

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298



August 29, 2017

Advice Letters 5124 and 5124-A

Ray Ortiz
Tariff Manager – GT14D6
Southern California Gas Company
555 West Fifth Street
Los Angeles, CA 90013-1011

SUBJECT: Proposed Modifications to the Self-Generation Incentive Program to Implement a Field Inspection Protocol in accordance with D.16-06-055 and Revise the Energy Storage Inspection Protocol in accordance with Resolution E-4717

Dear Mr. Ortiz:

On April 27, 2017, the Center for Sustainable Energy filed Southern California Gas Company (SoCalGas) Advice Letter (AL) 5124 on your behalf that submitted for CPUC approval modifications to the Self-Generation Incentive Program (SGIP) to implement a field inspection protocol in accordance with CPUC Decision (D.) 16-06-055 and to revise the energy storage inspection protocol in accordance with CPUC Resolution E-4717.

On May 17, 2017, responses to your advice letter were submitted by Tesla, Inc. (Tesla), the California Energy Storage Alliance (CESA) or the California Solar Energy Industries Association (CalSEIA). The Center for Sustainable Energy (CSE) submitted a reply to these responses on behalf of the SGIP administrators on May 24, 2017. CSE filed AL 5124-A on your behalf on August 1, 2017.

Energy Division staff reviewed SoCalGas' AL 5124 and its supplement and determined that they demonstrate compliance with D.16-06-055 and Resolution E-4717. The advice letters are therefore approved.

See the attached appendix for a more detailed discussion of staff's review and findings.

The advice letter and its supplement are effective as of the date of this letter.

Sincerely,

Handwritten signature of Edward Randolph in cursive.

Edward Randolph
Director, Energy Division

Appendix: Staff Review and Findings

Background

Decision (D.)16-06-055 required the administrators of the Self-Generation Incentive Program (SGIP or program) to host a workshop to solicit industry feedback on implementing a sampling protocol for field inspections of energy storage systems that receive SGIP incentive payments. The program's administrators (PAs) were also directed to publish a report of their findings, including recommendations, within six months of the date of the D.16-06-055.¹

Critically, D.16-06-055 established the intent of field inspections to "ensure that each SGIP system is designed and installed in a manner that ensures grid benefits as well as customer safety." The allowance for the proposal of a sampling protocol was to address the costs and administrative burden of inspecting every system.²

Additionally, D.16-06-055 stated, "[t]he program administrators should be allowed to file an advice letter proposing changes to the inspections/sampling regime, following the publication of this workshop report, if they believe it will benefit the program."³

On November 14, 2016, the SGIP PAs held the SGIP Statewide Quarterly Workshop to discuss the field inspection sampling protocol, and on December 22, 2016, the SGIP PAs served the report on the R.12-11-005 service list.

On April 27, 2017, the SGIP PAs jointly filed Center for Sustainable Energy (CSE) Advice Letter 78 / Pacific Gas and Electric (PG&E) Advice Letter 3837-G/5062-E / Southern California Edison (SCE) Advice Letter 3596-E / Southern California Gas (SoCalGas) Advice Letter 5124 (the advice letters) to propose modifications to SGIP by implementing a field inspection sampling protocol in accordance with D.16-06-055 and revise the energy storage inspection protocol in accordance with Resolution E-4717.

The inspection sampling protocol proposed by the PAs required the first three projects using the same model for each developer in both the residential and non-residential customer category to be inspected. If those three inspections were successfully completed with no failures or suspensions, one in five projects may be randomly selected by the PAs for inspection. After six total successful inspections, a PA could exercise discretion to lower the random inspection sampling to one in ten projects. New equipment models introduced by a developer during the inspection sampling cycle will be inspected for at least three applications. If those inspections are successful, the sampling cycle would resume at a one in five rate. Any failed inspections resulting in the need to physically re-inspect the system would lead to an automatic resumption of the one in five sampling method. Five suspensions would lead to a reset of the inspection sampling process.

¹ D.16-06-055 at 47, 84-85 (OP 7, 8).

² D.16-06-055 at 46. *See also* D.16-06-055 at 70 (FOF 49).

³ D.16-06-055 at 47.

