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January 27, 2010

Honorable Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

**Re: Letter Agreement for Bidding of Regulation Ancillary Service
by Sano Regulation Center and Request for Waivers
Docket No. ER09-____-000**

Dear Secretary Bose:

The California Independent System Operator Corporation ("ISO") submits for filing and acceptance this Letter Agreement for Bidding of Regulation Ancillary Service by Sano Regulation Center ("Agreement") between the ISO and AES Energy Storage LLC ("AES").¹ The Agreement sets forth the terms and conditions under which the Sano Regulation Center ("Sano"), an AES facility, will demonstrate its ability to provide Regulation² service to the ISO and subsequently provide Regulation service, pending development and approval of generally applicable amendments to the ISO Tariff to accommodate the provision of Regulation service by non-generation facilities such as advanced storage devices. The Agreement has been designated as Rate Schedule FERC No. 67.

The Agreement covers two phases of Sano's relationship with the ISO. The first stage is a test period, during which the ISO will evaluate and confirm Sano's ability to provide Regulation service within the parameters set forth in the Agreement. The second phase will commence following successful resolution of any predefined issues that may arise during the test period. For this second phase, the Agreement provides interim terms and conditions under which AES

¹ This ISO makes this filing Pursuant to section 205 of the Federal Power Act, 16 U.S.C. § 824d.

² Capitalized terms not otherwise defined herein have the meanings set forth in the ISO Tariff.

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will actively bid Sano into the ISO's market to provide Regulation service. These provisions, in conjunction with the current ISO tariff provisions, will govern Sano's participation until completion of the stakeholder process and amendment of the ISO Tariff to better accommodate the provision of Regulation by non-generation facilities. The ISO shall offer the terms and conditions set forth in the Agreement with AES to the developers of additional limited energy storage devices up to an aggregate capacity of 20 MW or a lesser amount if the ISO determines that the incremental storage capacity impairs the efficient operation of the ISO's markets, reliable system operation, or the ISO's ability to comply with applicable NERC reliability standards.

Both AES and the ISO are prepared to move ahead immediately, and as discussed below, delay of the pilot program will cause unnecessary financial cost for AES. The ISO therefore requests that the Commission (1) accept the Agreement for filing to be effective February 9, 2010, which is the first day on which the ISO can complete all processes necessary for Sano to be visible on the ISO's control systems for purposes of the first phase test plan; and (2) waive any applicable requirement of Part 35 and approve any additional waivers as may be necessary in order to permit this filing to become effective as proposed.

I. BACKGROUND

Sano is a resource based on advanced energy storage technology. Sano consists of lithium ion nano-phosphate batteries with a maximum energy storage capacity rating of 2.0 MW that have been installed and connected to the distribution system of Southern California Edison Company ("SCE") at the auxiliary bus of retired Huntington Beach Generating Unit No. 5. AES has requested that the ISO provide Sano with the opportunity to participate in the ISO's Regulation market.

Battery storage facilities, such as Sano, are similar to generators in that they convert one form of energy (in this case chemical energy) to electric energy. Unlike most generators, however, they use electricity as the "fuel" to create the non-electric form of energy. They are thus also, at times, similar to loads. In that respect, battery storage facilities share certain characteristics with pumped storage. While battery storage facilities offer potential cost and other operational advantages over pumped storage (including nearly instantaneous ramping and switching between production and consumption of electric energy) their ability to consume or produce electricity over a protracted period is more limited. Because of the particular operating characteristics of battery storage facilities the ISO has initiated a stakeholder process to consider how participation of these facilities in ISO markets could be improved by developing new policies, procedures and standards and amending the ISO Tariff if necessary.

The ISO is working with stakeholders to resolve technical, market, and reliability issues in order to enhance participation in its Ancillary Services markets by battery storage facilities and other non-generation resources. Upon completion of this stakeholder process, the ISO will establish formal, generally applicable policies, procedures and standards for procuring Ancillary Services from non-generation resources, which may include development of a *pro forma* operating agreement and other operating requirements, as well as technical provisions specifically applicable to non-generation resources.³ These prospective ISO policies and procedures, and any subsequent changes to the ISO Tariff to accommodate such resources, will apply to Sano, as well as to other future non-generation resources that may seek to participate in the ISO's Ancillary Services market.

