

California Solar Initiative
Progress Report
2011 Annual
Data Annex

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This report was compiled by the California Solar Initiative (CSI) Program Administrators (PA or PAs) – Pacific Gas and Electric Company (PG&E), Southern California Edison Company (SCE), and the California Center for Sustainable Energy (CCSE) – pursuant to direction from the California Public Utilities Commission (CPUC or Commission).

1 Introduction and Background:

The original step allocations and megawatt (MW) goals were divided among the three investor-owned utilities (IOUs) according to the proportion of their respective electricity sales. The goals and budgets were determined by each utility’s percentage of electricity sales compared to the total of all three IOUs sales. These allocated percentages are:

Program Administrator	Allocated Percent (%)
PG&E	43.7
SCE	46.0
SDG&E	10.3

Pursuant to Senate Bill 585 an additional \$200 million was allocated to PG&E, SCE, and SDG&E using the allocation percentages as adopted by the Commission through the D 11-12-019. Moreover, table 1 shows the CSI general market M&O budget of \$15 million is equally split (\$5 million each) among three PAs.

Table 1. CSI General Market Budget and Allocation by Utility

Program Component	Total Budget	Allocation by Utility		
		PG&E	SCE	SDG&E
D.06-08-028 allocation	100.00%	43.70%	46.00%	10.30%
General Market Program Incentives	\$1,747,810,000	\$763,792,970	\$803,992,600	\$180,024,430
SB 585 Budget Increase*	\$200,000,000	\$114,000,000	\$64,000,000	\$22,000,000
Total Incentives	\$1,947,810,000	\$877,792,970	\$867,992,600	\$202,024,430
Program Administration	\$94,860,000	\$41,453,820	\$43,635,600	\$9,770,580
Total Measurement & Evaluation (M&E)	\$26,700,000	\$11,667,900	\$12,282,000	\$2,750,100
M&O, general market CSI**	\$15,000,000	\$5,000,000	\$5,000,000	\$5,000,000
M&O, CSI-Thermal Electric Only	\$6,250,000	\$2,731,250	\$2,875,000	\$643,750
Total Marketing and Outreach (M&O)	\$21,250,000	\$7,731,250	\$7,875,000	\$5,643,750
Unallocated	\$6,900,000	\$3,015,300	\$3,174,000	\$710,700
Total General Market Program	\$2,097,520,000	\$941,661,240	\$934,959,200	\$220,899,560

Source: CPUC Decision (D.) 11-12-019 issued December 12, 2011.

Notes: *The original allocation percentages are not applicable to the SB 585 budget increase.

**The CSI General Market M&O budget was adopted in D.11-07-031.

2 Administrative Performance

The CPUC tracks a number of administrative metrics in order to monitor potential program administration issues. In particular, the CPUC is interested in application and payment processing times, including the amount of time needed to move projects from: application to project completion, application to reservation, reservation to installation, incentive claim request to payment approval, and from payment approval to payment issued. Additionally, the CPUC monitors the average number of days for interconnection applications to be completed.

2.1 CSI Program and Interconnection Metrics

Reported metrics are described in the section below. For more detail definitions, please visit http://csi.powerclerk.com/ProgramDocs/CSI/PowerClerk_Status_Info.pdf.

2.1.1 Project Completion Time

Project Completion is measured from time between "First Reservation Request Review Date" to either "First Completed Date" or "First PBI-In Payment Date") in calendar days for all projects completed through December 31, 2011. These times reflect both the PA processing times and host customer responsiveness to inquiries, requests for additional data and inspection scheduling. The data in the figures below is divided by residential and non-residential customer projects completed in each given month, for each PA.

2.1.2 Application to Reservation Time

The PAs strive to process reservation requests in 30 days or less for both residential and non-residential customer applications. Application to Reservation includes the application processing time, from the date the application is electronically received through PowerClerk and time-stamped to the date that a reservation is granted (either "first reservation reserved" status or "first pending RFP" for non-residential applications or "first confirmed reservation" status for residential applications). This time period includes both PA application processing time and the time that the host customer takes to respond to requests for more information or application corrections.

2.1.3 Installation Time

The average installation time is determined by the applicant and not the PA. Residential applicants have 12 months and non-residential applicants have 18 months from the date of the confirmed reservation to submit an Incentive Claim Form (ICF). In certain cases applicants request and may be granted extensions. Installation times also vary according to residential and non-residential projects. The average number of calendar days is measured between the customer's confirmed reservation date and the date that the ICF was received by the PA, for all applications for which an ICF was received.

2.1.4 ICF Processing Time (without Inspection)

For CSI Program participants, incentive claim processing is an extremely important part of the project timeline. Incentive Claim Processing (without Inspection) measures how quickly incentive claims are processed for different types of projects, from the date that

the ICF is electronically received and time-stamped, through PowerClerk by the PA, to the date that the application is changed to “pending payment” status.

2.1.5 ICF Processing Time (with Inspection)

Incentive Claim Processing (with Inspection) measures how quickly incentive claims are processed for different types of projects, from the date that the ICF is electronically received and time-stamped, through PowerClerk by the PA, to the date that the application is changed to “pending payment” status. After the ICF is submitted, the PA selects a random number of projects for on-site field inspection, during which inspectors verify that the installed system matches the system identified in the paperwork. As scheduling and inspection times often vary, projects identified for inspection are sorted into groups that were or were not inspected.

2.1.6 Payment Time

Payment time is measured from the time a project enters “Pending Payment” status to when it reaches either “Completed” or “PBI-In Payment” status. This reflects the amount of time it takes to issue payment to the applicant.

2.1.7 Interconnection Time

Interconnection is measured from the date the utility’s interconnection department deems the interconnection application to be complete (e.g., final single line diagram, final building permit, etc.) to the date the “permission to operate” letter is issued. This time is generally under the utility’s control and does not depend on additional inputs from other entities, such as cities, counties, etc. However, exogenous factors such as customer availability, adverse weather conditions, or unexpectedly high volume of applications may impact this process.

2.2 Standards of Performance

Decision (D.) 11-07-031 requires PAs to process 95% of applications within a specified number of calendar days, depending on whether the application was for a residential or non-residential system, and whether an inspection was required. Please refer to Table 2 below.

Table 2. Application Processing Guidelines

PA Action	Residential Systems	Non-Residential Systems
Reservation Issued	30 days	60 days
ICF Claim Processed (no inspection)	30 days	60 days
ICF Claim Processed (with inspection)	60 days	90 days
Incentive Paid after ICF claim approval	30 days	30 days

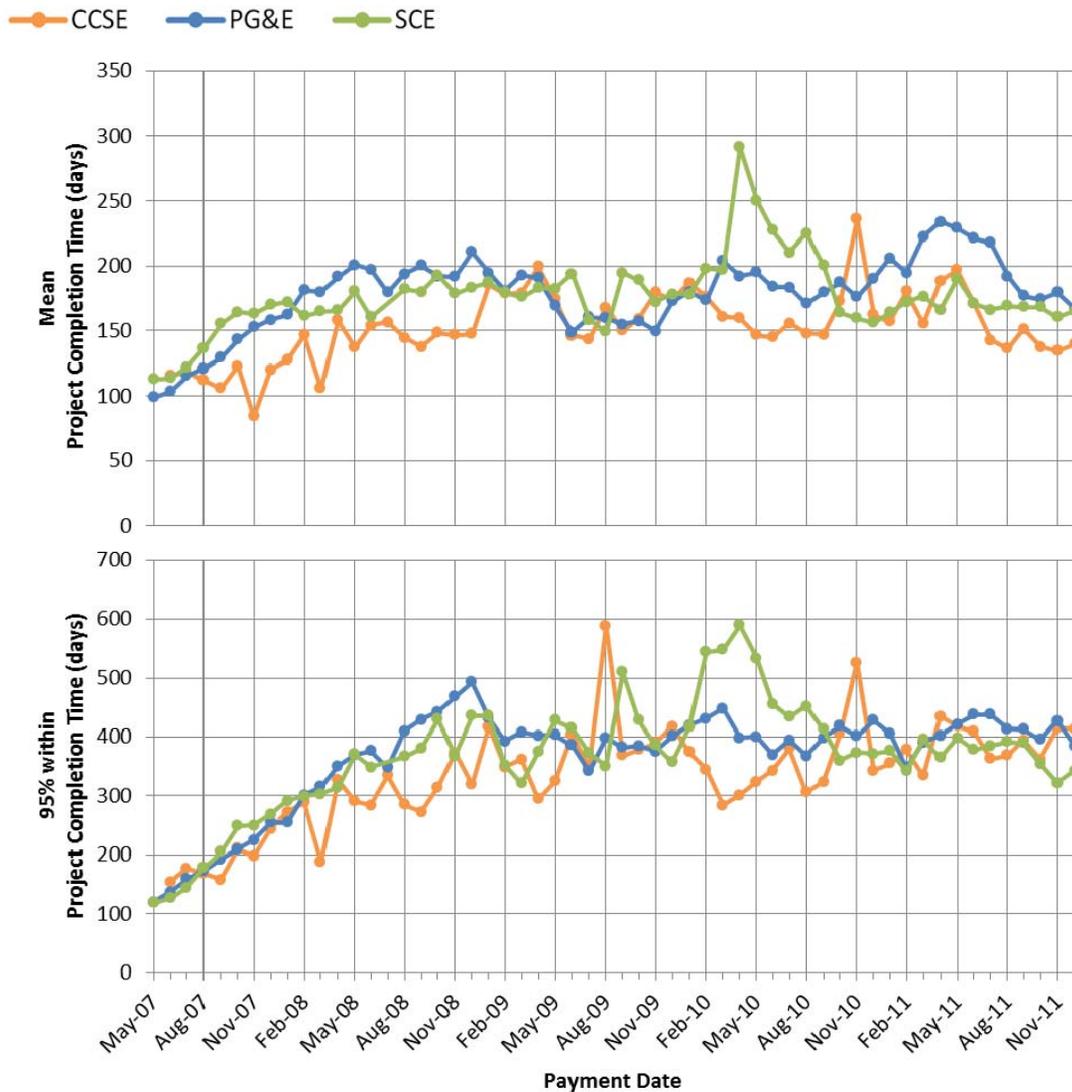
Source: CPUC Decision (D.) 11-07-031 issued July 20, 2011.