The advice letter also spelled out the proposed protocol for pre-inspection and field inspection of SGIP energy storage systems. The pre-inspection protocol generally requires developers to provide to the inspector verification that equipment information would be available to inspect and verification that the system was configured to operate in parallel with the grid, load shave and serve on-site demand. Finally, pre-inspection required the demonstration of energy storage system performance under normal operation through a review of one week's worth of data.

For field verification, the advice letter called for a visual inspection process, to verify that the device can serve onsite load, operate in parallel with the grid and meet other SGIP eligibility requirements. For discharge testing, an option is given for either field testing of the continuous discharge of the system, or a factory test accompanied by a 30-minute field test of continuous discharge.

In addition, the PAs further argued that Resolution E-4717 granted the PAs the authority to revise the field inspection protocol for energy storage projects as needed based on experience. Since Resolution E-4717 was issued on June 12, 2015, the PAs asserted that they and their inspection teams identified several ways to improve and streamline the inspection process for electrical discharging types of energy storage.

Protests, Comments and Replies

Three responses to the advice letter were filed on May 17, 2017 by Tesla, Inc. (Tesla), the California Energy Storage Alliance (CESA) and the California Solar Energy Industries Association (CalSEIA).

Tesla responded with several suggested changes to the inspection protocol. They recommended that the sampling rate should be reduced for those developers that successfully pass inspections as a matter of course, rather than leaving it to the discretion of the administrators. Tesla requests a 1-in-100 sampling rate once a developer reaches six successful field inspections.

Further, Tesla requests that the term "new equipment models" be clarified. If a new equipment model number results in minor changes to a model, Tesla requests that such a change in the number not lead to a reset of the sampling protocol. They also suggest that minor changes to non-battery pack elements of the system not lead to a reset of the sampling protocol.

Tesla also seeks clarification on the use of the words "suspension" and "failure" in the context of Section 2.e of the proposed sampling protocol.

Tesla expresses concern that field testing that leads to an export of energy from the storage system to the grid may result in a violation of the applicable interconnection agreement for the storage system. Tesla recommends that an export of energy that occurs during a field inspection not be considered a breach of the interconnection agreement with the utility, and that export generally not be required for systems designed to be non-exporting.

CalSEIA generally shares Tesla's concerns. CalSEIA recommends a 1-in-100 sampling rate after a developer achieves six successful field inspections. CalSEIA also seeks clarification on whether a "new equipment model" is considered by the PAs to occur when a new equipment model number is given to a piece of equipment. CalSEIA suggests that a new equipment model

only be considered to occur if a new equipment model number is given. CalSEIA also seeks clarification that onsite discharging testing will not result in violations of the non-export provisions of interconnection agreements.

In addition to the concerns mirroring Tesla's, CalSEIA also recommends that the field inspection interval data time be increased. They recommend a 15 minute data interval be used for field inspections.

CESA's concerns and suggestions are similar to those of Tesla and CalSEIA. CESA recommends that the final sampling rate for successful developers be 1-in-100 rather than 1-in-10. CESA also suggests a clarification of the definition of "failure" whereby it covers changes to equipment that did not have prior PA approval, rather than including changes to equipment that did have prior PA approval. CESA also recommends that the inspection protocol be modified so that discharge tests will not require or result in export of energy that violates an interconnection agreement. For non-exporting systems, CESA recommends that the discharge test not require any discharge that exceeds available load at the time of the test. CESA notes that during late morning and midday hours there may not be sufficient customer load to conduct a test and recommends an alternative testing protocol be developed for those circumstances.

CESA recommends that the language on physical disconnection be modified so that the storage system is tested as it would normally operate. They also recommend that the interval data period be lengthened to 15 minutes.

CSE filed a response to the comments of Tesla, CalSEIA and CESA on May 24, 2017 on behalf of the SGIP administrators.

On the question of reducing the sampling rate from 1-in-10 to 1-in-100, the PAs assert that the proposal is unreasonable. They state that a 1-in-10 rate is required in order for the PAs to gain adequate experience, familiarity and confidence in the systems being installed under SGIP. They refer to the California Solar Initiative (CSI) as a benchmark, which uses a 1-in-12 inspection sampling rate.

