BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

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Order Instituting Rulemaking Regarding Policies, Procedures and Rules for the California Solar Initiative, the Self-Generation Incentive Program and Other Distributed Generation Issues.	Rulemaking 10-05-004 (Filed May 6, 2010)

REPLY COMMENTS OF POWERGETICS, INC. ON ADMINISTRATIVE LAW JUDGE'S RULING REQUESTING REPLY COMMENTS ON STAFF PROPOSAL REGARDING MODIFICATIONS TO THE SELF-GENERATION INCENTIVE PROGRAM

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Powergetics, Inc. ("Powergetics") hereby submits these reply comments pursuant to *Administrative Law Judge's Ruling Requesting Comments on the Staff Proposal Regarding Modifications to the Self-Generation Incentive Program,* issued September 30, 2010, and the extension of time to file reply comments until December 10, 2010, granted November 23, 2010 (together the "ALJ's Ruling").

I. INTRODUCTION

The staff Proposal ("Proposal")[1] is a great step towards the implementation of SB 412 by the California Public Utilities Commission's ("Commission's"). Powergetics appreciates the comments of all the stakeholders and, in particular, the Opening Comments of the California Energy Storage Alliance ("CESA"). Powergetics agrees with most of the comments of CESA; however we do disagree in some areas. To provide clarity around our comments, Powergetics reply comments focus on the following four key topics:

First and foremost, Powergetics strongly believes that standalone energy storage should be eligible for the Self Generation Incentive Program ("SGIP"). Second, Powergetics agrees with Ice Energy's statement in their Opening Comments that "along with California's appropriate policy emphasis on reduction of greenhouse gases, it is essential to give the same

[1] Attachment 1 to the ALJ Ruling, *Self Generation Incentive Program (SGIP) Staff Proposal*, September 2010.

kind of attention to peak load management."[2] Third, Powergetics agrees with CESA and Ice Energy that the CPUC should not take a wait and see stance on standalone storage because of the PLS program. The misplaced assumption by the CPUC and others that all storage technologies simply perform permanent load shifting ignores the myriad of benefits and solutions that storage can provide. Fourth, Powergetics agrees with "SDG&E and SoCalGas that performance based incentives are not appropriate for SGIP at this time."[3]

II. STANDALONE ADVANCED ENERGY STORAGE SHOULD BE ELIGIBLE FOR THE SGIP PROGRAM

Storage coupled with wind and fuel cells are presently eligible for the SGIP. Nevertheless, we strongly support and agree with CESA's and Ice Energy's comments. Ice Energy states in their November 15 comments:

> "SB 412 clearly authorizes the Commission to include and distributed energy resources that achieve reduction of greenhouse gas emissions and meet other SGIP goals – without conditioning eligibility on events outside the purview of the SGIP. There is no policy or practical reason to exclude stand-alone storage from the SGIP."[4]

Furthermore, CESA states in their November 15 comments:

> "To date the SGIP is the *only* incentive program that supports energy storage systems. There are no income or production tax credits, like those that have existed for many years to encourage renewable resource development. Because of its market situation is unique and it is critical that the SGIP include all energy storage technologies, and specifically include stand-alone energy storage. The SGIP has also has been a very successful commercialization program for many emerging technologies (e.g. solar, fuel cells, mall wind, etc.). Its role for energy

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[2] Ice Energy, Inc., Opening Comments of Ice Energy, Inc. on *Administrative Law Judge's Ruling Requesting Comments on Staff Proposal Regarding Modifications to the Self-Generation Incentive Program*, November 15, 2010, pp. 1-2.

[3] San Diego Gas & Electric Company and Southern California Gas Company, *Comments San Diego Gas & Electric Company (U 902 M) and Southern California Gas Company (U 904 G) to Administrative Law Judge's Ruling Requesting Comments on Staff Proposal To Modify the Self Generation Incentive Program Pursuant to Senate Bill 412*, November 15, 2010, p. 3.