2.3 Real-time Tabular Data

The six metrics described in section 2.1 are available and updated every Wednesday on California Solar Statistics at www.californiasolarstatistics.ca.gov

2.4 Graphics for CSI Residential and Non-Residential Program Metrics

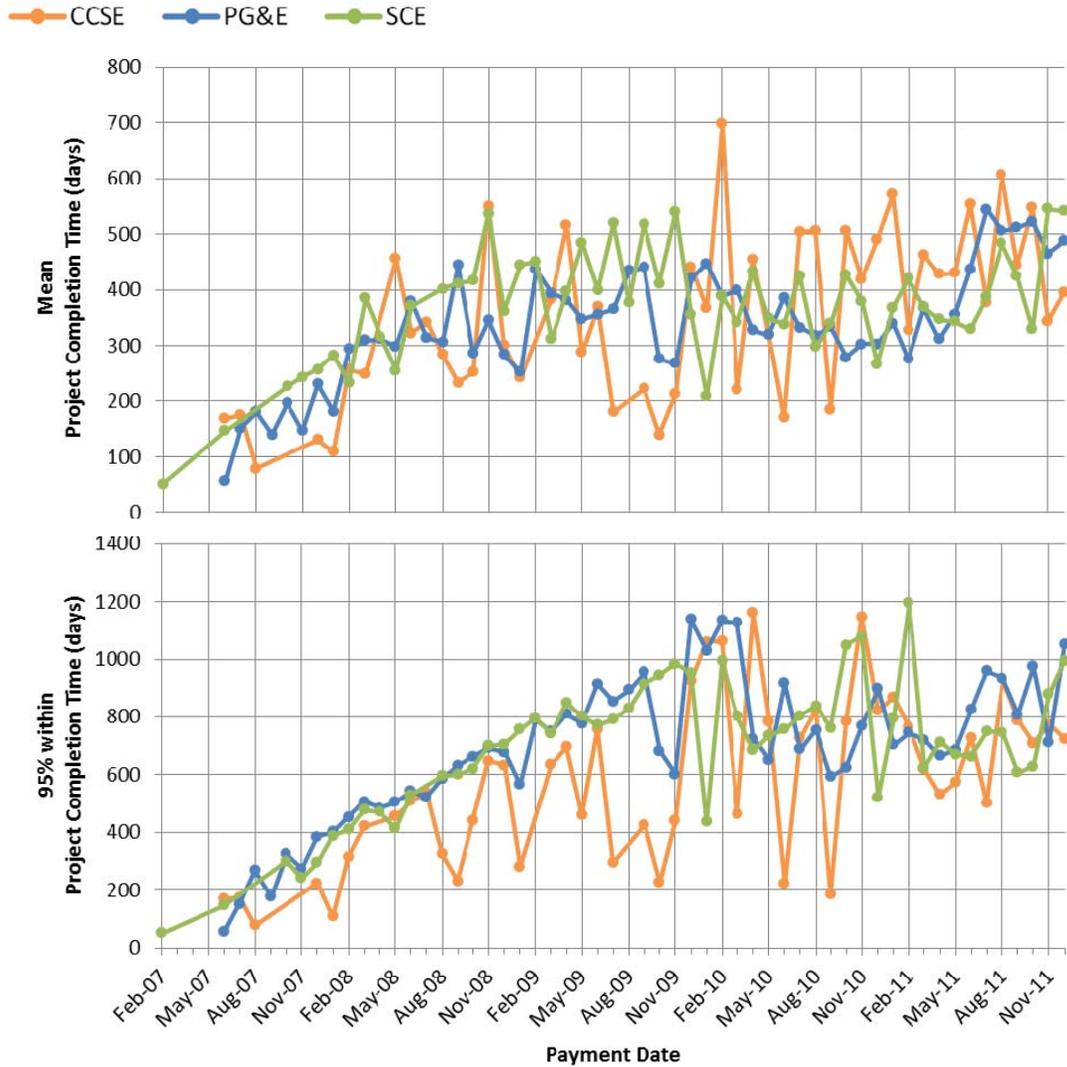
Figure 1. Residential Project Completion Time



Source: Data from California Solar Statistics at www.californiasolarstatistics.ca.gov

Notes: Data markers are displayed only for months in which at least one application was processed for a given administrative metric.

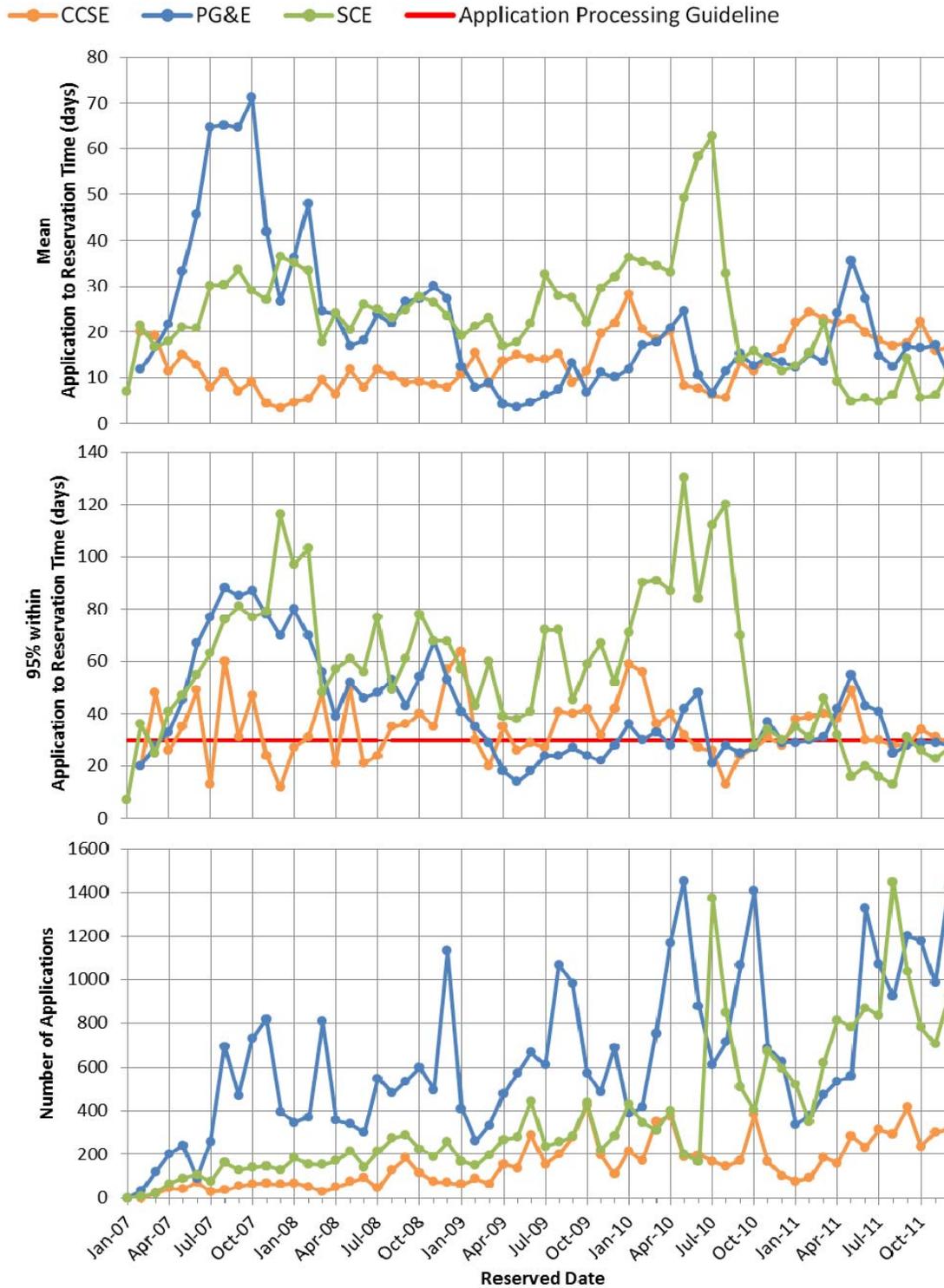
Figure 2. Non-Residential Project Completion Time



Source: Data from California Solar Statistics at www.californiasolarstatistics.ca.gov

Notes: Data markers are displayed only for months in which at least one application was processed for a given administrative metric.

