

**BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking Regarding  
Policies, Procedures and Rules for the  
California Solar Initiative, the Self-  
Generation Incentive Program and Other  
Distributed Generation Issues.

Rulemaking 12-11-005  
(Filed November 8, 2012)

**MOTION OF PACIFIC GAS AND ELECTRIC COMPANY  
(U 39 E), ON BEHALF OF THE SELF GENERATION  
INCENTIVE PROGRAM ADMINISTRATORS TO  
APPROVE PLAN FOR MEASUREMENT AND  
EVALUATION REPORTS FOR PROGRAM YEARS 2014  
AND 2015**

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**I. EXECUTIVE SUMMARY**

In accordance with Rule 11.1 of the California Public Utilities Commission's (CPUC or Commission) Rules of Practice and Procedure, Pacific Gas and Electric Company (PG&E), on behalf of the Program Administrators (PAs) of the Self Generation Incentive Program (SGIP) respectfully submits this motion seeking approval of their proposal for Measurement and Evaluation (M&E) Reports for the SGIP for Program Years (PY) 2014 and 2015. The SGIP operates in the service areas of Pacific Gas and Electric Company (PG&E), Southern California Edison Company (SCE), Southern California Gas Company (SCG) and San Diego Gas and Electric Company (SDG&E). The SGIP is administered by PG&E, SCG and SCE in their respective service territories. The California Center for Sustainable Energy (CCSE) administers the SGIP in SDG&E's service territory. The SGIP PAs have authorized PG&E to make this filing on their behalf.

The SGIP has been in existence since 2001, and the CPUC has directed the PAs to complete a number of M&E Reports through 2011.<sup>1/</sup> However, additional guidance on M&E is needed since the legislature has directed the CPUC to continue the SGIP through January 1, 2016.

In October of 2009, the Legislature passed Senate Bill (SB) 412 (Stats. 2009, ch. 182).<sup>2/</sup> Energy Division then developed a Staff Proposal with recommendations on how to modify the SGIP to comply with SB 412.<sup>3/</sup> In Decision 11-09-015, the Commission modified the SGIP program to conform to SB 412 and accepted a Staff Proposal recommending that the Commission provide clear guidance for future SGIP M&E work after the implementation of those program changes.<sup>4/</sup> However, the Decision did not establish a schedule or other details regarding the M&E component of the program. For this reason, Energy Division requested that the PAs develop an M&E proposal, and present it to the CPUC via motion as had been done in the past.<sup>5/</sup> This motion is filed in accord with this request.

This proposal by the PAs, which has been approved by the SGIP Working Group (WG), includes an overview description of the studies to be conducted, the approximate schedules and estimated overall cost for M&E activities for the 2014 and 2015 program years. This proposal also suggests revisions to the schedule of one of those studies.

Two purposes of this M&E activity are to continue prior studies mandated by the CPUC in the past where still relevant, and to answer questions related to the program's future (should the program continue beyond 2015.) Within these categories, four studies are

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<sup>1/</sup> These include Decision 02-09-051 and the ALJ Ruling of April 24, 2002 in Rulemaking 99-10-025 and the May 18, 2006 ALJ's Ruling Approving Plan For 2006 and 2007 Measurement and Evaluation Reports, issued in Rulemaking 06-03-004. The original deadlines have also been adjusted on several occasions, such as the ALJ Rulings of February 27, 2007, and June 24, 2008. In a February 3, 2009 Ruling in Rulemaking 08-03-008, the ALJ approved an M&E plan for the SGIP for 2009 through 2011.

<sup>2/</sup> Senate Bill 412 (Stats. 2009, ch. 182) authorized the Commission to determine eligible SGIP technologies based on GHG emissions reductions. SB 412 also extended the SGIP sunset date from January 1, 2012 to January 1, 2016.

<sup>3/</sup> SGIP Staff Proposal, Part I was attached to the ALJ ruling, dated September 10, 2010.