[4] Ice Energy, Inc., *Opening Comments of Ice Energy, Inc. on Administrative Law Judge's Ruling Requesting Comments on Staff Proposal Regarding Modifications to the Self-Generation Incentive Program*, November 15, 2010, p. 3.

storage is even more strategically important because of the absence of any other storage incentives at the state or federal levels."[5]

There is ample research and a plethora of studies that not only demonstrate the benefits of storage but also the need for storage, especially with proliferation of intermittent renewables on the grid. The CPUC's own report, "Electric Energy Storage: An Assessment of Potential Barriers and Opportunities, July 9, 2010 concludes the following:

> "Currently, EES [Electric Energy Storage] technologies face a number of commercial, economic and regulatory obstacles. The major barrier for deployment of new storage facilities is not necessarily the technology, but the *absence of appropriate regulations and market mechanisms that properly recognize the value of the storage resource* and financially compensate the owners/operators for the services and benefits they provide. As a result, while many applications of storage are technologically feasible, they struggle to become commercially viable. California policymakers face numerous challenges in developing policies and programs that will facilitate the achievement of its goals. EES may provide policymakers with an additional opportunity to meet the state's long-term clean energy goals and maintain system reliability, while minimizing costs." [Emphasis added]

The following are some additional selected reports that we suggest that the staff read and consider as resource materials:

1. Sandia National Laboratories report, "Energy Storage for the Electricity Grid: Benefits and Market Potential Assessment Guide," February 2010.

2. KEMA report, "Research Evaluation of Wind Generation, Solar Generation, and Storage Impact on the California Grid (June 2010)."[6]

3. California Independent System Operator reports on the "Integration of Renewable Resources: Operational Requirements and Generation Fleet Capability at 20% RPS" August 31, 2010.

4. New York Independent System Operator White Paper, "Energy Storage in the New York Electricity Markets," March 2010.

5. National Renewable Energy Laboratory's report "The Role of Energy Storage with Renewable Electricity Generation," January 2010.

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[5] California Energy Storage alliance, *Opening Comments of the California Energy Storage Alliance. On Administrative Law Judge's Ruling Requesting Comments on Staff Proposal Regarding Modifications to the Self-Generation Incentive Program,* November 15, 2010, pp. 1-2.

[6] http://www.energy.ca.gov/2010publications/CEC-500-2010-010/CEC-500-2010-010.PDF

By simply allowing storage coupled with the CPUC approved renewable, the CPUC will be limiting the grid benefits to just those locations with renewable and the intermittency effects of that particular locations renewable. Whereas, standalone storage can solve the intermittency problem across the renewable spectrum and tackle two of the primary goals of SGIP: peak load and greenhouse gas reduction.

III. STANDALONE ENERGY STORAGE SYSTEMS SHOULD BE ELIGIBLE TO PARTICIPATE IN THE SGIP INDEPENDENT OF ANY OTHER PROCEEDING OR POLICY DEVELOPMENT

Powergetics' would like to affirm the arguments of CESA and Ice Energy that the decision to allow standalone storage should not be contingent on the PLS study. We understand that CPUC and other are concerned that there might be overlap between the two programs. However, the SGIP is a well established program while the PLS is in its infancy. SB 412 provides the commission the ability to determine which technologies are eligible based on their ability to reduce peak load and greenhouse gases without conditioning the decision on other programs. Finally and most importantly, the CPUC is assuming that all storage technologies perform permanent load shifting. This is simply not true and ignores the plethora of storage technologies and capabilities that reduce peak load and greenhouse gases.

> *It is important for lawmakers, regulators, and policymakers to be inclusive as they develop, consider, and promulgate regulations and policies whose outcomes/results could be improved if storage is used. For example, relevant decision-makers should consider the ways that storage could improve prospects for success regarding environment, energy, and electricity-related policy objectives such as increased use of renewables and reduced need for transmission infrastructure.*[7]

> *Storage can lead to reduced fuel use and air emissions in at least three ways: 1) time-shift energy from relatively efficient and/or clean base load generation (e.g., combined cycle, geothermal or wind generation) to offset use of less efficient, dirtier on-peak generation (e.g., older, simple cycle combustion turbines), 2) reduce $I^2 R$ energy losses if energy is transmitted during off-peak times, and 3) dynamic operating benefits*.[8]

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[7] U.S. Department of Energy, February 2010: "Energy Storage for the Electricity Grid: Benefits and Market Potential Assessment Guide", page 135.