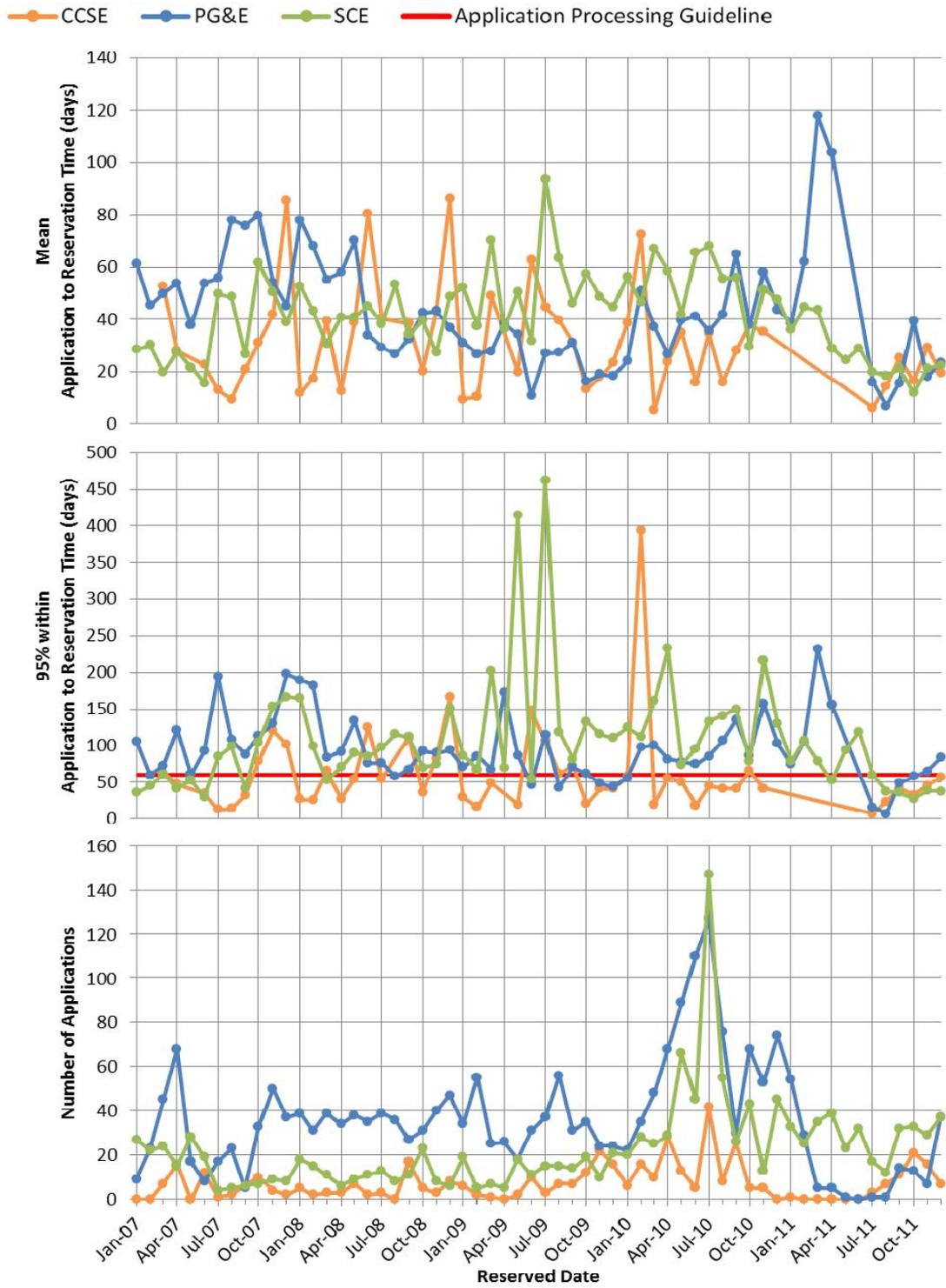
Figure 3. Residential Application to Reservation Time



Source: Data from California Solar Statistics at www.californiasolarstatistics.ca.gov

Notes: Data markers are displayed only for months in which at least one application was processed for a given administrative metric. Number of applications represents total number of applications reserved in a given month.

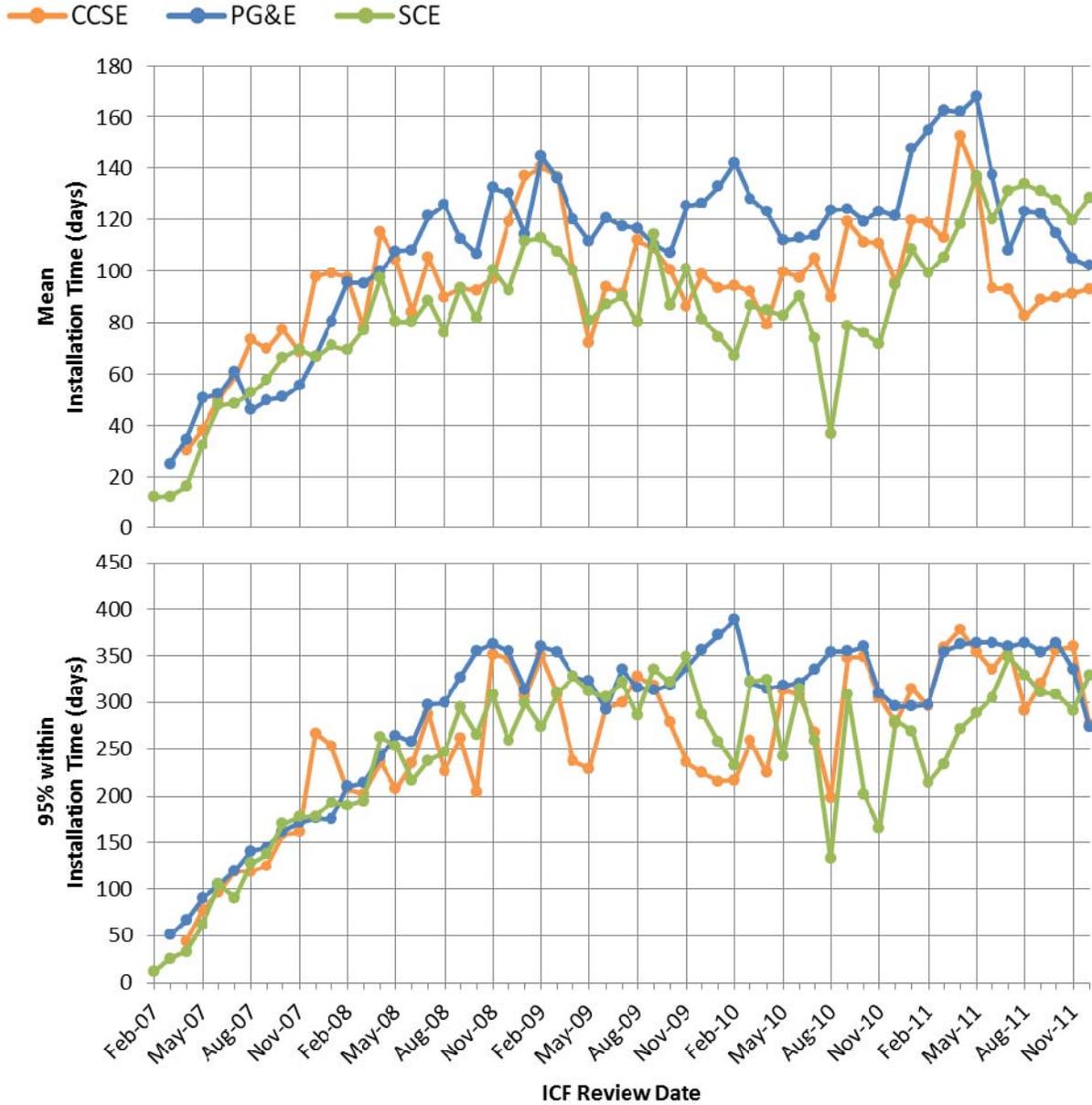
Figure 4. Non-Residential Application to Reservation Time



Source: Data from California Solar Statistics at www.californiasolarstatistics.ca.gov

Notes: Data markers are displayed only for months in which at least one application was processed for a given administrative metric.

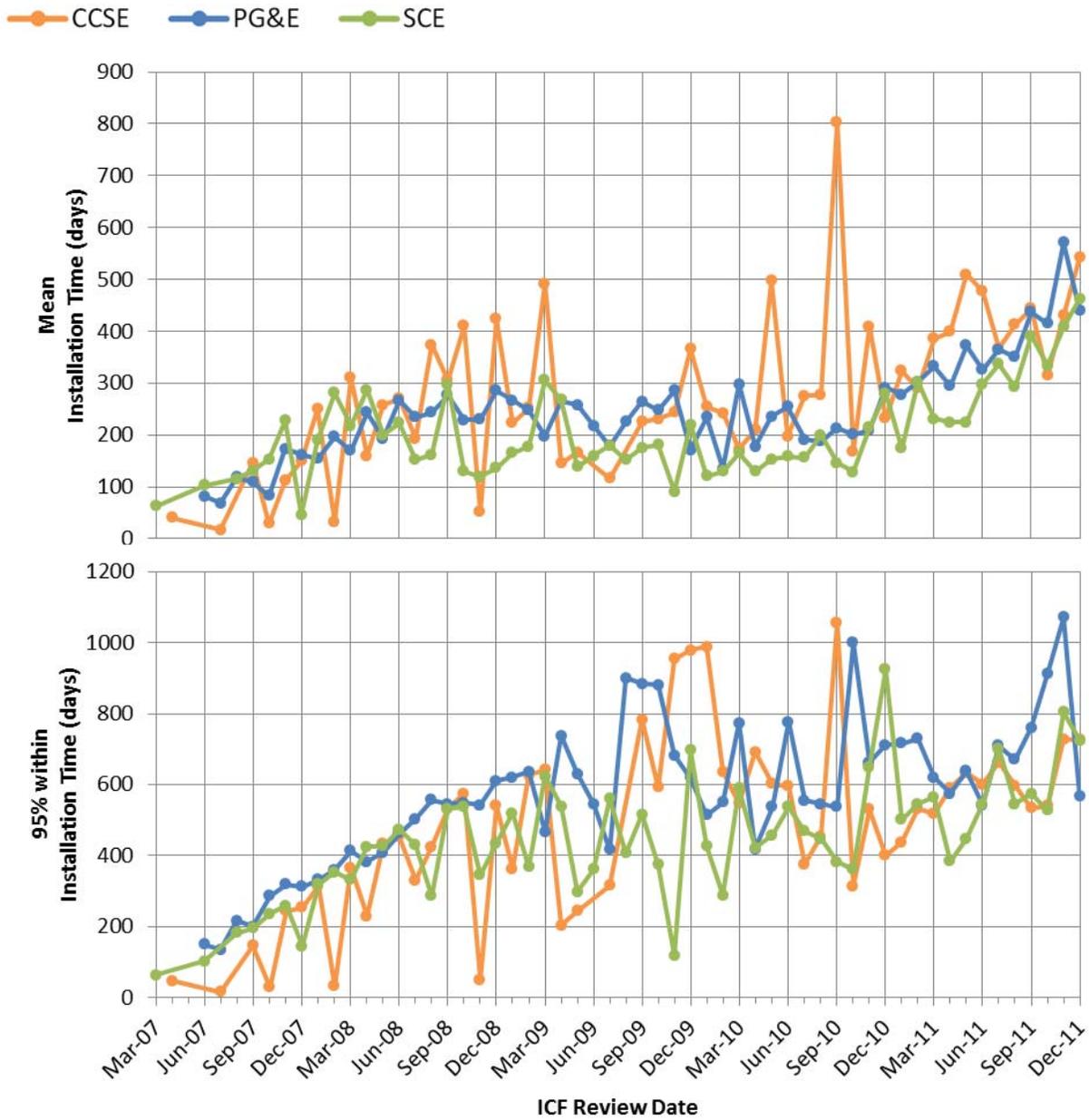
Figure 5. Residential Installation Time



Source: Data from California Solar Statistics at www.californiasolarstatistics.ca.gov