<sup>4/</sup> Staff Proposal, Part I, Section 4.5.1 states: Since its inception, SGIP has undertaken an extensive measurement and evaluation (M&E) process. A full list of SGIP M&E reports can be accessed from the CPUC's website. These reports, which include annual Impacts Evaluations, Process Evaluations, Market Characterization Reports, Renewable Fuel Use Reports, and Cost-Effectiveness Evaluations have all contributed to staff's analysis and recommendations in this proposal. Following the implementation of program changes pursuant to SB 412, staff recommends that the Commission provide clear guidance for future SGIP M&E work:

<sup>5/</sup> The Motion to approve the SGIP M&E Plan for Program Years 2009 – 2011 was filed in R. 08-03-008 by PG&E on December 4, 2008 and approved by Administrative Law Judge Dorothy J. Duda on February 3, 2009.

proposed:

- + Annual Impact Evaluations: Collect data, conduct analyses and provide annual impact evaluations on the SGIP for program years 2013, 2014 and 2015;
- + Renewable Fuel Use: Prepare annual renewable fuel use reports extending from August 2014 through August 2016 (a total of 3 annual reports);
- + Cost-Effectiveness Study: Conduct cost-benefit analyses of all SGIP-eligible distributed generation technologies, with minor investigation into technologies that may be SGIP-eligible in the future;
- + Market Transformation Study: Conduct a market transformation study that will assess the extent to which the SGIP has affected the transformation of the California distributed energy market since the adoption of the SGIP;
- + Final Program Summary: Prepare a final summary report covering the entirety of the SGIP from its inception in 2001 through the end of 2015.

While no specific M&E budget has been set by the CPUC for the 2014 and 2015 program years, Decision 11-09-015 established that the overall budget for administration (including measurement and evaluation expenditures) should not exceed 7 percent of SGIP funding.<sup>6</sup> A preliminary estimate of the cost of each study has been prepared, and the total estimated cost for the four sets of studies listed above is \$3,725,800, including all supporting metering and data collection activities. The work would be funded by the four SGIP PAs through a co-funding agreement based on the current CPUC-approved budget allocation (PG&E 44 percent, SCE 34 percent, SDG&E/CCSE 13 percent, and SCG 9 percent) for shared expenses, with metering costs added as specific to each PA (i.e., meter equipment and installation costs are paid by the PA in whose service territory installation occurs). More detail on study activities and schedules is provided below.

The recommended reports are consistent with the reports prepared in earlier years. The Impact Evaluation Reports continue on a delivery schedule previously established by the CPUC in the earliest program years. However, the SGIP PAs are proposing changes to the delivery schedule for the Renewable Fuel Use Reports (See Section II.B.2).

Two new reports are proposed: a Market Transformation Report, to be completed in 2014; and a Final Program Summary Report to be completed in 2018.

The PAs believe that it would be appropriate, beneficial, and cost effective to continue

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<sup>6</sup> See D. 11-09-015, p. 59.

M&E activities uninterrupted through PY 2015.

## II. DETAILS OF PROPOSED REPORTS

### A. Proposed Schedule of M&E Studies

Study/Activity	Report/Deliverable	Final Report Due
Annual Impact Evaluations		
	PY 2013 Impact Evaluation Report	September 30, 2014
	PY 2014 Impact Evaluation Report	September 30, 2015
	PY 2015 Impact Evaluation Report	September 30, 2016
Renewable Fuel Use Reports		
	#23 – period ending December 2013	August 28, 2014
	#24 – period ending December 2014	August 28, 2015
	#25 – period ending December 2015	August 28, 2016
Cost-Effectiveness Study	Cost-Effectiveness Analysis Report	October 31, 2014
Market Transformation Study	Market Transformation Analysis Report	December 12, 2014
Final Program Summary	Final SGIP Program Summary Report	August 31, 2018

### B. Description of Proposed M&E Studies

The following paragraphs provide a brief description of each of the studies proposed.

#### 1. Impact Evaluation Reports

The PAs propose to continue the previously adopted schedule for Impact Evaluation Reports into 2016 to track the results of installations through PY 2015.

The SGIP has undergone significant changes since its inception in 2001. For example, the portfolio of distributed energy resources (DER) in the SGIP changed with the

adoption of the California Solar Initiative (CSI)<sup>2/</sup> and again with the Commission’s implementation of SB 412. In Decision 11-09-015 the Commission modified SGIP to include eligible technologies that achieve reductions in greenhouse gas (GHG) emissions, including storage. In addition, each class of DER has evolved in both performance and costs. While the make-up of DERs has shifted, the SGIP remains the largest population of DERs operating in a California commercial setting. As such, it represents a wealth of information on the performance of DERs over time and with changes in California’s energy and environmental landscape. Impact Evaluation Reports are critical to capturing important trends and assessing the effect of these changes on the electricity system.