[8] "Energy Storage for the Electricity Grid: Benefits and Market Potential Assessment Guide", page 145.

--U.S. Department of Energy, Feb 2010: "Energy Storage for the Electricity Grid: Benefits and Market Potential Assessment Guide"

Additionally, the same report breaks electric energy storage applications into five categories and 17 applications, of which several apply to SGIP's mandate:

1) Category 1 – Electric Supply
   a) Application 1: Electric Energy Time-Shift
   b) Application 2: Electric Supply Capacity
2) Category 2 – Ancillary Services
   a) Application 3: Load Following
   b) Application 4: Area Regulation
   c) Application 5: Electric Supply Reserve Capacity
   d) Application 6: Voltage Support
3) [9]Category 3 – Grid System
   a) Application 7: Transmission Support
   b) Application 8: Transmission Congestion Relief
   c) Application 9: Transmission & Distribution Upgrade Deferral
   d) Application 10: Substation On-Site Power
4) Category 4 – End User/Utility Customer
   a) Application 11: Time-of-use Energy Cost Management
   b) Application 12: Demand Charge Management
   c) Application 13: Electric Service Reliability
   d) Application 14: Electric Service Power Reliability
5) Category 5 – Renewables Integration
   a) Application 15: Renewables Energy Time Shift
   b) Application 16: Renewables Capacity Firming
   c) Application 17: Wind Generation Grid Integration

If the CPUC determined that standalone storage is not eligible for SGIP because it would overlap with the PLS program, then the CPUC would be ignoring a number of applications that electrical energy storage can provide to reduce peak load and greenhouse gases. Therefore, it would exclude storage technology that provide peak load and greenhouse gas reduction but does not load shift from both the PLS program and the SGIP. Storage can provide multiple applications simultaneously either on a utility level or on the customer side of the meter.

Additionally, storage technologies fall into two distinct applications: power applications and energy applications. Power applications require high power output for relatively short periods of time and energy applications which requires lower levels of power output for longer

[99] Ibid. page 21.

periods of time. Each of these applications addresses critical issues for the grid but approach the problem in different approaches. The original goal of the SGIP is peak load reduction, which is generally measured in power rather than energy.

IV. INCENTIVE MECHANISMS FOR STORAGE SHOULD BE BASED ON POWER REDUCTION

The staff recommendation replacing the current upfront capacity based incentive with a hybrid performance based incentive will cause unintended harm to the purpose of the SGIP, which is to promote nascent technologies that reduce greenhouse gases and peak load reduction. Powergetics agrees with San Diego Gas & Electric Company and Southern California Gas Company November 15th comments which stated the following:

> "SDG&E and SoCalGas believe that performance based incentives are not appropriate for SGIP at this time. Changing to the proposed hybrid performance based incentive structure at this point in the program could end up frustrating progress of the current SGIP. Customers may be reluctant to embrace a new, much more complicated incentive mechanism that offers much less in the way of upfront incentives that are highly desirable from a customer's perspective."[10]

However, if the CPUC decided to move forward with the a hybrid performance based incentive, then Powergetics agrees with several other stakeholders comments that a larger upfront payment of 85% would be more feasible from a financing perspective and the CPUC should take in consideration the time value of money.

Powergetics does not here propose a specific formula for calculating the performance based incentive for storage. Yet, we believe that the performance based incentive for storage should be calculated based on power or capacity (kilowatts) that reduces peak load. Because peak load is measured in power, it would be consistent to measure the performance in peak lead reduction using kilowatt.

The CPUC should incent technologies that promote efficient use of energy towards peak reduction as opposed to incenting the energy output. Powergetics agrees with the following statement from the Staff Proposal.