Notes: Data markers are displayed only for months in which at least one application was processed for a given administrative metric.

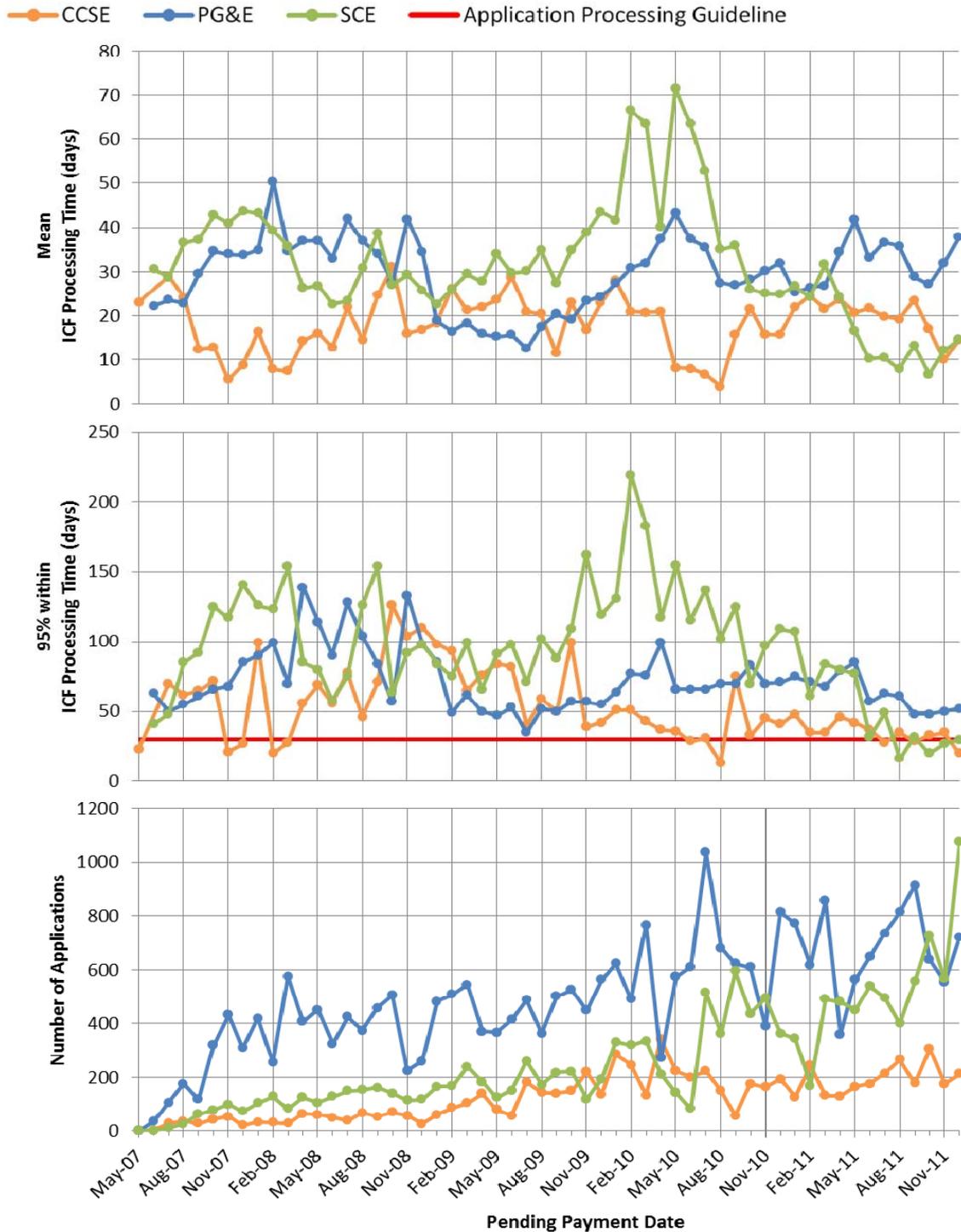
Figure 6. Non-Residential Installation Time



Source: Data from California Solar Statistics at www.californiasolarstatistics.ca.gov

Notes: Data markers are displayed only for months in which at least one application was processed for a given administrative metric.

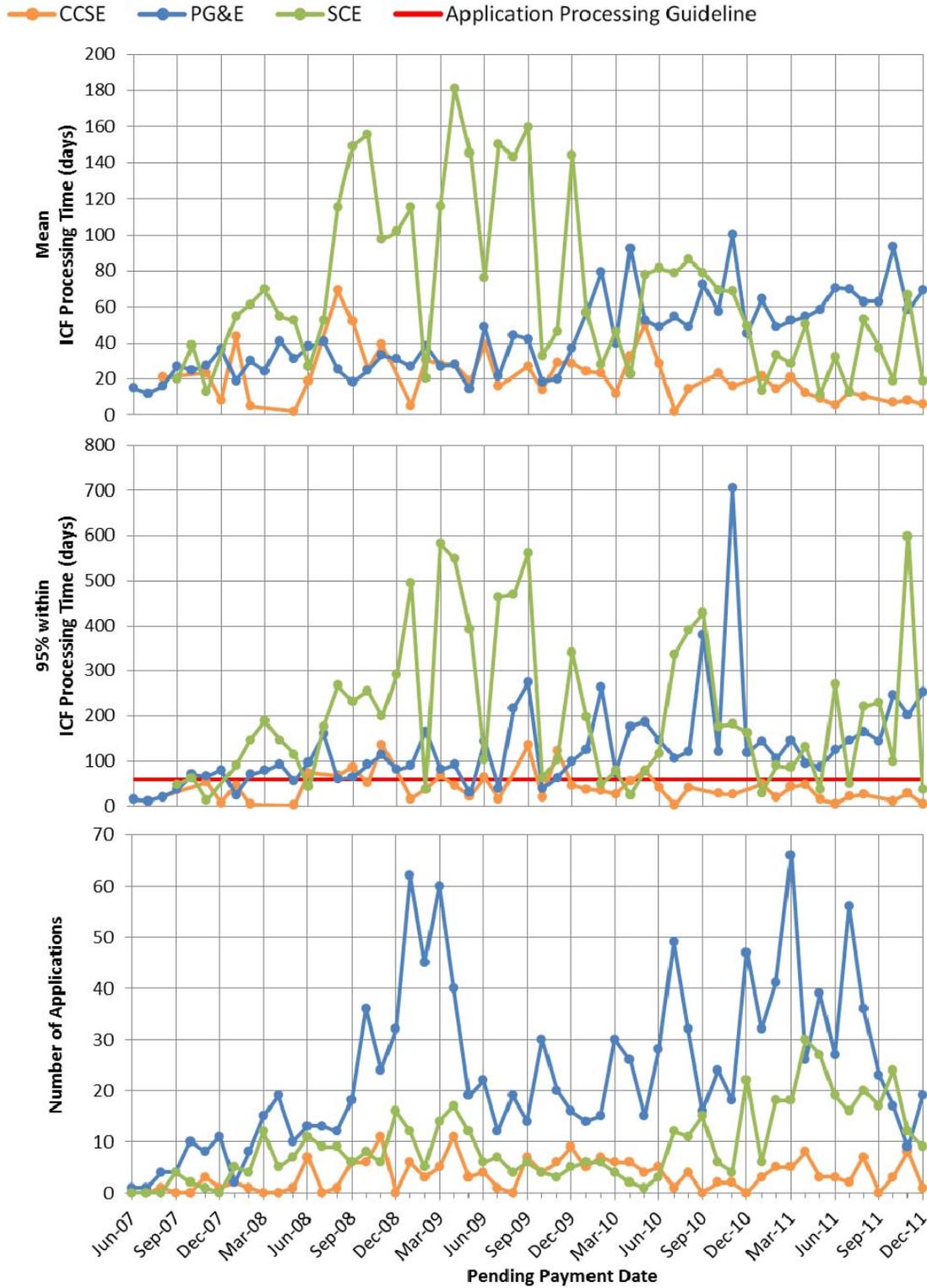
Figure 7. Residential ICF Processing Time without Inspection



Source: Data from California Solar Statistics at www.californiasolarstatistics.ca.gov

Notes: Data markers are displayed only for months in which at least one application was processed for a given administrative metric. Number of applications represents total ICF applications processed to pending payment in a given month.

