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

Advice Letter 2964-E

September 7, 2007

Brian K. Cherry
Vice President, Regulatory Relations
Pacific Gas and Electric Company
77 Beale Street, Mail Code B10C
P.O. Box 770000
San Francisco, CA 94177

Subject: Coordinated Training Plan for Expected Performance Based Buydown Site Inspectors in Compliance with D. 06-08-028

Dear Mr. Cherry:

Advice Letter 2964-E is effective February 5, 2007.

Sincerely,

Sean H. Gallagher, Director
Energy Division

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

Akbar Jazayeri
Vice President, Revenue and Tariffs

January 05, 2007

ADVICE 2088-E
(U 338-E)

PG&E Advice 2964-E
(U 39-E)

SDG&E Advice 1863-E
(U 902-M)

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA
ENERGY DIVISION

SUBJECT: Coordinated Training Plan for Expected Performance Based Buydown Site Inspectors in Compliance with Decision 06-08-028

In compliance with the California Public Utilities Commission (Commission) Decision No. (D.) 06-08-028, Southern California Edison Company (SCE) hereby submits for filing a coordinated training plan for Expected Performance Based Buydown (EPBB) Site Inspectors on behalf of the CSI Program Administrators. In addition to SCE, the Program Administrators consist of Pacific Gas and Electric Company (PG&E), and San Diego Regional Energy Office (SDREO) on behalf of San Diego Gas and Electric Company (SDG&E). This plan, described briefly herein, is presented in Attachment 1.

PURPOSE

Pursuant to D.06-08-028, the purpose of this document is to describe the Program Administrator's Inspector Training Plan of EPBB Site Inspectors for the California Solar Initiative (CSI) Program. The primary objective of this training plan is to ensure criteria and guidelines exist for consistent and effective statewide inspection of projects in the CSI Program.

BACKGROUND

In D.06-01-024, the Commission, in collaboration with the California Energy Commission (Energy Commission), established the CSI program, an incentive program with the goal of ensuring that 3,000 MW of new solar facilities are installed in homes and businesses in California by 2017.

In D.06-08-028, the Commission adopted various program design elements for the CSI Program, including EPBB. The CSI EPBB bases the incentive on a determination of the expected performance of the solar system, which accounts for the tested and certified performance of the specific module and inverter, the orientation and tilt of the module and the extent to which the system is shaded. The PV calculator developed by the CSI Program Administrators and Commission accounts for these parameters that are under the control of the installer. CPUC staff issued the PV calculator tool on January 1, 2007.

The Program Administrators or their designees will perform field verification inspections to ensure that the components of the solar system and its installation are consistent with the characteristics used to determine its estimated performance and incentive amount. Ordering Paragraph 11 of D.06-08-028 ordered the Program Administrators to develop and file a coordinated training plan for these site inspections.

TRAINING PLAN

It is the intent of the CSI Program to provide incentives for reliable, permanent, safe systems that are professionally installed, and comply with all applicable federal, state, and local regulations. The Program Administrators will perform field verification inspections on applicable systems in order to verify that projects are installed as represented in the application, operational, interconnected and conform to the eligibility criteria of the CSI program.

The Program Administrators plan to perform all activities required to select, train, and implement the consistent use of EPBB site inspectors, including but not limited to:

- Developing minimum qualifications criteria for inspectors and/or inspection firms;
- Soliciting RFPs from potential firms or individuals to provide inspection services;
- Selecting inspectors to perform site inspections;
- Developing activities and specific information for inspectors to gather during their site visits;
- Developing training materials and guidelines for site inspectors;
- Providing training for site inspectors; and
- Managing and monitoring the overall inspection process and the use of site inspectors.

Each Program Administrator will provide training to the selected EPBB Site Inspectors. Training will consist of an overview of the data to be gathered for the field inspection as well as an outline of measurement and verification techniques approved by the program. The training may also include hands-on instruction on performing shading analysis and diagnostic measurements using equipment approved by the program. The training will be performed by the Program Administrators starting in late January or as soon as possible.

The CSI Program Administrators intend to coordinate CSI inspection guidelines and criteria with the inspection guidelines and criteria developed by the CEC for the New Solar Homes Partnership to the extent possible. Additionally, the Program Administrators are in the process of developing a single Field Verification Inspection Report Form that ensures consistent inspection procedures and criteria are adhered to within all of service territories.

No cost information is required for this advice filing.

This advice filing will not increase any rate or change, cause the withdrawal of service, or conflict with any other schedule or rule.