The ISO is aware that the Commission has recently issued a declaratory order conditionally approving the treatment of a battery storage project as a transmission asset.⁴ That order, however, should have no effect on the Sano project or the ISO's development of its policies for participation in the Regulation market. The Commission was careful to note that its findings only applied to the specific projects identified by Western Grid Development, which would not participate in the ISO's markets, and was conditioned on approval of the project through the ISO's transmission planning process.⁵ The ISO is developing procedures for non-generation resources that, like Sano and in contrast to Western Grid Development, will participate in the ISO's markets and have not been a part of the ISO's transmission planning process.

Pending the conclusion of the stakeholder initiative and implementation of the resulting policies, requirements, standards and procedures, AES and the ISO have entered into the Agreement in order to allow Sano's participation in the Regulation market on an interim basis. As noted, the Agreement provides for an initial test period, in which the ISO will evaluate technical issues in connection with Sano's provision of Regulation service and develop any necessary solutions. Following successful conclusion of the test period, the Agreement allows Sano to participate in the Regulation markets on an interim basis. During this interim period, Sano will be subject to the provisions of the ISO Tariff applicable to

³ Documents regarding the stakeholder process for the participation of non-generation resources in the ISO's Ancillary Services markets can be found at <http://www.caiso.com/2415/24157662689a0.html>. However, it should be noted that the complexity of the proposed changes from a policy and implementation perspective vary among the Ancillary Services, with Regulation involving significantly more complexity than the others. Accordingly, the completion of the stakeholder process, subsequent filing with the Commission, and implementation timeframes may vary by particular Ancillary Service.

⁴ *Western Grid Development LLC*, 130 FERC ¶ 61,056 (2010).

⁵ See, e.g., *id.* at PP 2, 46, 49, 53.

generators providing Regulation service, except as specifically provided in the Agreement.

II. THE TEST PLAN

Under the test plan,⁶ the ISO will add Sano to the ISO market database and permit it to respond to an Automatic Generation Control ("AGC") signal in order to evaluate Sano's performance and ability to comply with the terms and conditions of the second phase of the Agreement. Sano will submit price-taker bids for Regulation service in the ISO's Ancillary Services markets during hours defined in the test plan. Sano is currently configured for AGC, and can begin regular AGC operations as soon as it is associated with a scheduling coordinator, which can occur, at the earliest, on February 9, 2010.

Under the test plan, the ISO will not compensate Sano for the provision of Regulation service and will not rely upon Regulation services provided by Sano to meet Ancillary Services requirements under the ISO Tariff or WECC and NERC standards. Neither will Sano be subject to any market charges. Sano will thus be financially neutral during the test plan period.

Certain accommodations are necessary in order to facilitate Sano's provision of Regulation service during both the first phase test plan and the second phase interim certification procedures. For example, because it can only provide a limited amount of energy, Sano (like other limited energy storage technologies) requires multiple charge-discharge cycles per hour when providing Regulation services. An energy storage facility is thus designed to have a positive P_{\max} number and a negative P_{\min} number, with its preferred operation point set at zero (or a small negative number). Such a preferred operation point, however, is currently incompatible with the ISO's Energy Management System, which is designed to send only a positive set point number to generators on Regulation and therefore accommodate a negative Regulation Down operating range. Therefore, an "offset" or positive bias number will be used for modeling Sano so that the EMS will be able to send a regulation set-point signal that is always a positive number. The modeled P_{\max} for the facility will be the actual P_{\max} plus the bias number, and the modeled P_{\min} will be zero, which is the actual P_{\min} plus the bias number.⁷ To establish the energy offset, Sano will self-

⁶ The test plan is included in Appendix 1 of the Agreement attached to this filing.

⁷ This "work around" strategy of using an energy offset number is acceptable for a single two-megawatt energy storage facility, such as Sano, during a pilot project. It is not an acceptable as a long-term strategy for a large number of, or large amount of capacity from, energy storage facilities. If the PNode and the default load aggregation point are electrically at the same node, then the bias offset number will not affect the State Estimator model. It still results in the energy market being deficient for the hour by the amount of the energy offset number. Therefore, both the market system and the

schedule in the Day-Ahead Market two megawatts of energy at a default load aggregation point. Sano will also self-schedule two megawatts of load in the Day-Ahead Market to compensate for any error that the energy self-schedule introduces to the ISO's State Estimator and market models, to mitigate any impact on Imbalance Energy prices, and minimize deviation-related settlement charges associated with Sano's schedules that would otherwise result from the ISO's need to establish the positive offset point.