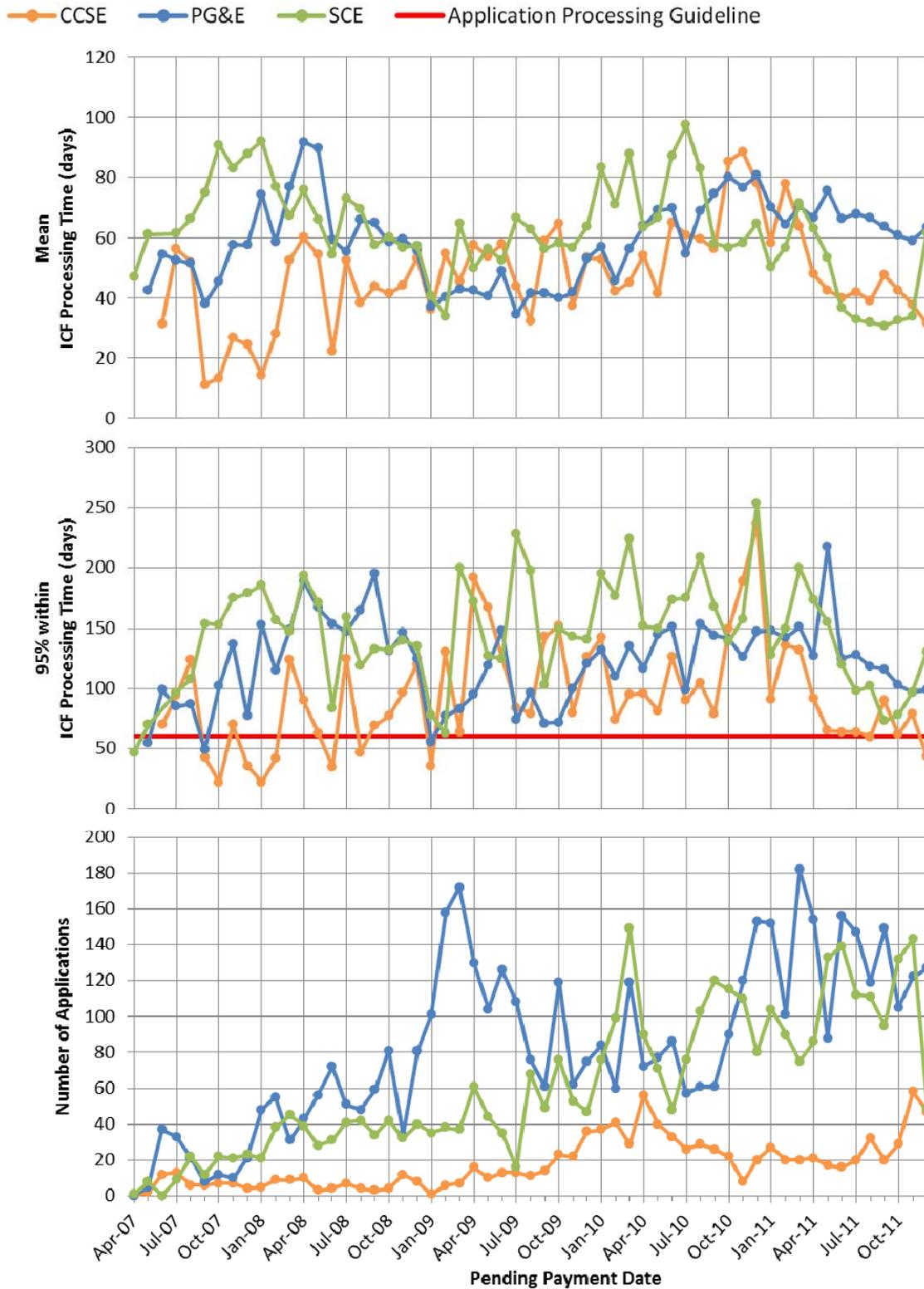
Figure 8. Non-Residential ICF Processing Time without Inspection



Source: Data from California Solar Statistics at www.californiasolarstatistics.ca.gov

Notes: Data markers are displayed only for months in which at least one application was processed for a given administrative metric.

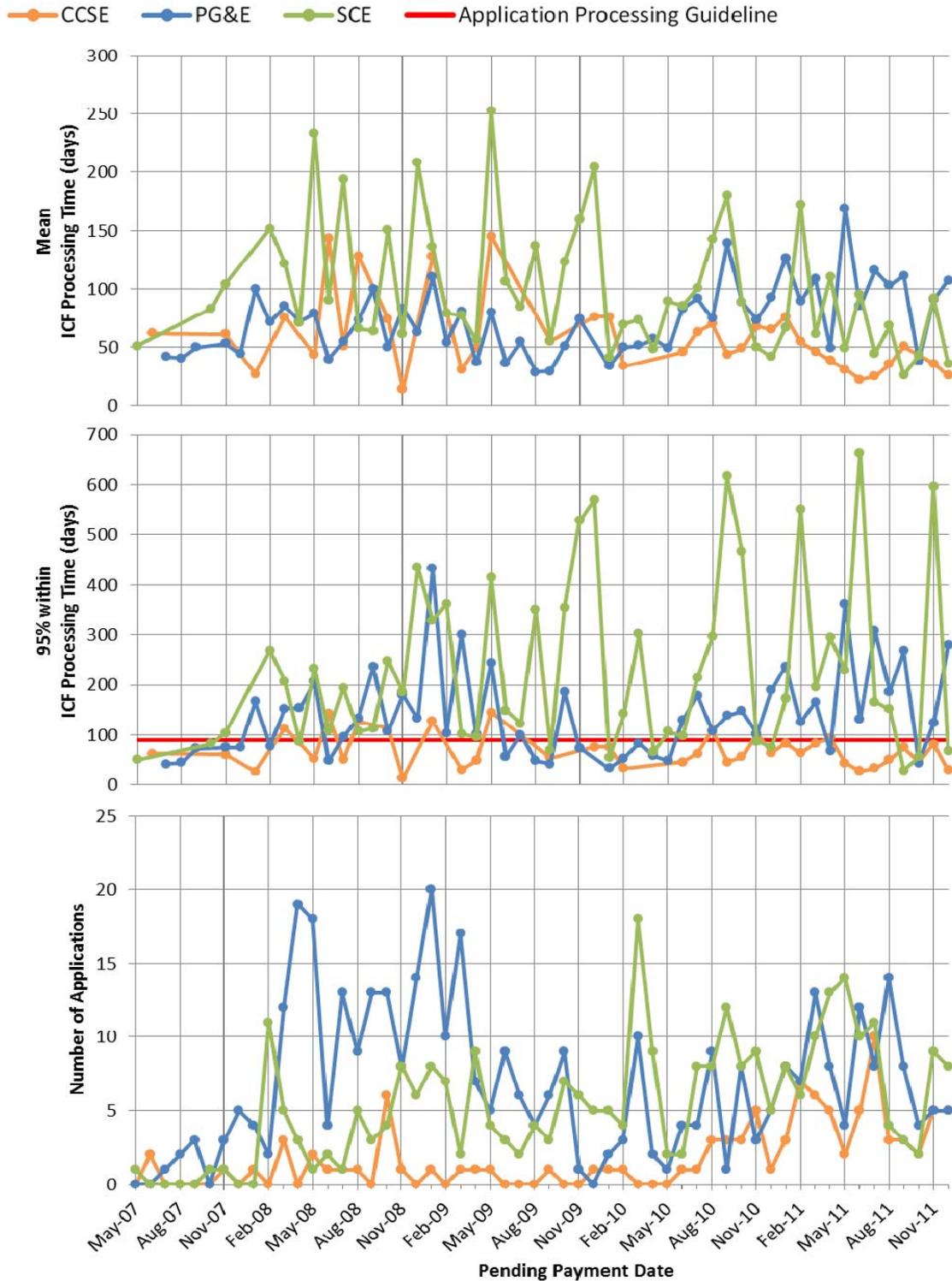
Figure 9. Residential ICF Processing Time with Inspection



Source: Data from California Solar Statistics at www.californiasolarstatistics.ca.gov

Notes: Data markers are displayed only for months in which at least one application was processed for a given administrative metric.