EFFECTIVE DATE

SCE requests that this advice filing become on February 5, 2007, the 30th calendar day after the date filed.

NOTICE

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

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

Akbar Jazayeri
Vice President, Revenue and Tariffs
Southern California Edison Company
2244 Walnut Grove Avenue, Quad 3D
Rosemead, California 91770
Facsimile: (626) 302-4829
E-mail: AdviceTariffManager@sce.com

Bruce Foster
Senior Vice President of Regulatory Operations
c/o Karyn Gansecki
Southern California Edison Company
601 Van Ness Avenue, Suite 2040
San Francisco, California 94102
Facsimile: (415) 673-1116
E-mail: Karyn.Gansecki@sce.com

There are no restrictions on who may file a protest, but the protest shall set forth specifically the grounds upon which it is based and shall be submitted expeditiously.

In accordance with Section III, Paragraph G, of General Order No. 96-A, SCE is serving copies of this advice filing to the interested parties shown on the attached GO 96-A service list and R.06-03-004. Address change requests to the attached GO 96-A service list should be directed to (626) 302-4039 or by electronic mail at AdviceTariffManager@sce.com. 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 filing and keeping the advice filing open for public inspection at SCE's corporate headquarters. To view other SCE advice letters filed with the Commission, log on to SCE's web site at http://www.sce.com/AboutSCE/Regulatory/adviceletters.

For questions, please contact Robert Botkin (626) 302-8496 or Robert.Botkin@sce.com.

Southern California Edison Company

Akbar Jazayeri

AJ:rb:mm
Enclosures

Attachment 1
CSI Inspector Training Plan

Introduction

The purpose of this document is to describe the Program Administrator's Inspector Training Plan of EPBB Site Inspectors for the CSI Program. The primary objective is to ensure consistent and effective statewide inspection of projects in the CSI Program.

Additionally, the goal of the training and this Training Plan are to ensure that:

- PV modules and inverters used in the expected performance calculations are actually installed in the field; and
- PV modules are minimally shaded, or if shaded, that the actual shading does not exceed the shading characteristics that were included in the expected performance calculations.

It is the intent of the CSI Program to provide incentives for reliable, permanent, safe systems that are professionally installed, and comply with all applicable federal, state, and local regulations. The Program Administrators will perform field verification inspections on applicable systems in order to verify that projects are installed as represented in the application, operational, interconnected and conform to the eligibility criteria of the CSI program.

The Program Administrators note that similar training criteria and qualifications may be used for PBI Site Inspectors.

Background

In Decision (D.) 06-01-024, the CPUC, in collaboration with the California Energy Commission (Energy Commission), established the California Solar Initiative program, an incentive program with the goal of ensuring that 3,000 MW of new solar facilities are installed in homes and businesses in California by 2017.

The CSI EPBB bases the incentive on a determination of the expected performance of the solar system, which accounts for the tested and certified performance of the specific module and inverter, the orientation and tilt of the module and the extent to which the system is shaded. The PV calculator developed by the CSI Program Administrators and Commission accounts for these parameters that are under the control of the installer.

The Program Administrators or their designees will perform a field verification to ensure that the components of the solar system and its installation are consistent

with the characteristics used to determine its estimated performance and incentive amount.

Proposed Development Schedule

The Program Administrators plan to perform all activities required to select, train, and implement the use of site inspectors. These activities will include the following:

1. Developing minimum qualifications criteria for inspectors and/or firms. For example:
    - Engineering Firms doing work in the energy field;
    - Personnel working under a registered PE in electrical or mechanical discipline; and/or
    - Firms that have obtained certification, such as, but not limited to, Home Energy Rating Systems (HERS) raters.
2. Soliciting potential firms or individuals to provide inspection services and selecting inspectors to perform site inspections;
3. Developing activities and specific information for inspectors to gather during their site visits;
4. Developing training materials and standard inspection report templates for CSI Site Inspectors;
5. Providing training to inspectors;
6. Implementing inspections of projects using inspectors; and
7. Managing and monitoring the overall inspection process and the use of site inspectors.

Applicability of Inspections

The requirement of a field verification inspection will vary by system size as follows:

- ***Systems less than 30 kW:*** These systems will have a field verification inspection on a random basis. Inspections may be performed more frequently at the beginning of a vendor's participation in the CSI Program and then transitioned into inspections performed on a statistically significant sample size. However, a Program Administrator may always inspect additional projects or increase the sample size at his or her discretion.

- ***Systems greater than 30 kW and less than 100 kW that are participating in EPBB:*** 100% of these systems will be inspected.