In order to conduct the test plan and the interim certification procedures, Sano must be incorporated into ISO market systems. Its bids, performance, and modeled characteristics thus will influence market outcomes and flow through to the ISO settlement system similarly to any other market participant. The ISO anticipates several potential effects from the offsetting of "virtual" energy and load bids described above that may impact the market generally and Sano in particular.

- First, although the intent is to fully offset the effect of a non-performing 2 MW energy bid with a 2 MW demand bid, this may not be completely effective in the near term because the pricing node or PNode for the energy injection will not be directly collocated with the load or demand bid, which will be at a higher level of aggregation at a default load aggregation point, not a custom load aggregation point. Therefore, from the market perspective, even though the bids are price-takers, they may have a non-symmetrical impact on the operation of the Day-Ahead Market solution. As a practical matter, however, the ISO believes that there will be little, if any, effect on the marginal prices at either the affected PNode or default load aggregation point. The ISO is working with AES to assign a custom load aggregation point, which will better correspond with the PNode, or to establish a Station Power arrangement that will also act to ensure more accurate modeling of Sano.
- Second, from AES's perspective, this potential for price differential will create a financial risk largely as a result of limitations in ISO systems prior to implementation of longer-term solutions for non-generation resources. (However, as noted above, AES is to be held financially neutral during the test plan in that it will neither receive payment nor be liable for charges incurred.)
- Third, if Sano fails to respond to an AGC signal, the ISO systems may procure additional energy to accommodate that failure. After implementation of the interim certification procedures, Sano would be

EMS dispatch software ultimately must be changed to account for the special characteristics of energy storage and other non-generation resources such as loads that are capable of providing Ancillary Services.

treated similarly to any other resource that fails to provide Regulation service.

As a result, until AES becomes a market participant during the interim certification procedures and becomes exposed to financial risks, and to the extent Sano incurs net charges, other means must be established to keep the market whole. To ensure ISO market participants do not incur a net negative impact, the ISO has reserved \$20,000.00 to absorb potential ISO market costs that would otherwise result from charges incurred by Sano based on its participation in the market for Regulation. The ISO will use amounts budgeted in its Grid Management Charge for research projects, such as Sano. Settlement examples from Sano's operation are set forth in Attachment 2.

As a result of this arrangement, the test plan schedule has been structured to allow the CAISO to manage its cost exposure. The settlement amounts for any test event will be available to the CAISO at T+5 calendar days, but estimates of those settlement amounts will be prepared daily. Thus, the CAISO will assess after each test event how much of the reserve amount remains to ensure the CAISO does not exceed the total reserved amount. If it is determined that insufficient funds are available, the ISO may terminate remaining test events or mutually agree with AES on test modifications.

III. INTERIM CERTIFICATION PROCEDURES

Under the interim certification procedures, AES will be able to submit bids on behalf of Sano for Regulation service in the ISO's Ancillary Services market and be compensated in accordance with generally applicable settlement rules. The bidding and scheduling rules employed during the interim certification procedures will be largely the same as during the test plan, except that AES will be able to submit an Economic Bid for Regulation. During the interim certification procedures period, the ISO will rely upon the capacity represented by Sano's bids as part of the Regulation capacity required by the ISO to meet any applicable reliability standard.

In general, AES will be treated the same as other Market Participants bidding Generation into the ISO's Markets for Regulation service. Except as otherwise provided in the Agreement, Sano will be subject to the same requirements and standards as Generators providing Regulation, and AES will receive compensation and be charged through the market accordingly.

During the interim certification procedures, AES will continue to self-schedule two megawatts of load in the Day-Ahead Market to compensate for the impacts on the ISO's markets that would otherwise result from the ISO's need to establish the positive offset point. The Agreement exempts AES from Grid

Management Charge-related charges associated with these load schedules. Sano's actual load will pay its appropriate portion of the ISO's Grid Management Charge in its capacity as Southern California Edison's retail load. The self-schedule, in contrast, is an artificial construct necessitated by the ISO's market systems. Assessing the Grid Management Charge to this self-scheduled load would amount to double-charging the Sano load. Exempting the self-scheduled load from associated Grid Management Charges avoids this unjust and unreasonable result. The amounts involved will be absorbed through the ISO's Operations and Maintenance budget.

