage Agreements, such as Local Capacity Requirement (LCR) and Preferred Resource Pilot (PRP)
- Time-of-Use (TOU) rates

If the DRAM Pilot becomes a permanent program during the 5-year budget cycle, SCE will plan additional studies and seek funding as appropriate.

Studies on IDSM programs are included in the Energy Efficiency Evaluation Measurement & Verification Plan, and therefore, are not currently within the scope of this plan.

Other demand response activities in SCE’s portfolio, such as SCE’s LCR RFO and PRP RFO agreements, are not included in the activities outlined in this plan because they are authorized by the CPUC outside of the DR proceeding. However, the CPUC rules with respect to resource adequacy capacity counting generally require Load Impact Protocols analysis for Demand Response in order to establish their Qualifying Capacity (QC). As such, these resources could become a part of the annual load impact process managed by EM&V.

SCE intends to initiate load impact studies for its TOU rates as the peak time-of-use hours are shifting to later in the day.

Although DRMEC approval of SCE’s plan is not required, SCE intends to inform the DRMEC regarding the execution of the plan, including any changes to the plan as needed, for the programs and activities noted above.

Budget Authorizations

In D.17-12-003, SCE was authorized a five-year budget of $6.090 million for its EM&V Program years 2018 to 2022. SCE’s overall EM&V budget was reduced by over 10% to eliminate studies for the discontinued Permanent Load Shifting (PLS) program. The authorized budget will first be allocated to load impact studies and associated labor costs before being allocated for process evaluations. The authorized budget may be insufficient for SCE to conduct process evaluations for its local programs and fund other EM&V studies not originally planned for.
## APPENDIX

### Table A: Proposed Process Evaluation Activities and Research Objectives for 2018-2022

<table>
<thead>
<tr>
<th>Research Objectives</th>
<th>Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CPP</td>
</tr>
<tr>
<td><strong>1. Enrollment</strong></td>
<td></td>
</tr>
<tr>
<td>• How the customer learned about enrollment</td>
<td>X</td>
</tr>
<tr>
<td>• Why enrolled/What benefits the customer expected to receive through Program</td>
<td>X</td>
</tr>
<tr>
<td>• Were benefits realized?</td>
<td>X</td>
</tr>
<tr>
<td><strong>2. Event</strong></td>
<td></td>
</tr>
<tr>
<td>• Experiences with DR event notifications;</td>
<td>X</td>
</tr>
<tr>
<td>• Their plan (or lack thereof) for responding to a DR event;</td>
<td>X</td>
</tr>
<tr>
<td>• Does the notification process/practice reach the appropriate decision maker?</td>
<td>X</td>
</tr>
<tr>
<td>• Would smart/enabling technologies assist in responding?</td>
<td>X</td>
</tr>
<tr>
<td>• Is satisfaction tied to (improved) environment? **</td>
<td>X</td>
</tr>
<tr>
<td>• Is satisfaction tied to (decreased) energy and/ or costs?</td>
<td>X</td>
</tr>
<tr>
<td><strong>4. Opt out/ future participation</strong></td>
<td></td>
</tr>
<tr>
<td>• Interest in continued participation in SCE’s DR programs</td>
<td>X</td>
</tr>
<tr>
<td>• Explore opportunities to increase demand responsiveness</td>
<td>X</td>
</tr>
<tr>
<td>• Satisfaction with service provided by their SCE account manager (if applicable)</td>
<td>X</td>
</tr>
<tr>
<td><strong>5. SCE internal processes</strong></td>
<td></td>
</tr>
<tr>
<td>• Are non-responders easy to identify?</td>
<td>X</td>
</tr>
<tr>
<td>• Are non-responders decreasing our cost-effectiveness?</td>
<td>X</td>
</tr>
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** Additional Considerations:  
- Assess participation within areas that fall within Disadvantaged Communities.  
- Segmentation research: Identify customer characteristics that can lead to more effective program targeting.