- ***Systems that are greater than or equal to 100 kW but are less than 1 MW, or are participating in PBI:*** These systems will have a field verification inspection on a random basis. Inspections may be performed more frequently at the beginning of a vendor's participation in the CSI Program and then transitioned into inspections performed on a statistically significant sample size. However, a Program Administrator may always inspect additional projects or increase the sample size at his or her discretion.

- ***Systems greater than 1 MW:*** 100% of these systems will be inspected, as PBI payments will need to be prorated based on the verified system size.

- A mandatory site inspection is required for all ***relocated equipment***. System Owners that have received an EPBB incentive and have relocated their system must orient their relocated equipment to produce at least the same generation as their initial incentive payment was based upon.

Field Verification and Diagnostic Testing Process

The CSI field verification and diagnostic testing of solar systems follows the process described below. Note that a solar system is one or more strings of PV modules connected to one inverter. Documentation of the process uses two forms; *CSI Incentive Claim Form* and *Field Verification Inspection Form*.

1. Once each solar system is installed the PV installer completes the CSI Incentive Claim Form identifying installed equipment makes, model numbers, and counts for each solar system. The CSI EPBB Calculator results including solar system tilt, orientation, shading and resulting design factor used in calculating the CSI incentive must also be submitted with the Incentive Claim Form to the Program Administrator.

2. The Program Administrator reviews the CSI Incentive Claim Form and EPBB Calculator results for completeness before the project is eligible for field verification. Eligible projects are delegated to a field verification consultant for inspection.

3. The field inspector completes independent field verification and diagnostic testing of each solar system and documents the results on the Field Verification Inspection Form. Some of the field verification and diagnostic testing consists may include the following (but are not limited to):

- Verification that equipment nameplates and counts match those submitted on the Incentive Claim Form.
- Measurements to verify that system tilt, orientation, and shading values are consistent with values used in the EPBB calculator and submitted along with the Incentive Claim Form. Specific guidelines on how to measure the shading values are attached in Appendix A to this Plan.
- Measurement of solar irradiation, ambient temperature, and solar system output to verify system performance against the expected output from the PV Calculator.

4. Upon completion of the field inspection, the field inspector will submit a completed Field Verification Inspection form to the Program Administrator.

Training Process

Each Program Administrator will provide training to the selected EPBB site inspectors. Training will consist of an overview of the data to be gathered for the Field Verification Inspection form as well as an outline of measurement and verification techniques approved by the program. The training may also include hands-on instruction on performing shading analysis and diagnostic measurements using equipment approved by the program. The training will be performed by the Program Administrator starting in late January or as soon as possible.

Failed Inspections

There are repercussions to CSI participants for failing field verification inspections, which are outlined in the CSI Handbook (Section 2.10.1).

Inspection Forms

The Program Administrators are working to finalize a standard statewide Site Inspection Report template. An initial draft is attached as Appendix B to this Plan. This template will be finalized and revised periodically by the Program Administrators as needed.

Appendix A – DRAFT/Example INSPECTION CRITERIA

The following are draft potential criteria that the Program Administrators are considering for use in conducting EPBB site inspections. This list will be updated by the Program Administrators to add or delete information as required for inspections. The Program Administrators would like to acknowledge the CEC for allowing the use of this material, which is from the CEC New Solar Homes Partnership Guidebook.

1. Measuring Tilt and Azimuth

The CSI third-party field inspector must verify that the tilt and orientation (azimuth) of the PV modules installed in the field match the values that were used to determine the expected performance of each solar system. In some systems, PV modules may be installed in multiple arrays with different tilts and azimuths. In these cases the tilt and azimuth of each array must be verified.

a) Determining Tilt

The tilt angle of the PV modules is measured in degrees from the horizontal (e.g. horizontal PV modules will have a tilt of zero and vertically mounted PV modules will have a tilt of 90 degrees). The tilt of the PV modules may be determined by using a digital protractor to measure either horizontal or vertical angles (see Figure 1). These devices when sighted up the slope of the PV modules from the ground will display the slope, relative to the horizontal.

Figure 1 – Digital Protractor

b) Determining Orientation (Azimuth)

The CSI third-party field inspector must determine the orientation by measuring the azimuth of the PV modules and verify that the azimuth is the same as that

used to determine the expected performance of each solar system. The convention that is used for measuring azimuth is to determine the degrees of angle clockwise from north, *e.g.*, north azimuth is zero degrees, east is 90 degrees, south is 180 degrees and west is 270 degrees (see Figure 2). If a compass is used a correction must be made to magnetic north to account for true north.