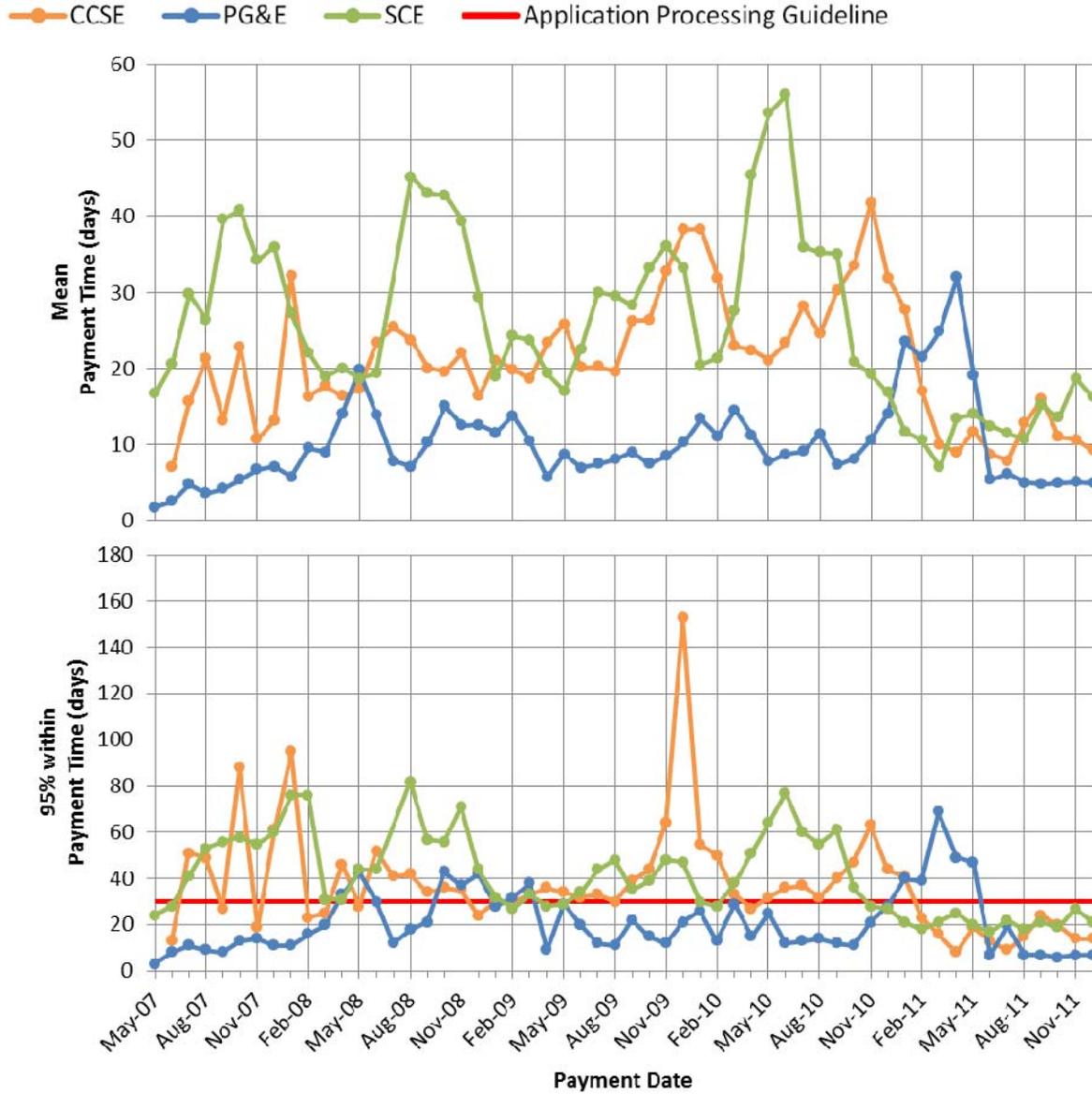
Figure 10. Non-Residential ICF Processing Time with Inspection



Source: Data from California Solar Statistics at www.californiasolarstatistics.ca.gov

Notes: Data markers are displayed only for months in which at least one application was processed for a given administrative metric.

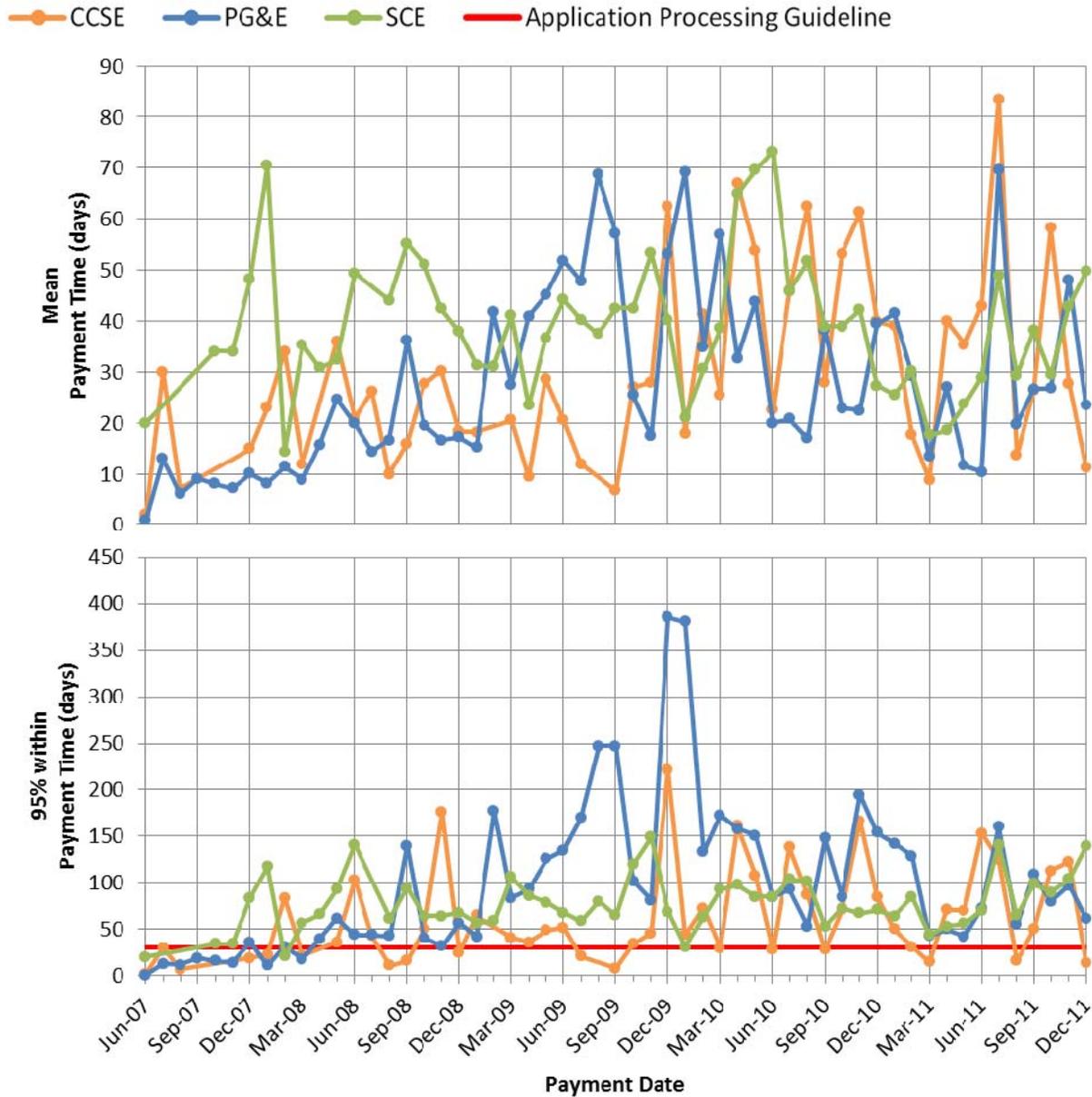
Figure 11. Residential Payment Time



Source: Data from California Solar Statistics at www.californiasolarstatistics.ca.gov

Notes: Data markers are displayed only for months in which at least one application was processed for a given administrative metric.

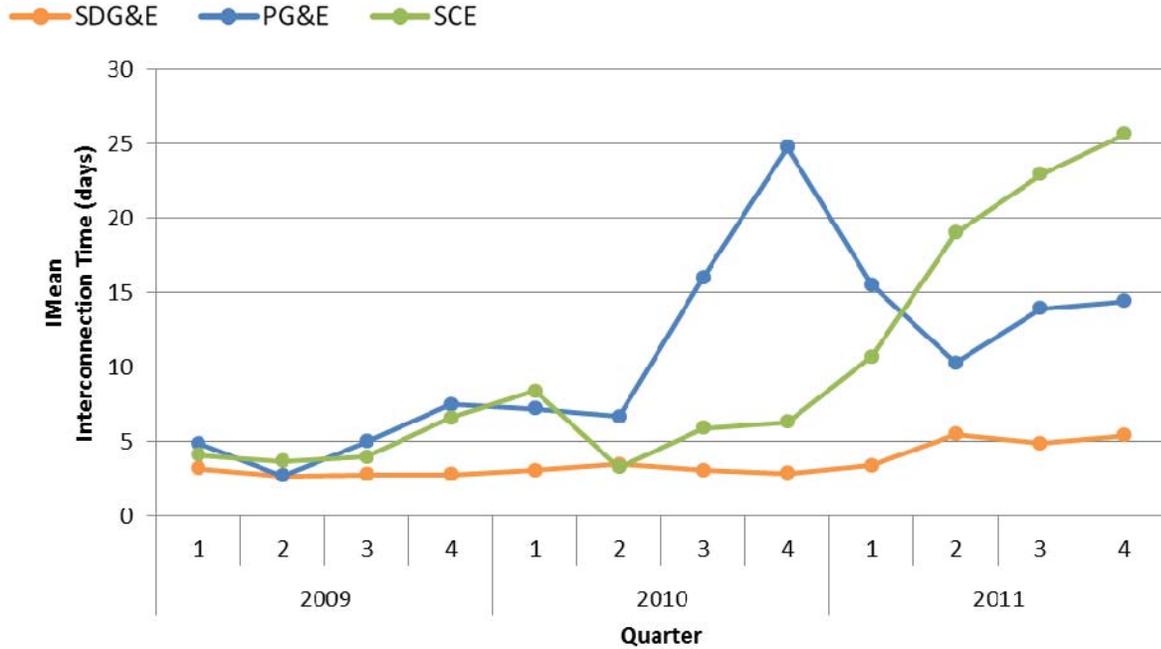
Figure 12. Non-Residential Payment Time



Source: Data from California Solar Statistics at www.californiasolarstatistics.ca.gov

Notes: Data markers are displayed only for months in which at least one application was processed for a given administrative metric.