Among the impacts to be assessed under the annual impacts evaluation are the following:

- Electrical energy production and demand reduction by specific time periods (e.g., peak hour as well as seasonal) and by DER category;
- Operating and reliability performance characteristics (e.g., capacity factor) for each DER and the overall family of DERs;
- Electrical, thermal and overall efficiencies and the contribution of DERs to electricity system efficiency and reliability;
- Extent to which SGIP technologies employ renewable fuels and the impact of that fuel use on performance and cost characteristics; and
- The extent to which DERs can provide net greenhouse gas (GHG) emissions reductions and special considerations to changes in DER design or operation that could lead to improved GHG emission reductions;

Main activities for this study include: collecting and processing primary data on net electricity generation data, fuel use and thermal energy use on SGIP projects; collecting and analyzing the processed data for trends and impact assessments; and preparing the annual impact evaluation reports.

Table 1: Annual Impact Evaluation Deliverables and Due Dates

Deliverable	Final Report Due
PY 2013 Impact Evaluation Report	September 30, 2014
PY 2014 Impact Evaluation Report	September 30, 2015
PY 2015 Impact Evaluation Report	September 30, 2016

<sup>2/</sup> PV was moved to CSI effective 1/1/07 per AB 2778.

## 2. Renewable Fuel Use Reports

The PAs propose to continue submitting renewable fuel use (RFU) reports through 2016, covering SGIP through the end of PY 2015.

In accordance with Decision 02-09-051 (September 19, 2002), SGIP projects using renewable fuels must achieve specified fuel use requirements. In addition, with increased interest in reducing GHG emissions, there is increased emphasis on the ability of DG technologies to use renewable fuels and to understand the operational and cost implications of increased renewable fuel use. Fundamentally, the overall goal of the RFU reports is to help the CPUC staff and the SGIP PAs in making recommendations concerning modifications to the renewable project aspects of the SGIP. Consequently, the first objective of these reports is to identify and report on the compliance of renewable fuel use projects receiving incentives under the SGIP with renewable fuel use requirements. The second objective is to identify the operational and cost characteristics of RFU projects and to evaluate the implications of increased renewable fuel use on the SGIP.

The PAs request that the Commission remove the requirement for the SGIP Program Administrators to issue semi-annual renewable fuel use reports and instead require them to be submitted annually. Submitting the renewable fuel use report semi-annually has provided limited benefit for the program as it has been demonstrated over the course of these studies that system fuel use changes are infrequent. Preparing this report annually will reduce program evaluation costs while achieving the same results.<sup>8/</sup>

Main activities for this report include: collecting data on renewable fuel use at each renewable fuel use project; assessing compliance of the project with the fuel use requirements; identifying and analyzing the operational and cost characteristics of the renewable fuel use technologies employed at the projects; and preparing the results into annual renewable fuel use reports. The delivery schedule below reflects the proposed annual preparation of the renewable fuel use reports.

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<sup>8/</sup> On March 11, 2013, PG&E provided in its PHC statement in response to the ALJ's Ruling issued on March 6, 2013 a request to remove the requirement for semi-annual RFURs and instead require them to be submitted annually.

Table 2: Renewable Fuel Use Report (RFUR) Deliverables and Due Dates

Deliverable	Compliance Period	Final Report Due
RFUR #23	12 mos. ending December 2013	August 28, 2014
<del>RFUR #24</del>	<del>12 mos. ending June 2014</del>	<del>February 28, 2015</del>
RFUR #24	12 mos. ending December 2014	August 28, 2015
<del>RFUR #26</del>	<del>12 mos. ending June 2014</del>	<del>February 28, 2016</del>
RFUR #25	12 mos. ending December 2015	August 28, 2016

### 3. Cost-Effectiveness Analysis Report

The PAs propose a study of the Cost-effectiveness of distributed energy resources (DER). The purpose of this study is to evaluate the cost-effectiveness of DERs using an economic model based on the adopted cost-benefit methodology.<sup>9/</sup> The study will also provide a market characterization analysis to support the planned Market Transformation Analysis Report. Results from the cost-effectiveness evaluation provide the framework and model to help in identifying DERs eligible for the SGIP and incentive or funding levels that will improve program cost-effectiveness.

In accordance with the adopted decision, DER cost-effectiveness is examined from three perspectives: society, participants, and Program Administrators. The societal version of the Total Resource Cost test looks at the overall cost effectiveness of DERs to society. The Participant Cost test (PCT) examines the cost-effectiveness of the DER to the participant. If costs outweigh benefits, the technology is not cost-effective to the participant. The PCT can be used to help design an approach on incentives to be paid to the participant. The Program Administrator (PA) Cost test identifies the cost-effectiveness of DERs to the PAs.

Main activities for this study include: updating the cost-effectiveness model from the previous SGIP cost-effectiveness study to include major changes in market conditions since 2011; collecting data on capital and operating/maintenance costs, including operational profiles; updating the technology learning curves to inform the Market Transformation study; and presenting the results in the Cost-effectiveness Analysis Report.