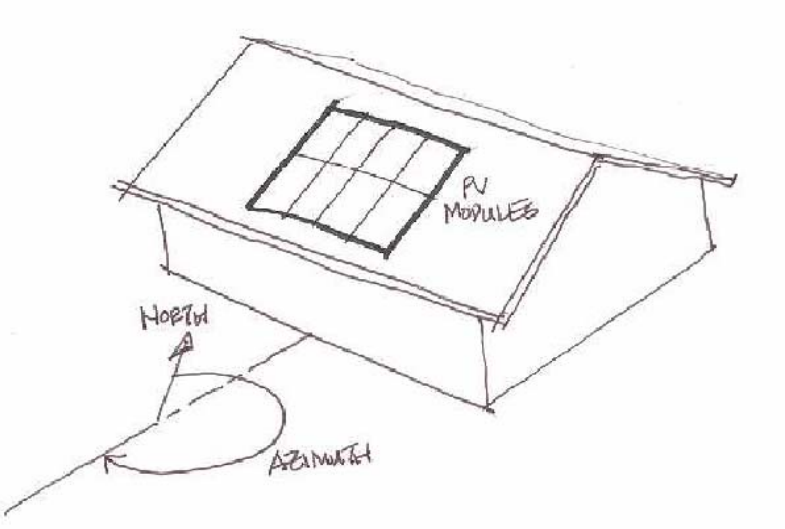


Figure 2 – Azimuth of the PV Array

2. Shading Verification

The CSI third-party field inspector must verify that the shading conditions in the field are consistent with those used in the EPBB Calculator. The estimated performance calculations will be done either assuming that the "minimal shading" criterion is met or based on the specific shading characteristics of each system and building.

a) Minimal Shading Criterion

The "minimal shading" criterion is that no obstruction is closer than a distance ("D") of twice the height ("H") it extends above the PV modules (see Figure 5 for an artistic depiction of "H" and "D"). As the figure illustrates the distance "D" must be at least two times greater than the distance "H." Any obstruction that projects above any portion of the PV array must meet this criterion for the PV array to be considered minimally shaded. Obstructions that are subject to this criterion include any vent, chimney, architectural feature, mechanical equipment or other obstruction that projects above the roof of the residential building with the installed solar system, any part of the neighboring terrain that projects above the roof of the residential building, any tree that is mature at the time of installation of

the solar system or any tree that is planted or planned to be planted as part of the landscaping for the residential building (the expected performance must be based on the expected mature height of any tree planted or planned to be planted as part of the landscaping for the residential building), any existing or planned residential building or other structure neighboring the residential building with the solar system and any telephone or other utility pole that is closer than thirty feet from the nearest point of the array.

For objects that have a point, “H” and “D” must also be measured to the edge of the peaking object as shown in Figure 5.

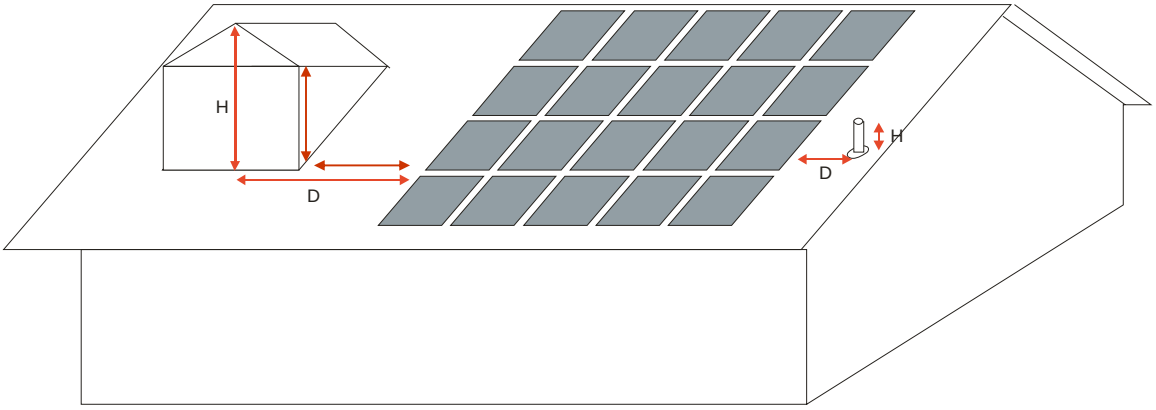


Figure 5 – The Minimal Shading Criterion - Artistic Depiction of “H” and “D”

Neither the PV array nor the shading obstruction are single points in space, thus the CSI third-party field inspector will determine the worst condition by determining the point on the array and the point on the obstruction that would result in the smallest ratio of distance from the obstruction point to the array point divided by the height of the obstruction point above the array point. Generally, the portion of the array that will most likely be shaded and thus represents the worst condition is the lower corner of the array that is closest to the obstruction and the portion of the obstruction that is the worst condition is the highest point of the obstruction, but this may not always be the case. Obstructions that are located north of the array at azimuths between 305 degrees and 55 degrees from north relative to the most northerly points on the PV array need not be considered as shading obstructions.