IV. THE AGREEMENT

The Agreement recites the background information described above and sets forth the terms and conditions of Sano's and the ISO's participation in the pilot project, which can be summarized as follows:

- An affiliate of AES, AES Pacific, LLC, is, and will remain, certified as the Scheduling Coordinator for the Sano Project so long as it meets the general requirements for Scheduling Coordinator certification under the ISO Tariff;
- AES shall satisfy all interconnection-related requirements for interconnection of the Sano facility to SCE's distribution system;
- Sano's operation shall be subject to all applicable mandatory Reliability Standards of the North American Electric Reliability Corporation, standards and requirements of the Western Electricity Coordinating Council, and ISO Tariff provisions, except for Ancillary Services certification requirements and the requirement that awarded Regulation capacity be capable of converting the awarded capacity to Energy that can be maintained at a level output for a minimum of 2 hours;
- The test plan and interim certification procedures will be conducted pursuant to Appendix 1 of the Agreement;
- During the test plan, AES shall be exempted from all ISO charge types otherwise applicable to service provided by Sano and AES shall not receive any charges, payment or compensation in any form from the ISO for providing any Energy or Ancillary Service or for the participation of Sano in the pilot project. The ISO will be responsible for any charges incurred by Sano that otherwise would require payment to other market participants in accordance with applicable ISO settlement provisions in an amount no greater than \$20,000. The ISO will make such payments from existing ISO

operating funds collected through the Grid Management Charge. Any positive settlement balance at the end of the test plan that Sano would otherwise be entitled to as a market participant will be retained by the ISO as an offset to its Grid Management Charge;

- Upon successful completion of the test plan, AES may submit bids on behalf of Sano for Regulation service in the ISO's Ancillary Services market under the interim certification procedures;
- During the interim certification procedures, and except as provided in the Agreement, Sano will be subject to all provisions of the ISO Tariff applicable to Generating Units providing Regulation service;
- During the interim certification procedures, all CAISO charge types otherwise applicable to service provided by Sano, including Regulation service, any other Ancillary Service, or Energy, shall apply, except that the CAISO will not assess to AES any Grid Management Charge-related charges associated with AES's submission of load schedules for Sano;
- AES is responsible for any and all charges and costs related to the operation and maintenance of Sano, as well as any damage caused to or by the Sano facility as a result of its participation in the Sano test plan and interim certification procedures, and shall indemnify the ISO against all losses, damages, claims, liabilities, costs or expenses arising from any act or omission of AES related to the Sano facility, except in the case of gross negligence or willful misconduct by the ISO;
- The ISO will use best efforts to calibrate its AGC signal to correspond with the performance characteristics of the Sano project and of the ISO's requirements for Regulation service; and
- AES is required to provide all data requested by the ISO (which the ISO shall keep confidential in accordance with ISO Tariff Section 20) related to Sano's participation in the test plan to enable the ISO to assess Sano's capability for providing Regulation service and make a determination whether to proceed with the interim certification procedures.

The parties may terminate the Agreement by mutual agreement or, with 10 days' notice, unilaterally. The ISO may also terminate the Agreement based on noncompliance by AES with the Agreement.

The Agreement provides that, in the case of any inconsistency with the ISO Tariff, the Agreement prevails.

IV. EXPENSES AND REQUEST FOR WAIVERS

No expense or cost associated with this filing has been alleged or judged in any judicial or administrative proceeding to be illegal, duplicative, unnecessary, or demonstratively the product of discriminatory employment practices.

The information submitted with this filing substantially complies with the requirements of Part 35 of the Commission's regulations applicable to filings of this type. The ISO requests waiver of any applicable requirement of Part 35 and any additional waivers as may be necessary in order to permit this filing to become effective as proposed.

V. EFFECTIVE DATE AND REQUEST FOR WAIVER OF NOTICE REQUIREMENT

The ISO asks that the Commission accept the Agreement for filing to be effective February 9, 2010. Pursuant to Section 35.11 of the Commission's regulations,⁸ the ISO therefore requests that the Commission waive its notice requirements to the extent necessary for such approval.

Waiver of the Commission's notice requirement is justified in order to avoid unnecessary financial cost to AES. Sano has been ready for operations, and AES has been incurring associated carrying costs, for over a year. However, the resolution of technical and legal issues necessary for Sano to provide Regulation service through the ISO's markets, has prevented the filing of the Agreement prior to this time. The earliest possible commencement of operations will minimize AES's financial exposure.