The PAs state that the sampling protocol is intended to balance the need for ratepayer protection and administrative efficiency, and is not intended to limit the PAs' due diligence. They therefore do not recommend limiting the discretion of the PAs to impose the sampling rate they feel is best. As a bottom line, the PAs assert that their discretion is required in order to ensure customer safety and maintain program integrity.

On the question of whether equipment with new model numbers should necessitate a reset of the inspection protocol, the PAs assert that this is reasonable. They disagree with Tesla that it should be limited to the battery pack. A change in ancillary equipment that does not result in a new model number but does impact the operation of a system should be inspected, in the view of the PAs. Having said that, they clarify that the make or model number of solar panels will not be considered when considering changes to equipment.

On the interval data question raised by CalSEIA, the PAs clarify that 1-5 minute data is only required for the discharge test, and is not needed for other SGIP reporting requirements. The PAs

note that they will address the potential infeasibility of 1-5 minute data reporting on a case-by-case basis.

On the non-export interconnection requirements question raised by CESA, the PAs affirm that the 30-minute discharge test is not intended or required to test output at full capacity, nor is it intended to violate the non-export provisions of an interconnection agreement. The PAs note that the discharge test may be performed at a time of the developer's choosing, when there is sufficient onsite load to test a system's discharge.

On the physical disconnection question raised by CESA, the PAs decline to adopt CESA's recommendation, and assert that a circuit breaker-level disconnection from the grid is not a permissible operating mode per SGIP rules. Therefore, the PAs note that during the discharge test the SGIP energy storage system must be able to demonstrate parallel operation with the grid.

The PAs codified the changes spelled out in their response in a supplemental advice letter filed August 1, 2017.

Findings

Energy Division staff reviewed SoCalGas' AL 5124 and 5124-A and determined that they demonstrate compliance with D.16-06-055 and Resolution E-4717. The advice letter and its supplement are therefore approved.

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298



August 29, 2017

Advice Letters 5124 and 5124-A

Ray Ortiz
Tariff Manager – GT14D6
Southern California Gas Company
555 West Fifth Street
Los Angeles, CA 90013-1011

SUBJECT: Proposed Modifications to the Self-Generation Incentive Program to Implement a Field Inspection Protocol in accordance with D.16-06-055 and Revise the Energy Storage Inspection Protocol in accordance with Resolution E-4717

Dear Mr. Ortiz:

On April 27, 2017, the Center for Sustainable Energy filed Southern California Gas Company (SoCalGas) Advice Letter (AL) 5124 on your behalf that submitted for CPUC approval modifications to the Self-Generation Incentive Program (SGIP) to implement a field inspection protocol in accordance with CPUC Decision (D.) 16-06-055 and to revise the energy storage inspection protocol in accordance with CPUC Resolution E-4717.

On May 17, 2017, responses to your advice letter were submitted by Tesla, Inc. (Tesla), the California Energy Storage Alliance (CESA) or the California Solar Energy Industries Association (CalSEIA). The Center for Sustainable Energy (CSE) submitted a reply to these responses on behalf of the SGIP administrators on May 24, 2017. CSE filed AL 5124-A on your behalf on August 1, 2017.

Energy Division staff reviewed SoCalGas' AL 5124 and its supplement and determined that they demonstrate compliance with D.16-06-055 and Resolution E-4717. The advice letters are therefore approved.

See the attached appendix for a more detailed discussion of staff's review and findings.

The advice letter and its supplement are effective as of the date of this letter.

Sincerely,

Handwritten signature of Edward Randolph in cursive.

Edward Randolph
Director, Energy Division

Appendix: Staff Review and Findings

Background

Decision (D.)16-06-055 required the administrators of the Self-Generation Incentive Program (SGIP or program) to host a workshop to solicit industry feedback on implementing a sampling protocol for field inspections of energy storage systems that receive SGIP incentive payments. The program's administrators (PAs) were also directed to publish a report of their findings, including recommendations, within six months of the date of the D.16-06-055.¹

Critically, D.16-06-055 established the intent of field inspections to "ensure that each SGIP system is designed and installed in a manner that ensures grid benefits as well as customer safety." The allowance for the proposal of a sampling protocol was to address the costs and administrative burden of inspecting every system.²

Additionally, D.16-06-055 stated, "[t]he program administrators should be allowed to file an advice letter proposing changes to the inspections/sampling regime, following the publication of this workshop report, if they believe it will benefit the program."³

On November 14, 2016, the SGIP PAs held the SGIP Statewide Quarterly Workshop to discuss the field inspection sampling protocol, and on December 22, 2016, the SGIP PAs served the report on the R.12-11-005 service list.