The CSI third-party field inspector may verify through visual inspection that most obstructions above the roof meet the 2:1 criterion. For obstructions that visual inspection indicates potentially do not meet the criterion, the CSI third-party field inspector must measure the height and distance of the obstruction(s) relative to the PV array as described above to verify that the 2:1 shading criterion is met.

b) Accounting for Actual Shading

When a PV installation does not meet the minimal shading criterion, it can still qualify for an incentive and participate in the NSHP program, but the shading conditions for each solar system at the site must be accounted for in the expected performance calculation as described in this section.

If shading does not meet the “minimal shading” criterion is not met, then the EPBB Calculator must have shading design criteria that shows the altitude angle between the PV array and obstructions that shade the PV modules. Table 1 represents how to account for a visual inspection to determine if the system meets the minimum shading criteria. This table divides the compass into 22.5 degree segments, progressing clockwise around the compass from north. The altitude angle is the angle from the point on the lowest shaded point on the PV array to the highest point on the shading obstruction in each direction segment around the compass. The table also shows the distance-to-height ratio for existing obstructions including mature trees. This will be a number less than or equal to two, because if it is greater than two, the minimal shading criterion is satisfied in that direction and shading is not considered in the expected performance calculation for that segment. The table also shows the minimum distance to small, medium and large trees to meet the minimal shading criterion for trees that are not at their mature heights. The data in Table 1 is specific to a particular PV system installation on the specific residential building. In this example the minimal shading condition is exceeded for four segments of the compass, ESE, SSE, S and WNW.

The CSI third-party field inspector must verify that the shading conditions that exist (or are expected to exist in the case of the mature heights of trees in the landscaping plan or un-built residential buildings or structures on neighboring lots) at the site will not cause greater shading of the modules than the shading characteristics that were used in the expected performance calculations.

Table 1 – Example PV Format for PV Shading

Orientation	Altitude Angle to Shading Obstruction	Distance to Height Ratio	Minimum Distance to Small Tree	Minimum Distance to Medium Tree	Minimum Distance to Large Tree
ENE	Minimal Shading	2.00	16	46	76
E	Minimal Shading	2.00	16	46	76
ESE	45.00 degrees	1.00			
SE	Minimal Shading	2.00	16	46	76
SSE	49.87 degrees	0.84			
S	69.68 degrees	0.36			
SSW	Minimal Shading	2.00	16	46	76
SW	Minimal Shading	2.00	16	46	76
WSW	Minimal Shading	2.00	16	46	76
W	Minimal Shading	2.00	16	46	76
WNW	63.75 degrees	0.49			

c) Measuring Heights and Distances or Altitude Angles

One of the following procedures may be used to measure heights and distances or altitude angles to obstructions.

- **Using a Tape Measure**

The simplest measurement technique is to use a tape measure or other measuring device to measure the distance from the point on the PV module to the maximum shading condition point on shading obstructions in each 22.5 degree compass segment. The distance to a tree is measured to the nearest

edge of the trunk of the tree. Once the elevation difference (H) and distance (D) are determined in each compass segment, the ratio is calculated and must be greater than the value used in the expected performance calculation as reported on the CF-1R-PV (see the third column in Table 1 labeled Distance to Height Ratio). This method does not require getting on the roof.

- **Using a Digital Protractor**

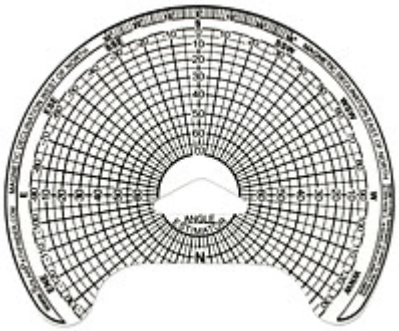
A digital protractor (see Figure 1) may be used to measure the altitude angle. The measured altitude angle must be smaller than or equal to that used in the expected performance calculation as reported on the CF-1R-PV (see the second column of Table 1). To use the digital protractor measurement directly, the measurement must be made from the roof. Alternatively, the digital protractor measurement may be made from the ground and is trigonometric adjustments will be required to adjust for the height difference between the ground where the measurements are made and the point of maximum shading of the PV modules in that compass segment.