VI. SERVICE

Copies of this filing have been served upon AES, SCE and the California Public Utilities Commission. In addition, the filing has been posted upon the ISO's website.

VII. ATTACHMENTS

The following are attached to this transmittal letter:

1. Letter Agreement for Bidding of Regulation Ancillary Service by Sano Regulation Center between the ISO and AES Energy Storage

⁸ 18 C.F.R. § 35.11.

LLC (including Energy Storage Test Plan and Interim Certification Procedures as Appendix 1)

2. Settlement examples for Sano's operations.

VIII. CORRESPONDENCE

The ISO requests that all correspondence, pleadings and other communications concerning this filing be served upon the following:

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*Individuals designated for service
pursuant to 18 C.F.R. § 203(b)(3).

IX. CONCLUSION

For the reasons set forth above, the ISO respectfully requests that the Commission accept the Agreement for filing.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Michael E. Ward", is written over a horizontal line.

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Counsel for the California Independent
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Attachment 1

**LETTER AGREEMENT FOR BIDDING OF REGULATION ANCILLARY SERVICE
BY SANO REGULATION CENTER**

Issued By: Nancy Saracino, Vice President, General Counsel and Corporate Secretary

Issued On: January 27, 2010

Effective: February 9, 2010



January 22, 2010

Praveen Kathpal
Vice President
AES Energy Storage LLC
4300 Wilson Blvd.
Arlington, VA, 22203

RE: Letter Agreement for Bidding of Regulation Ancillary Service by Sano
Regulation Center

Dear Mr. Kathpal:

Through this letter agreement ("Letter Agreement"), AES Energy Storage LLC ("AES") and the California Independent System Operator Corporation ("CAISO") agree to establish a two-phased pilot program ("Pilot Program") relating to the Sano Regulation Center ("Sano"). Sano is a resource based on advanced energy storage technology owned and operated by AES and consists of lithium ion nano-phosphate batteries with a maximum energy storage capacity rating of 2.0 MW that have been installed and connected to the distribution system of Southern California Edison Company ("SCE") at the auxiliary bus of retired Huntington Beach Generating Unit No. 5. The first phase of the Pilot Program (a) will evaluate the capability of Sano to provide the CAISO with Regulation service, and (b) will provide the CAISO and AES with experience and data regarding the processes for and effects of allowing battery storage resources to provide Regulation through the CAISO markets. Under the second phase of the Pilot Program, which shall be subject to approval of the Letter Agreement by the Federal Energy Regulatory Commission ("FERC"), Sano will be able to participate in the CAISO markets for the provision of Regulation service pursuant to the interim procedures established by the Letter Agreement. The first phase of the Pilot Program is referred to as the "Test Plan" and the second phase referred to as the "Interim Certification Procedures".

Section 8.1 of the CAISO Tariff provides that bids for Regulation may be submitted by a Scheduling Coordinator for a non-generation resource that is capable of providing the specific service that meets the applicable Ancillary Service standards, operating characteristics, and technical requirements, as set forth in the CAISO Tariff Sections 8.1 through 8.4, and that is certified by the CAISO to provide Ancillary Services.

The CAISO has an ongoing stakeholder initiative to discuss the resolution of interconnection, operational, and market issues related to integrating non-generation resources, including different types of limited energy storage technologies, on the electric power grid and enabling their participation in the Ancillary Services market under the CAISO Tariff on a basis comparable to Generating Units. Upon completion of this stakeholder process, the CAISO will establish formal, generally applicable policies, procedures and standards for

procuring Ancillary Services from non-generation resources, which may include development of a *pro forma* operating agreement and other operating requirements, as well as technical provisions specifically applicable to non-generation resources. These prospective CAISO policies and procedures, and any subsequent changes to the CAISO Tariff when effective for non-generation resources, will apply to Sano, as well as to other future non-generation resources that may seek to participate in the CAISO's Ancillary Services market.

AES and the CAISO have agreed to enter into this Letter Agreement to establish the Pilot Program for the Sano facility. This Letter Agreement and the Energy Storage Test Plan and Interim Certification Procedures, which are attached hereto as Appendix 1 and incorporated herein, contain the complete and exclusive agreement of the parties with respect to the subject matter thereof, and supersedes all discussions, negotiations, representations, warranties, commitments, offers, contracts, and writings prior to the date of this Letter Agreement, with respect to such subject matter. This Letter Agreement shall govern the Pilot Program, which shall be independent of any other pilot program that the CAISO may commence, as part of the ongoing limited energy storage technology stakeholder initiative or otherwise.