On April 27, 2017, the SGIP PAs jointly filed Center for Sustainable Energy (CSE) Advice Letter 78 / Pacific Gas and Electric (PG&E) Advice Letter 3837-G/5062-E / Southern California Edison (SCE) Advice Letter 3596-E / Southern California Gas (SoCalGas) Advice Letter 5124 (the advice letters) to propose modifications to SGIP by implementing a field inspection sampling protocol in accordance with D.16-06-055 and revise the energy storage inspection protocol in accordance with Resolution E-4717.

The inspection sampling protocol proposed by the PAs required the first three projects using the same model for each developer in both the residential and non-residential customer category to be inspected. If those three inspections were successfully completed with no failures or suspensions, one in five projects may be randomly selected by the PAs for inspection. After six total successful inspections, a PA could exercise discretion to lower the random inspection sampling to one in ten projects. New equipment models introduced by a developer during the inspection sampling cycle will be inspected for at least three applications. If those inspections are successful, the sampling cycle would resume at a one in five rate. Any failed inspections resulting in the need to physically re-inspect the system would lead to an automatic resumption of the one in five sampling method. Five suspensions would lead to a reset of the inspection sampling process.

¹ D.16-06-055 at 47, 84-85 (OP 7, 8).

² D.16-06-055 at 46. *See also* D.16-06-055 at 70 (FOF 49).

³ D.16-06-055 at 47.

The advice letter also spelled out the proposed protocol for pre-inspection and field inspection of SGIP energy storage systems. The pre-inspection protocol generally requires developers to provide to the inspector verification that equipment information would be available to inspect and verification that the system was configured to operate in parallel with the grid, load shave and serve on-site demand. Finally, pre-inspection required the demonstration of energy storage system performance under normal operation through a review of one week's worth of data.

For field verification, the advice letter called for a visual inspection process, to verify that the device can serve onsite load, operate in parallel with the grid and meet other SGIP eligibility requirements. For discharge testing, an option is given for either field testing of the continuous discharge of the system, or a factory test accompanied by a 30-minute field test of continuous discharge.

In addition, the PAs further argued that Resolution E-4717 granted the PAs the authority to revise the field inspection protocol for energy storage projects as needed based on experience. Since Resolution E-4717 was issued on June 12, 2015, the PAs asserted that they and their inspection teams identified several ways to improve and streamline the inspection process for electrical discharging types of energy storage.

Protests, Comments and Replies

Three responses to the advice letter were filed on May 17, 2017 by Tesla, Inc. (Tesla), the California Energy Storage Alliance (CESA) and the California Solar Energy Industries Association (CalSEIA).

Tesla responded with several suggested changes to the inspection protocol. They recommended that the sampling rate should be reduced for those developers that successfully pass inspections as a matter of course, rather than leaving it to the discretion of the administrators. Tesla requests a 1-in-100 sampling rate once a developer reaches six successful field inspections.

Further, Tesla requests that the term "new equipment models" be clarified. If a new equipment model number results in minor changes to a model, Tesla requests that such a change in the number not lead to a reset of the sampling protocol. They also suggest that minor changes to non-battery pack elements of the system not lead to a reset of the sampling protocol.

Tesla also seeks clarification on the use of the words "suspension" and "failure" in the context of Section 2.e of the proposed sampling protocol.

Tesla expresses concern that field testing that leads to an export of energy from the storage system to the grid may result in a violation of the applicable interconnection agreement for the storage system. Tesla recommends that an export of energy that occurs during a field inspection not be considered a breach of the interconnection agreement with the utility, and that export generally not be required for systems designed to be non-exporting.

CalSEIA generally shares Tesla's concerns. CalSEIA recommends a 1-in-100 sampling rate after a developer achieves six successful field inspections. CalSEIA also seeks clarification on whether a "new equipment model" is considered by the PAs to occur when a new equipment model number is given to a piece of equipment. CalSEIA suggests that a new equipment model

only be considered to occur if a new equipment model number is given. CalSEIA also seeks clarification that onsite discharging testing will not result in violations of the non-export provisions of interconnection agreements.