- **Using a Solar Access and Shading Analysis Instrument**

For shading from existing obstructions, such as neighboring buildings or other structures, terrain or already mature trees, on-site shading conditions can be verified using an instrument such as the Solar Pathfinder (see Figure 6) or Solmetric SunEye. This instrument must be positioned at the point on the PV array that has the maximum shading. Generally, this will be one of the two lower corners of the array, but depending on the conditions of the site, other locations may be subject to more shading by adjacent buildings or structures, trees, terrain or other obstructions.

Once the instrument is placed at the point on the PV array that has the maximum shading, it is leveled and oriented with true north. The orientation may be determined by using the site plan or a compass as described above. Once the instrument is properly positioned, objects that will cast a shadow on the PV modules will be shown for the month and time of day when shading will occur (see Figure 7(a)). These results can then be converted into the format used by the PV Calculator, as shown in Figure 7(b), and Figure 7(c) by using an Angle Estimator grid overlay (shown in Figure 6) to determine the altitude angle of an obstruction in each compass segment. Once in this format, the results may be compared to the data that was used in the expected performance calculations to ensure that there is not greater shading at the site than was used in the expected performance calculations.

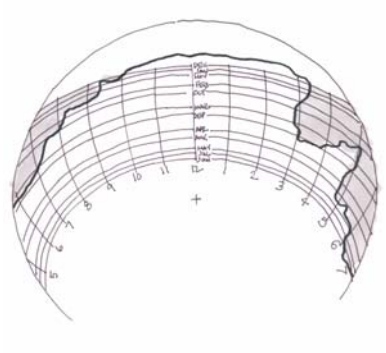
Solar Pathfinder



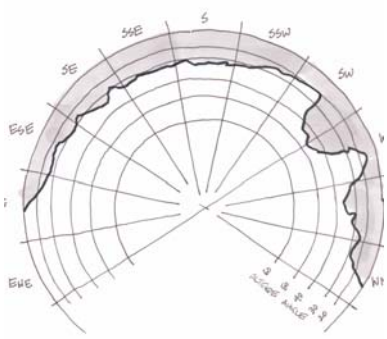
Angle Estimator grid overlay

Traced obstruction outline example

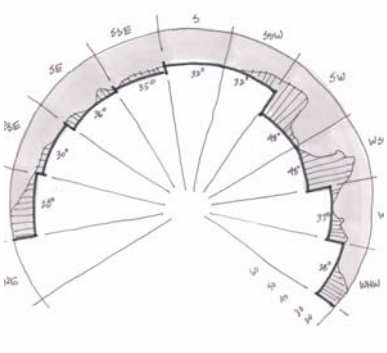
Figure 6 – Example Solar Access and Shading Analysis Instrument



(a) This diagram shows the direct results of the solar pathfinder. The gray area indicates the times during the year when the PV array will be shaded. (Note that the lines on this diagram are specific to a particular latitude.



(b) This diagram shows the 22.5 ^{o} compass segments used by the PV Calculator and the altitude angles overlaid on the results from step (a).



(c) Within each compass segment, the highest altitude is selected and used for that entire segment. This data is input into the PV Calculator.

Figure 7 – Conversion of Results from Solar Pathfinder to PV Calculator Input

- **Using a Digital Camera with Fisheye Lens**

An electronic enhancement of the Solar Pathfinder uses a digital camera with a fisheye lens that is mounted looking up. An image is taken that is automatically processed to produce data similar to the solar pathfinder. The data must be converted to the format used for determining expected performance as described above for the Solar Pathfinder. Note that determining distances and heights for trees that are not yet at mature heights and unconstructed buildings and structures on neighboring lots must be addressed as described above for the Solar Pathfinder.