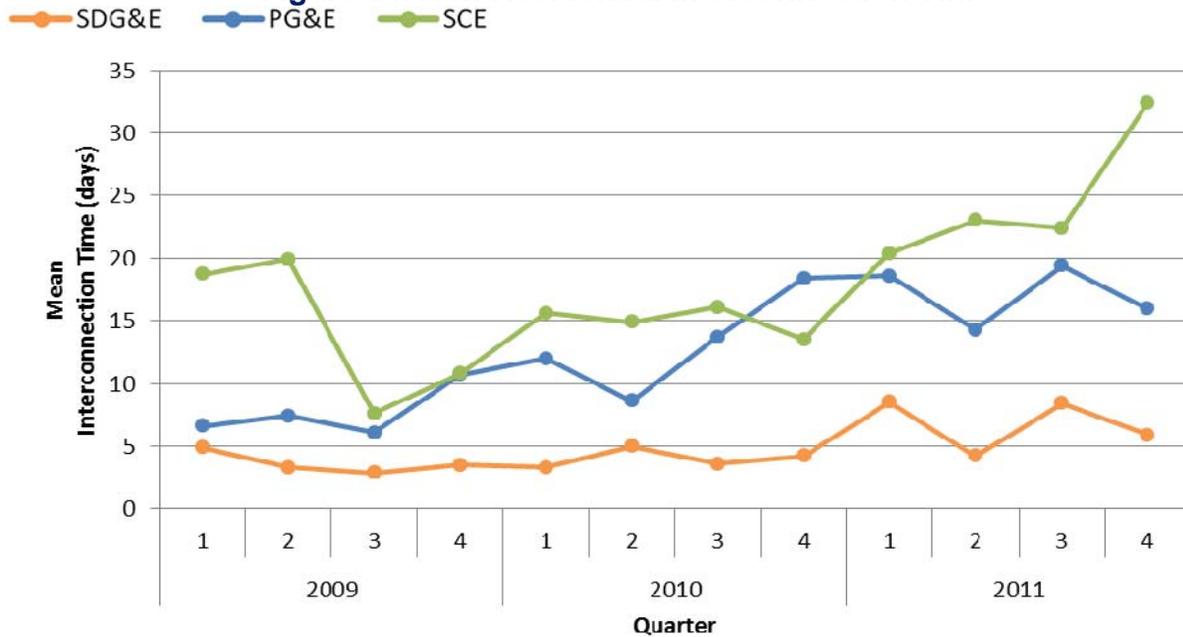
Figure 13. Residential Interconnection Time



Source: Data from California Solar Statistics at www.californiasolarstatistics.ca.gov

Notes: Data markers are displayed only for months in which at least one application was processed for a given administrative metric.

Figure 14. Non-Residential Interconnection Time



Source: Data from California Solar Statistics at www.californiasolarstatistics.ca.gov

Notes: Data markers are displayed only for months in which at least one application was processed for a given administrative metric.

2.5 Factors Affecting Administrative Performance

The first list describes the factors affecting administrative performance from application to reservation. Applications for which the PA takes more than 60 days to grant a reservation typically have a problem. Problems encountered in these applications include, but are not limited to:

- Mailing address is different from the project site address
- Missing signatures
- Missing or incomplete documentation
- Slow customer responsiveness

The next list describes the factors affecting administrative performance during incentive claim processing. Applications for which the PA takes more than 90 days to process the incentive claim typically have a problem. Problems encountered with applications at the ICF stage include, but are not limited to:

- System not interconnected
- Revised EPBB not submitted to reflect changes in installed equipment
- Missing PMRS documentation
- Missing 10-year warranty for equipment and/or installation
- Incomplete or missing data about Performance Data Provider (PDP)
- Host customer unaware of the need for a CSI inspection
- Failed meter or system inspection
- Missing or incomplete documentation

2.6 Issues CSI Administrators and Interconnection Departments Faced

The CSI administrators and Interconnection departments experienced a record number of applications during the past year. The application volume was higher than forecast, despite the slow economy, and declining CSI incentive levels. For example, in PG&E's territory on average there were over 30% more application processed compared to same month from previous year, and in some months the increase was over 80%.

Additionally, over the past year, SCE's interconnection department was faced with 1) Higher volume of applications, 2) Transition to a new software platform over the summer that led to a slower turnaround time through the fall, and 3) ongoing efforts to convince installers to submit interconnection paperwork prior to system installation.

3 CSI Program Trainings

Each of the PAs regularly offers training for both customers and solar installers in the CSI Program regarding the benefits and technical details of solar in general. In 2011, the CSI PAs held 324 trainings and trained almost 7,000 attendees.

Table 3. Number of Trainings by Program Administrator

	PGE		SCE		CCSE	
	2011	2010	2011	2010	2011	2010
Number of attendees	3,350	2,925	2,781	2,999	847	1,190
Number of CSI Program Trainings held	207	145	73	64	44	52

Source: CSI Program Administrators.

3.1 PG&E Training Offerings

The PG&E CSI Group, in collaboration with the Energy Centers, offered an extensive array of solar classes to both contractors and the general public. These included full-day live classes, many of which were simulcast, as well as one-hour webinars. The bulk of the live classes were in the Pacific Energy Center in San Francisco or the Energy Training Center in Stockton, but there were also classes offered in the following places: Eureka, Tulare, San Luis Obispo, San Mateo, Fresno, Santa Cruz, Santa Rosa, Napa, Berkeley, San Leandro, Auburn, Clear Lake, and other communities.

The attendance in 2011 leveled off a bit from 2010 as the contractor community and general public became more educated in the target areas. PG&E is stepping up efforts to extend its reach to lesser-served areas. Below is a list of the classes and webinars that PG&E offers.

3.1.1 For Contractors and the General Public

- Basics of Photovoltaic (PV) Systems for Grid-Tied Applications
- Photovoltaic (PV) Site Analysis and System Sizing
- Introduction to Photovoltaic (PV) System Financing
- Solar Sales and Marketing
- Inspecting PV Systems for Code Compliance

3.1.2 Webinars Open to the General Public

Solar System Safety and Maintenance for Homeowners
Solar System Safety and Maintenance for Installers
Financial Options for Going Solar
Understanding California Solar Initiative (CSI) Program Statistics
Do's and Don'ts of Purchasing a Solar System
Your Path to Energy Savings (EE with Solar) - Residential and small Commercial
Latest Program Updates in the CSI Program
Your Path to Energy Savings (EE with Solar) - New Construction Opportunities
Understanding the NSHP Application Process
Overview of PG&E's Distributed Generation (DG) Programs
Solar for the Entrepreneur: Product Developers
Guide to Solar Billing
Making your Solar Interconnection Application and Process Easier
CSI Thermal Program - An Overview and Update
Guide to Completing your CSI Thermal Application
Solar PV 101
Solar Water Heating 101
Solar Water Heating Commercial Systems Overview
Renewable Energy: Essential Terms and Concepts
Understanding the CSI Inspection Process
Guide to Completing your CSI Application
Multifamily Affordable Solar Housing (MASH) Program Update
Making your DG Interconnection Application and Process Easier

3.1.3 For Contractors Specifically

CSI Photovoltaic Program Workshop
CSI Photovoltaic Forum

3.2 SCE Training Offerings

SCE continues to offer classes geared toward contractors as well as non-residential and residential customers. During the 2011, SCE reached 594 contractors through 17 "CSI Contractor Solar Classes," including 11 of which were also offered via Webinar; 287 commercial customers through 11 "CSI Commercial Solar Workshops"; 1,152 residential customers through six Homeowner Solar Classes (HSC); 641 residential customers through 13 Solar Fairs; and seven CSI Thermal training classes with a total of 107 attendees.

The subject matter SCE presents in its classes is updated as program changes dictate. SCE also makes adjustments based on feedback received from attendees.

3.2.1 Intro to CSI Classes

The "Contractor Solar Class" is a course designed for solar contractors, self-installers, managers and PV owners, and features new and updated information on the CSI Program. During the course discussion, information is given to attendees on the

following topics: (i) how to participate in the program; (ii) system basics, including the different types of solar systems, metering, monitoring, site and equipment requirements; and (iii) PowerClerk. In addition, SCE enhanced the Interconnection information provided during this course beginning in 2009. Contractors can register online at www.sce.com/ctac.

3.2.2 Homeowner Solar Classes

SCE's HSC classes are 90-minute, easy-to-understand sessions that provide the basics of how residential customers can "go solar" without the "techy" jargon so often used and confusing to potential solar customers. For more information, please visit www.sce.com/solartraining

3.2.3 Commercial Solar Workshop

To help boost commercial CSI applications in 2010, SCE added a new Commercial Solar Workshop to its training curriculum to help explain the CSI programs to SCE's nonresidential customers. In the first year, four classes were held and 201 attendees completed the workshops. Customers can register online at www.sce.com/ctac.

3.2.4 Solar Fairs

SCE's Solar Fairs serve a key role to our residential education and outreach efforts as they provide an excellent opportunity for residential customers to learn about the CSI program offerings and meet with solar contractors on the spot in a no-sale, low-pressure situation to take the next step toward realizing their home's potential for a solar generating system. For more information, please visit www.sce.com/solartraining.

3.2.5 CSI Thermal Contractor & Self-Installer Training

SCE's Thermal Workshop is a required introductory course for contractors, self-installers and applicants interested in participating in the CSI Thermal program. The class is designed to provide a thorough understanding of the program, its requirements and the application process. An overview of solar water heating technologies is also provided. For more information, please visit www.sce.com/csithermal.

3.3 CCSE Training Offerings

CCSE continues to offer classes geared toward contractors as well as non-residential and residential customers. In 2011 CCSE reached over 800 homeowners and contractor through its various series and is now also offering the CSI Application Process workshop through WebEx to reach more contractors. Trainings are performed by CCSE staff and or outside speakers when necessary. 2011 trainings were marketed in CCSE and CSI newsletters, through the online calendar as well as in email blasts and other events. For more information please visit: www.energycenter.org/outreach-a-education

Homeowner Targeted Workshops:

3.3.1 Solar for Homeowners 1: Getting Started

Tailored to homeowners interested in going solar, this workshop will get them started and will outline how California Solar Initiative (CSI) incentives and tax credits can greatly offset installation costs.