In addition to the concerns mirroring Tesla's, CalSEIA also recommends that the field inspection interval data time be increased. They recommend a 15 minute data interval be used for field inspections.

CESA's concerns and suggestions are similar to those of Tesla and CalSEIA. CESA recommends that the final sampling rate for successful developers be 1-in-100 rather than 1-in-10. CESA also suggests a clarification of the definition of "failure" whereby it covers changes to equipment that did not have prior PA approval, rather than including changes to equipment that did have prior PA approval. CESA also recommends that the inspection protocol be modified so that discharge tests will not require or result in export of energy that violates an interconnection agreement. For non-exporting systems, CESA recommends that the discharge test not require any discharge that exceeds available load at the time of the test. CESA notes that during late morning and midday hours there may not be sufficient customer load to conduct a test and recommends an alternative testing protocol be developed for those circumstances.

CESA recommends that the language on physical disconnection be modified so that the storage system is tested as it would normally operate. They also recommend that the interval data period be lengthened to 15 minutes.

CSE filed a response to the comments of Tesla, CalSEIA and CESA on May 24, 2017 on behalf of the SGIP administrators.

On the question of reducing the sampling rate from 1-in-10 to 1-in-100, the PAs assert that the proposal is unreasonable. They state that a 1-in-10 rate is required in order for the PAs to gain adequate experience, familiarity and confidence in the systems being installed under SGIP. They refer to the California Solar Initiative (CSI) as a benchmark, which uses a 1-in-12 inspection sampling rate.

The PAs state that the sampling protocol is intended to balance the need for ratepayer protection and administrative efficiency, and is not intended to limit the PAs' due diligence. They therefore do not recommend limiting the discretion of the PAs to impose the sampling rate they feel is best. As a bottom line, the PAs assert that their discretion is required in order to ensure customer safety and maintain program integrity.

On the question of whether equipment with new model numbers should necessitate a reset of the inspection protocol, the PAs assert that this is reasonable. They disagree with Tesla that it should be limited to the battery pack. A change in ancillary equipment that does not result in a new model number but does impact the operation of a system should be inspected, in the view of the PAs. Having said that, they clarify that the make or model number of solar panels will not be considered when considering changes to equipment.

On the interval data question raised by CalSEIA, the PAs clarify that 1-5 minute data is only required for the discharge test, and is not needed for other SGIP reporting requirements. The PAs

note that they will address the potential infeasibility of 1-5 minute data reporting on a case-by-case basis.

On the non-export interconnection requirements question raised by CESA, the PAs affirm that the 30-minute discharge test is not intended or required to test output at full capacity, nor is it intended to violate the non-export provisions of an interconnection agreement. The PAs note that the discharge test may be performed at a time of the developer's choosing, when there is sufficient onsite load to test a system's discharge.

On the physical disconnection question raised by CESA, the PAs decline to adopt CESA's recommendation, and assert that a circuit breaker-level disconnection from the grid is not a permissible operating mode per SGIP rules. Therefore, the PAs note that during the discharge test the SGIP energy storage system must be able to demonstrate parallel operation with the grid.

The PAs codified the changes spelled out in their response in a supplemental advice letter filed August 1, 2017.

Findings

Energy Division staff reviewed SoCalGas' AL 5124 and 5124-A and determined that they demonstrate compliance with D.16-06-055 and Resolution E-4717. The advice letter and its supplement are therefore approved.