Table 3: Cost-Effectiveness Study Deliverables, Due Dates

Deliverable	Final Report Due
Cost-Effectiveness Analysis Report	October 31, 2014

<sup>9/</sup> D-09-08-026, Decision for *Adopting Cost-Benefit Methodology for Distributed Generation*, CPUC, August 20, 2009.

#### **4. Market Transformation Analysis Report**

One of the goals of the SGIP is to contribute to the market transformation of distributed energy technologies. In order to address that goal in full, the PAs propose a study of Market Transformation impacts from the SGIP, which will explore the extent to which the SGIP has transformed the California DG market since the program began in 2001.

This will be the first Market Transformation Study conducted for the SGIP, and will have the following research objectives: characterize the market for SGIP technologies in California; identify distributed energy market barriers and market strengths; identify and describe SGIP and other distributed energy resources policy interventions; assess the effects of the SGIP and other policy interventions in reducing identified markets barriers and in supporting the transformation of the SGIP eligible technology markets toward self-sufficiency; establish and analyze indicators, or metrics, that reflect the evolution of the distributed energy markets toward self-sufficiency; assess sustainability of these markets in California in the absence of the SGIP; and, if necessary, identify and recommend changes to the SGIP program to support further development of these markets in California.

Main activities for this study include: establishing baseline market, regulatory and policy conditions at the start of the SGIP in 2001 and identifying changes in these conditions over time; examining the effects of not just the incentives provided under the program, but other factors that may have influenced the market, such as policies, regulations or market conditions; conducting phone surveys of participants and non-participants to identify perceptions on barriers and opportunities presented by the SGIP and how the SGIP influenced the market; conduct in-depth interviews with key market players from the manufacturing and project developer arenas as well as key stakeholders from the environmental, utility and regulatory sectors; collecting data on growth of the SGIP technologies in other states; analyzing data for final presentation in the Market Transformation Analysis Report.

Table 4: Market Transformation Study Deliverables, Due Dates

Deliverable	Final Report Due
Market Transformation Analysis Report	December 12, 2014

**5. Final Program Summary Report**

December 31, 2015 will represent the conclusion of the 15th program year for the SGIP. Due to the wide variety of DERs deployed under the SGIP and the extensive amount of data collected over the course of the SGIP, the program will be able to provide truly unique insights into the actual costs, performance, practices and processes of DER deployed in a commercial setting. A summary report on the SGIP can provide both a retrospective set of lessons learned and a springboard for setting future DER policies and programs.

The Final SGIP Summary Report would provide a comprehensive review of the SGIP from its inception through December 31, 2015. Topics in the report will include the following:

- Goals of the program (original and changes as new policies emerged);
- Achievements of the program
  - + Projects installed (e.g., overall, by DER type, rebated capacity and locations)
  - + Impacts (e.g., electricity generated, coincident peak contributions, system efficiency impacts, T&D impacts and GHG emission reductions)
  - + Trends (e.g., costs, technology specific and cumulative rebated capacities, average capacity factors by technology and overall, changes in efficiencies and renewable fuel use);
- Market transformation aspects
  - + Market transformation goals
  - + Level of success of market transformation activities;
- Lessons learned and recommendations

The main activities for this effort include analyzing historical data collected over the course of the SGIP and preparing the results into draft and final versions.

Table 5: Final Program Summary Report Deliverable and Due Date

Deliverable	Final Report Due
Final Program Summary Report	August 31, 2018

Summary of M&E Activities

Table 6: Summary of 2014-2016 SGIP M&E Deliverables and Due Dates

Study/Activity	Report/Deliverable	Final Report Due
Annual Impact Evaluations		
	PY 2013 Impact Evaluation Report	September 30, 2014
	PY 2014 Impact Evaluation Report	September 30, 2015
	PY 2015 Impact Evaluation Report	September 30, 2016
Renewable Fuel Use Reports		
	#23 – period ending December 2013	August 28, 2014
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### III. M&E PLAN PERIODIC REVIEW AND REVISIONS

The SGIP PAs request that the Energy Division be given flexibility to review and, in consultation with the SGIP PAs, to make changes to the SGIP M&E plan and budget allocations to each study area as needed without requiring the SGIP PAs to file a Motion. This flexibility will allow for a more efficient planning and review process for the SGIP M&E plan and will allow flexibility in revising timelines in the event the SGIP program is further extended by the legislature.<sup>10</sup>

<sup>10</sup> Assembly bills have been introduced in the current session of the CA Legislature which propose to extend SGIP.