Under the Test Plan, Sano will submit price-taker bids for Regulation service in the CAISO's Ancillary Services market, but the CAISO will not treat the capacity represented by such bids as part of the Regulation capacity relied upon by the CAISO to meet any applicable reliability standard. Bids for Regulation from Sano during the term of the Test Plan will be used solely by the parties to monitor, conduct tests, meter, and review Sano's operational performance in order to obtain information about the operational characteristics and capabilities of the battery storage technology used at Sano. The CAISO will also generate settlement statements strictly for informational purposes to identify the potential payments, charges, and penalties that would have been applicable to Sano under the CAISO Tariff had Sano actually participated as a Market Participant. The CAISO will provide Sano with the simulated settlement statements on a best efforts basis consistent with a mutually agreed upon schedule.

Under the Interim Certification Procedures, which will commence upon successful completion of the Test Plan, AES may submit economic bids on behalf of Sano for Regulation service in the CAISO's Ancillary Services market. Under the Interim Certification Procedures (unlike under the Test Plan), and except as set forth in this Letter Agreement (including Appendix 1), Sano will be treated similarly to other Market Participants bidding Generation into the CAISO's markets for Regulation service. Accordingly, to the extent Sano is awarded Regulation service in accordance with applicable provisions of the CAISO Tariff, the CAISO will rely upon the capacity represented by such bids as part of the Regulation capacity required by the CAISO to meet any applicable reliability standard.

AES and the CAISO agree that the Pilot Program shall be conducted subject to the following terms and conditions:

1. Sano is a non-generating resource facility based on lithium ion nano-phosphate batteries with a maximum energy storage capacity rating of 2.0 MW connected to the distribution system of SCE at the auxiliary bus of retired Huntington Beach Generating Unit No. 5. Sano is capable of providing 0.5 MWH of energy.
2. Under the CAISO Tariff, the CAISO shall not schedule Energy or Ancillary Services provided by any non-generation resource other than through a Scheduling Coordinator. An affiliate of AES, AES Pacific, LLC, is and will remain certified as the Scheduling Coordinator for the Sano project.
3. AES shall satisfy all interconnection related requirements for interconnection of the Sano facility to SCE's distribution system. AES's affiliate, AES Huntington Beach, LLC, and SCE have entered into an interconnection agreement in accordance with SCE's Wholesale Distribution Access Tariff and a Service Agreement for Wholesale Distribution Service under which SCE will provide energy to charge Sano's energy storage batteries when necessary. Notwithstanding any arrangements AES may have with SCE to provide Sano with Energy, AES acknowledges that Sano will also be treated as a wholesale Load under the CAISO Tariff and will be subject to all applicable payments and charges under the Tariff, except as otherwise set forth herein or in Appendix 1. AES acknowledges that the CAISO is not required to modify its Settlement systems, procedures, or rules to accommodate Sano during the Pilot Program. However, the CAISO shall cooperate in good faith with AES to minimize any potential for duplicative charges associated with AES' procurement of Energy necessary to charge Sano. Such cooperation may include, but shall not be limited to, seeking accommodation from SCE under its Service Agreement for Wholesale Distribution Service with AES or securing Station Power for Sano.
4. Sano's operation during the Pilot Program shall be subject to all applicable mandatory Reliability Standards of the North American Electric Reliability Corporation, standards and requirements of the Western Electricity Coordinating Council, CAISO Tariff provisions, including metering and telemetry requirements, and CAISO operating protocols and procedures; except that:
 - a. Sano will not be subject to the certification and testing procedures set forth in CAISO Tariff Section 8.3.4, but instead will be subject to testing requirements included in Part 2 of Appendix 1.
 - b. Sano will not be required to have the capability to convert its awarded Regulation capacity to Energy that maintains a level output for 2 hours as required by CAISO Tariff Section 8.4.3.