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[10] San Diego Gas & Electric Company and Southern California Gas Company, *Comments San Diego Gas & Electric Company (U 902 M) and Southern California Gas Company (U 904 G) to Administrative Law Judge's Ruling Requesting Comments on Staff Proposal To Modify the Self Generation Incentive Program Pursuant to Senate Bill 412*, November 15, 2010, pp. 3-4.

> "Payment based on total energy deliveries may not be appropriate for energy storage technologies, which may provide the greatest benefit by discharging in limited quantities to smooth DG output and/or customer load. Payment based on energy deliveries may create an incentive for energy storage technologies to discharge more than is necessary or beneficial." [11]

Furthermore, we agree with California Center for Sustainable Energy that the CPUC should maintain an "up-front, lump sum incentive payment for projects under 30kW." [12]

V. ADDITIONAL PROGRAM MODIFICATIONS

1. Warranties: Powergetics agrees with SoCalGas and SDG&E "that a ten year warranty would be too expensive and would discourage participation in the program"[13] and disagrees with California Center for Sustainable Energy which recommends a 10 year warranty for all technologies. A ten year warranty would be much of an unknown cost for nascent technologies, and will discourage investment. These technologies by nature do not have lengthy histories of operation. Therefore, Powergetics recommends a 5-year warranty for energy storage technologies.

2. Application Fees: Powergetics agrees with the SDG&E and SoCalGas which state the following:

> "SDG&E and SoCalGas generally do not see the need to re-institute application fees for SGIP at this point in time."[14]

We would like to add that upon successful installation of the project that any such application fee should be refunded or applied as a credit to future applications.

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[11] Attachment 1 to the ALJ Ruling, *Self Generation Incentive Program (SGIP) Staff Proposal*, September 2010, p.42.

[12] California Center for Sustainable Energy, *Comments of the California Center for Sustainable Energy in response to Administrative Law Judge's Ruling Requesting Comments on Staff Proposal Regarding Modification to the Self-Generation Incentive Program,* November 15, 2010, p. 10.

[13] San Diego Gas & Electric Company and Southern California Gas Company, *Comments San Diego Gas & Electric Company (U 902 M) and Southern California Gas Company (U 904 G) to Administrative Law Judge's Ruling Requesting Comments on Staff Proposal To Modify the Self Generation Incentive Program Pursuant to Senate Bill 412*, November 15, 2010, pp. 4-5.

[14] San Diego Gas & Electric Company and Southern California Gas Company, *Comments San Diego Gas & Electric Company (U 902 M) and Southern California Gas Company (U 904 G) to Administrative Law Judge's Ruling Requesting Comments on Staff Proposal To Modify the Self Generation Incentive Program Pursuant to Senate Bill 412*, November 15, 2010, pp. 5.

3. Round Trip Efficiency for Storage: Powergetics agrees with Ice Energy's analysis "that round trip efficiency is a key metric and appropriate eligibility requirement for storage."[15] Powergetics believes a round trip efficiency is a key factor in determining greenhouse gas reduction and a round trip efficiency standard for storage of at least 67.9% or more is appropriate to reduce greenhouse gas reduction.

VI. CONCLUSION.

Powergetics appreciates this opportunity to comment on the Ruling, and looks forward to working with the Commission and the parties as this proceedings progress.

Respectfully submitted,

/s/

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[15] Ice Energy, Inc., *Opening Comments of Ice Energy, Inc. on Administrative Law Judge's Ruling Requesting Comments on Staff Proposal Regarding Modifications to the Self-Generation Incentive Program*, November 15, 2010, pp 5-6.

CERTIFICATE OF SERVICE

I hereby certify that I have this day served a copy of ***Reply Comments of Powergetics on Administrative Law Judge's Ruling Requesting Reply Comments on Staff Proposal Regarding Modifications to the Self-Generation Incentive Program*** on all parties of record in proceeding ***R.10-05-004*** by serving an electronic copy on their email addresses of record and by mailing a properly addressed copy by first-class mail with postage prepaid to each party for whom an email address is not available.

Executed on December 10, 2010, at Woodland Hills, California.

Michelle Dangott

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