Alcantar & Kahl
Seema Srinivasan
sls@a-klaw.com

Alcantar & Kahl
Kari Harteloo
klc@a-klaw.com

Alcantar & Kahl LLP
Annie Stange
sas@a-klaw.com

Alcantar & Kahl, LLP
Mike Cade
wmc@a-klaw.com

Azusa Light & Water
George Morrow
gmorrow@ci.azusa.ca.us

Barkovich & Yap
Catherine E. Yap
cathy@barkovichandyap.com

CPUC
Consumer Affairs Branch
505 Van Ness Ave., #2003
San Francisco, CA 94102

CPUC
Pearlie Sabino
pearlie.sabino@cpuc.ca.gov

CPUC - DRA
R. Mark Pocta
rmp@cpuc.ca.gov

California Air Resources Board
Terrel Ferreira
tferreir@arb.ca.gov

California Energy Commission
Robert Kennedy
rkennedy@energy.state.ca.us

California Energy Market
Lulu Weinzimer
luluw@newsdata.com

Calpine Corp
Avis Clark
aclark@calpine.com

City of Banning
Paul Toor
P. O. Box 998
Banning, CA 92220

City of Burbank
Lincoln Bleveans
lbleveans@burbankca.gov

City of Colton
Thomas K. Clarke
650 N. La Cadena Drive
Colton, CA 92324

City of Irvine Community Services
Angie Burgh
aburgh@ci.irvine.ca.us

City of Long Beach Gas & Oil
Dennis Burke
Dennis.Burke@LongBeach.gov

City of Los Angeles
City Attorney
200 North Main Street, 800
Los Angeles, CA 90012

City of Pasadena - Water and Power
Dept.
G Bawa
GBawa@cityofpasadena.net

City of Riverside
Joanne Snowden
jsnowden@riversideca.gov

City of Vernon
Dan Bergmann
dan@igservice.com

Commerce Energy
Catherine Sullivan
csullivan@commerceenergy.com

Crossborder Energy
Tom Beach
tomb@crossborderenergy.com

DGS
Henry Nanjo
Henry.Nanjo@dgs.ca.gov

Davis Wright Tremaine LLP
Vidhya Prabhakaran
vidhyaprabhakaran@dwt.com

Davis Wright Tremaine LLP
Emily Sangi
emilysangi@dwt.com

Davis Wright Tremaine LLP
dwtcpucdockets@dwt.com

Davis Wright Tremaine LLP
Katie Jorrie
katiejorrie@dwt.com

Davis, Wright, Tremaine
Judy Pau
judypau@dwt.com

Douglass & Liddell
Dan Douglass
douglass@energyattorney.com

Douglass & Liddell
Donald C. Liddell
liddell@energyattorney.com

Downey, Brand, Seymour & Rohwer
Dan Carroll
dcarroll@downeybrand.com

Ellison, Schneider & Harris LLP
Eric Janssen
ericj@eslawfirm.com

Energy Division Tariff Unit
EDTariffUnit@cpuc.ca.gov

General Administration Services
Danielle Bogni
Danielle.bogni@gsa.gov

Genon Energy, Inc.
Greg Bockholt
Greg.Bockholt@Genon.com

Goodin, MacBride, Squeri, Ritchie &
Day, LLP
James D. Squeri
jsqueri@gmsr.com

Hanna & Morton
Norman A. Pedersen, Esq.
npedersen@hanmor.com

ICF
Lujana Medina
Lujana.Medina@icf.com

Imperial Irrigation District
K. S. Noller
P. O. Box 937
Imperial, CA 92251

JBS Energy
Jeff Nahigian
jeff@jbsenergy.com

Kern River Gas Transmission Company
Janie Nielsen
Janie.Nielsen@KernRiverGas.com

LADWP
William Engels
william.engels@ladwp.com

MRW & Associates
Robert Weisenmiller
mrw@mrwassoc.com

Manatt Phelps Phillips
Randy Keen
rkeen@manatt.com

Manatt, Phelps & Phillips, LLP
David Huard
dhuard@manatt.com

McKenna Long & Aldridge, LLP
John Leslie
jleslie@Mckennialong.com

National Utility Service, Inc.
Jim Boyle
One Maynard Drive, P. O. Box 712
Park Ridge, NJ 07656-0712

PG&E Tariffs
Pacific Gas and Electric
PGETariffs@pge.com

Safeway, Inc
Cathy Ikeuchi
cathy.ikeuchi@safeway.com

Southern California Edison Co.
Colin E. Cushnie
Colin.Cushnie@SCE.com

Southern California Edison Co.
Karyn Gansecki
karyn.gansecki@sce.com

Southern California Edison Co.
John Quinlan
john.quinlan@sce.com

Southern California Gas Company
Rasha Prince
RPrince@semprautilities.com

TURN
Marcel Hawiger
marcel@turn.org

The Mehle Law Firm PLLC
Colette B. Mehle
cmehle@mehlelaw.com

Western Manufactured Housing
Communities Assoc.
Sheila Day
sheila@wma.org