APPENDIX B - DRAFT - Field Verification Inspection Summary

CSI Program

Project Information

Project Name	
Project Application Date	
PG&E Account Number	
Application Number	
Facility Address	
City, ST, Zip	

Inspection Report

❑ **Complete**
❑ **Incomplete**

Reason if incomplete:

1)
2)

Applicant

Company Name	
Contact Name	
Address	
City, ST, Zip	
Contact Phone	
Contact E-Mail	

Inspection

❑ Initial
❑ Re-Inspection

Inspection

Project Inspection Date	
Verification Consultant	
Verification Inspector	

Host Customer

Company Name	
Contact Name	
Facility Address	
City, ST, Zip	
Contact Phone	
Contact E-Mail	

Inspection Checklist

Design Capacity			kW
Observed issues that may hinder design output	❑ YES	❑ NO	If Y see note ____
Installation is permanent	❑ YES	❑ NO	If N see note ____
Electric Generation is being used on site	❑ YES	❑ NO	If N see note ____
Manufacturers match the application	❑ YES	❑ NO	If N see note ____
Model Numbers match the application	❑ YES	❑ NO	If N see note ____
Equipment is new (has not been previously installed)	❑ YES	❑ NO	If N see note ____
All Equipment is commercially available	❑ YES	❑ NO	If N see note ____
System is Interconnected to the Grid	❑ YES	❑ NO	If N see note ____
Any new project construction started	❑ YES	❑ NO	If Y see note ____
Observed Safety Issues	❑ YES	❑ NO	If Y see note ____
Other	❑ YES	❑ NO	If Y see note ____

Notes / Comments

1)
2)
3)

Reviewer **QC**

Print Name

Signature Submission Date

Initials Date

APPENDIX B - DRAFT - Field Verification Inspection Summary

CSI Program

Project Name	0
Application Number	0

Inspection Summary

Problems / Discrepancies

DRAFT - Photovoltaic System Inspection Form

CSI Program

Project Name 0

Application Number 0

Pre-Inspection

Design Capacity*	0.000	kW
System Operational Date:		
Array ID		
Photovoltaic Modules		
Manufacturer		
Model #		
Equipment Location		
Type of PV Cells		
Module Output**		Watts
Number of Modules		
Total Module Output	0.000	kW
Inverter / PCU		
Equipment Location		
Manufacturer		
Model #		
Size (kW)		
Peak Inverter Efficiency		
Number of Units		
UL Label		

On-site Inspection

Calc'd Max Power Output*	0.000	kW
Power Output at Inspection		kW
System Operational Date:		
Array ID	0	
Photovoltaic Modules		
Manufacturer		
Model #		
Equipment Location		
Type of PV Cells		
Module Output**		Watts
Number of Modules		
Total Module Output	0.000	kW
Inverter / PCU		
Equipment Location		
Manufacturer		
Model #		
Size (kW)		
Peak Inverter Efficiency		
Number of Units		
UL Label		

Calculated Field shown as

*Total System Output = Total Output x Peak Inverter Efficiency

**Module output rated at PVUSA Testing Conditions

Inspected By 0

QC

DRAFT - Photovoltaic System Inspection Form

CSI Program

Project Name 0

Application Number 0

On-site Inspection

System Checklist

Connected to Grid	❑
Permanent installation	❑
Serves One Site	❑
Flush Mounted	❑
Racked	❑
Anchored	❑
Self Ballasted	❑
Battery Backup	❑

Photograph Checklist

Main Components	❑
Equipment Nameplates	❑
Inverter Nameplates	❑
UL Approval Markings	❑
Interconnection Equipment	❑
Obstacles to Sunlight	❑
Questionable Workmanship	❑
Safety Hazards	❑

Ambient Conditions at time of Measured Output

Temperature		°F
Solar Irradiation		W/m²
Time		

Carport Support Structures

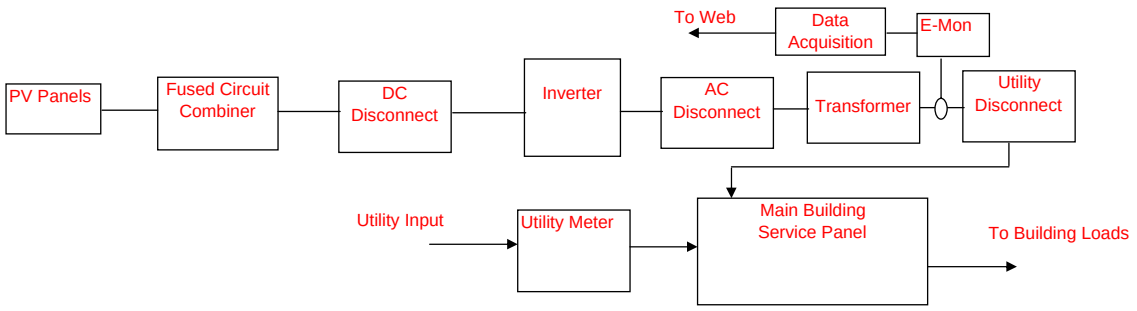
Structure is new	❑
Structure's uses without PV	
Includes walls or roof	❑

Pilot / Demonstration System	no
Used Equipment	no

Notes / Comments (Discrepancies, Special conditions, safety issues, other observations)

System Location (sketch or describe)

example provided below



On-site Inspection

PV Orientation Data **Array ID** 0

Which type of mounting system is used to orient the PV array towards the sun?