3.3.2 Solar for Homeowners 2: Be a Smart Solar Customer

Informed consumers can save themselves time and money by doing their homework before picking a solar contractor. After learning the fundamentals of residential installations in Solar for Homeowners 1, they can attend this follow-up workshop to learn the ins and outs of choosing a solar company that operates in an ethical and trustworthy fashion.

3.3.3 Reduce then Produce: EE & Solar Series

Participants can discover if their solar contractor is giving them the best deal. They can find out how to maximize their solar PV benefits by investing in energy efficiency before going solar.

3.3.4 Residential Tax Workshop

Explains the Tax implications for installing residential solar.

Contractor Targeted Workshops:

3.3.5 Passing the CSI Inspection Protocol

This workshop is designed for contractors and self-installers who would like to learn about the CSI inspection protocol.

3.3.6 Solar Technology Series

Highlights new solar technology (products and services) of interest to contractors or homeowners.

3.3.7 Insurance for Solar Integrators

Highlights the importance of insurance for the solar industry and reviews coverage specifics.

3.3.8 CSI Application Process

This workshop outlines the entire CSI application process – from the reservation request to the incentive award – and provides an explanation of all required documentation as well as a demonstration of the online application.

3.3.9 Marketing & Ethics

Explores how contractors can best market their solar business in an ethical way.

3.3.10 Building up your Contracting Business

Put on with the help of the BBB and CSLB, this workshop shows the importance of being in good standing with these organizations and the purpose of utilizing them to building up the contracting business.

4 Net Energy Metering

The Public Utilities Code (PUC) Section 2827 establishes net energy metering (NEM) for solar and small wind customer-generators. NEM information for each IOU's service territory is included in this section of the report. The NEM data is updated monthly and available at

http://www.californiasolarstatistics.com/reports/data_annex/

Table 4. NEM Capacity, Customers and Percentage of Aggregate Customer Peak Demand as of December 31, 2011

Section	Question ²	PG&E	SCE	SDG&E
4.b.1	Total NEM Customers Interconnected	60,204	28,405	15,768
4.b.2	Solar Specific NEM Customers Interconnected	60,053	27,998	15,735
4.b.3	CSI Specific NEM Customers Interconnected ¹	33,847	18,932	8,327
4.b.4	Total NEM Cumulative Capacity Interconnected (CEC AC-MW)	559.01	325.64	125,368
4.b.5	Solar Specific NEM Capacity Interconnected (CEC AC-MW)	556.88	309.75	125,259
4.b.6	CSI Solar Specific NEM Capacity Interconnected (CEC AC-MW) ¹	358.45	216.99	76.73
4.b.7	Percentage of aggregate customer peak demand represented by all NEM customers	2.68%	1.41%	2.68%
4.b.8	Percentage of aggregate customer peak demand represented by solar NEM customers	2.67%	1.34%	2.68%
4.b.9	Percentage of aggregate customer peak demand represented by CSI-participating solar NEM customers ¹	1.72%	0.94%	2.08%

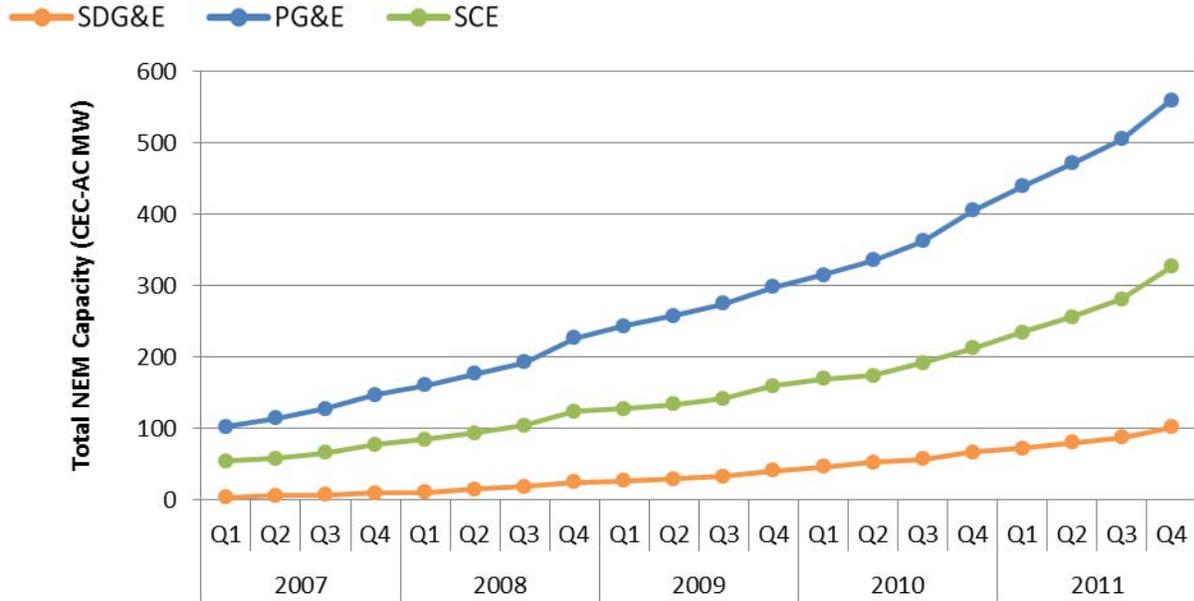
Notes: ¹Inteconnection data were provided by each IOU's Interconnection departments except data for questions 4.b.3, 4.b.6 and 4.b.9 which were compiled and calculated from CSI's PowerClerk database and are only an estimate of CSI's interconnection contribution to the NEM program. CSI projects were deemed as interconnected if their status had reached at least Pending Payment in PowerClerk.

²Hybrid technologies are excluded from Solar numbers.

Table 5. NEM Capacity in MW and in Percent of Aggregate Customer Peak Demand by Quarter

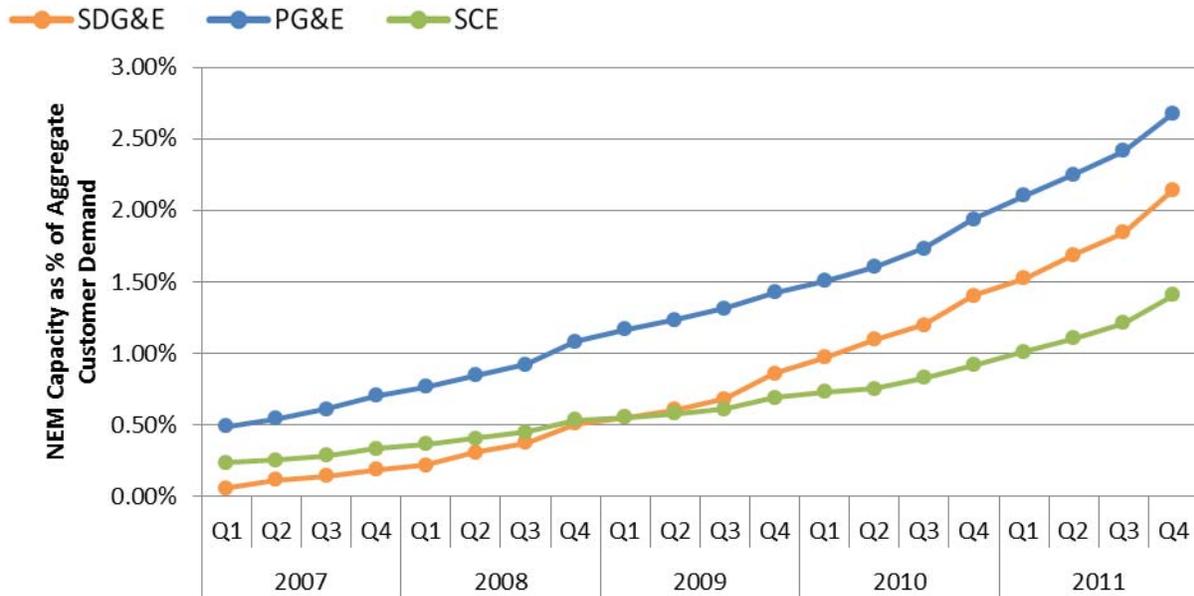
Year	Quarter	PG&E		SCE		CCSE	
		Cumulative Capacity Interconnected (CEC AC-MW)	NEM Cap Percent	Cumulative Capacity Interconnected (CEC AC-MW)	NEM Cap Percent	Cumulative Capacity Interconnected (CEC AC-MW)	NEM Cap Percent
2007	1	102	0.49%	53	0.23%	2.5	0.05%
	2	113	0.54%	57	0.25%	5.1	0.11%
	3	126	0.60%	65	0.28%	6.5	0.14%
	4	146	0.70%	76	0.33%	8.5	0.18%
2008	1	160	0.76%	84	0.36%	10.1	0.22%
	2	176	0.84%	93	0.40%	14.2	0.30%
	3	192	0.92%	104	0.45%	17.3	0.37%
	4	226	1.08%	123	0.53%	23.6	0.50%
2009	1	243	1.16%	127	0.55%	25.8	0.55%
	2	257	1.23%	133	0.57%	28.3	0.60%
	3	274	1.31%	141	0.61%	31.8	0.68%
	4	297	1.42%	159	0.69%	40.1	0.86%
2010	1	314	1.50%	169	0.73%	45.3	0.97%
	2	335	1.60%	173	0.75%	51.3	1.09%
	3	361	1.73%	191	0.82%	56	1.19%
	4	404	1.94%	212	0.91%	65.7	1.40%
2011	1	439	2.10%	234	1.01%	71.4	1.52%
	2	470	2.25%	255	1.10%	79.1	1.69%
	3	504	2.41%	280	1.21%	86.3	1.84%
	4	559	2.68%	326	1.41%	100.4	2.14%

Figure 15. Total NEM Capacity



Source: Data from Interconnection Departments

Figure 16. NEM Capacity as a Percentage of Aggregate Customer Peak Demand



Source: Data from Interconnection Departments