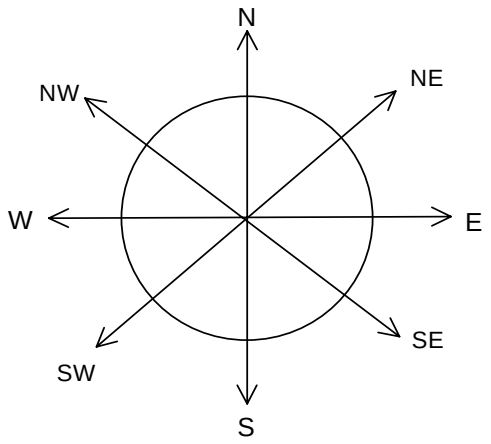
Fixed ❑
- Orientation (i.e., Azimuth): _____ see Fig. 1
- Tilt from horizontal: _____ Degrees

Manual, Seasonal Adjustment
- Orientation Only - Tilt fixed at _____ Degrees ❑
- Tilt Only - Azimuth fixed at _____ see Fig. 1 ❑
- Orientation & Tilt adjusted seasonally ❑

Automatic 1-Axis Tracking (e.g., Zome Works TrackRack) ❑
- Do you manually adjust tilt? Yes / No (circle one)

Automatic 2-Axis Tracking (e.g., WattSun AZ-100) ❑

Figure 1: Azimuth Orientations



Notes / Comments

DRAFT - Metering Inspection Form

CSI Program

Project Name 0

Application Number 0

Contact for Metered Data	
Contact phone number	
Contact email	

Metering Photographed?	❑
Logger Photographed?	❑

Generation Meter

Manufacturer	
Model #	
Units Measured (kW, kWh)	
Time-of-Use ?	

DAS Equipment

Manufacturer	
Model #	
Units Recorded	
Time-of-Use	
Recording Interval	
Digital Output Available	

Pre-Inspection

Revenue Meters

Site Electric Meter # ____ ❑ Utility ❑ Other

Gen Electric Out Meter # ____ ❑ Utility ❑ Other

On-site Inspection

Revenue Meters

Site Electric Meter # ____ ❑ Utility ❑ Other

Gen Electric Out Meter # ____ ❑ Utility ❑ Other

Procedure for downloading data (how often, by whom?)

Metering Configuration (sketch or describe) (include power source, disconnect, inverter, meter, logger)

What format will data be made available to M&E consultant? (paper, electronic, web access, etc.)

What frequency will data be made available to M&E consultant? (upon request, monthly, etc.)

Summarize the data available to M&E consultant

Inspected By	0
QC	

CALIFORNIA PUBLIC UTILITIES COMMISSION

ADVICE LETTER FILING SUMMARY
ENERGY UTILITY

MUST BE COMPLETED BY UTILITY (Attach additional pages as needed)

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

Utility type:

☑ ELC ☐ GAS

☐ PLC ☐ HEAT ☐ WATER

Contact Person: James Yee

Phone #: (626) 302-2509

E-mail: James.Yee@sce.com

EXPLANATION OF UTILITY TYPE

ELC = Electric GAS = Gas

PLC = Pipeline HEAT = Heat WATER = Water

(Date Filed/ Received Stamp by CPUC)

Advice Letter (AL) #: 2088-E

Subject of AL: Coordinated Training Plan for Expected Performance Based Buydown Site Inspectors in Compliance with D.06-08-028

Keywords (choose from CPUC listing): Compliance

AL filing type: ☐ Monthly ☐ Quarterly ☐ Annual ☑ One-Time ☐ Other

If AL filed in compliance with a Commission order, indicate relevant Decision/Resolution #:

D.-06-08-028

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[1]:

Resolution Required? ☐ Yes ☑ No

Requested effective date: 2/5/07 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[1]:

Pending advice letters that revise the same tariff sheets:

[1] Discuss in AL if more space is needed.

Protests and all other correspondence regarding this AL are due no later than 20 days after the date of this filing, unless otherwise authorized by the Commission, and shall be sent to:

CPUC, Energy Division
Attention: Tariff Unit
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jnj@cpuc.ca.gov and mas@cpuc.ca.gov

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