5. The Test Plan shall be conducted pursuant to Part 2 of Appendix 1. The Interim Certification Procedures shall be conducted pursuant to Part 3 of Appendix 1. Appendix 1 shall address issues, including, but not limited to, the procedures and schedules used by AES to bid Sano into the CAISO's Ancillary Services market for Regulation, means of providing Sano actual AGC dispatch signals, determination of Master File values, and determine of the need for modifications in the Remote Intelligence Gateway ("RIG").
6. During the Test Plan, all CAISO charge types otherwise applicable to service provided by Sano, including Regulation service, any other Ancillary Service, or Energy, shall not apply to Sano or services provided by Sano. AES shall not receive any charges, payment or compensation in any form from the CAISO for providing any Energy or Ancillary Service during the Test Plan. The CAISO shall provide compensation, as set forth in Part 2 of Appendix 1, to account for CAISO Market charges and payments to other Market Participants that may result from Sano's bids, schedules, and energy during the first phase of the Pilot Program. Such compensation shall not be the responsibility of AES.
7. Upon successful completion of the Test Plan, AES may submit bids on behalf of Sano for Regulation service in the CAISO's Ancillary Services market under the Interim Certification Procedures.
8. During the Interim Certification Procedures, and except as otherwise provided in this Letter Agreement, Sano will be subject to all provisions of the CAISO Tariff applicable to Generating Units providing Regulation service.
9. During the Interim Certification Procedures, all CAISO charge types otherwise applicable to service provided by Sano, including Regulation service, any other Ancillary Service, or Energy, shall apply, except that the CAISO will not assess to AES any GMC-related charges associated with AES' submission of Load Schedules for Sano.
10. AES is fully responsible for any and all charges and costs related to the operation and maintenance of Sano, as well as any damage caused to or by the Sano facility as a result of its participation in the Sano Pilot Program. AES shall indemnify the CAISO and hold it harmless against all losses, damages, claims, liabilities, costs or expenses, including legal expenses ("Losses") arising from any act or omission of AES related to the Sano facility, except for Losses resulting from the gross negligence or willful misconduct of the CAISO.
11. During the Pilot Program, the CAISO will use best efforts, within the capabilities of its current EMS design and systems, to calibrate its AGC dispatch signal to correspond with the performance characteristics of Sano and the CAISO's requirements for Regulation service. However, despite best

efforts, the CAISO cannot warrant that the AGC dispatch signal design will sufficiently correspond to Sano's capabilities, i.e., will provide a zero net energy signal over any particular period of time, such as a 15 minute interval, to meet AES' expectations of financial performance of Sano in the CAISO's markets.

12. AES shall provide all operational, technical, and any other data requested by the CAISO related to Sano's participation in the Pilot Program to enable the CAISO to assess Sano's capability for, and performance in, providing Regulation service; provided that the CAISO shall treat any such data as confidential and shall not disclose such data without the prior written consent of AES.
13. The technical information relating to the Sano facility is set forth in Schedule 1. Any changes to Schedule 1, other than Maximum Storage Rating Capacity, shall not constitute an amendment to this Letter Agreement, although any changes must be accepted by both AES and the CAISO.
14. In addition, and subject, to the termination provisions set forth in paragraph 15 below, the Interim Certification Procedures shall not be effective or implemented until the following conditions are met:
 - a. The Letter Agreement (including Appendix 1) has been filed with FERC. In the event that FERC issues an order that rejects or modifies, in whole or in part, the terms of this Letter Agreement or Part 3 of Appendix 1, AES and the CAISO shall meet and confer to discuss modifying the Letter Agreement or Part 3 of Appendix 1 to be consistent with FERC's decision. If AES and the CAISO do not agree, in writing, to modify this Letter Agreement or Part 3 of Appendix 1 as applicable, the Letter Agreement shall terminate and the any remaining portions of the Pilot Program will not be conducted.
 - b. Following completion of the Test Plan, AES notifies the CAISO in writing of its consent to proceed with the Interim Certification Procedures. Such notification acknowledges that the CAISO's systems, procedures, and market rules are sufficient to expose AES to the financial consequences of Sano's participation in the CAISO's markets in accordance with the Interim Certification Procedures.
 - c. Following completion of the Test Plan, the CAISO notifies AES, in writing of the CAISO's consent to proceed with the Interim Certification Procedures. Such consent will not be unreasonably withheld and will be based on an assessment of whether Sano's participation in the Interim Certification Procedures presents a risk to compliance with applicable standards promulgated by the North American Electric Reliability Corporation, Western Electric Coordination Council (including BAL001-0.1a Real Power Balancing Control Performance, BAL005-0.1b Automatic

Generation Control, BALSTD-002-0 Operating Services (WECC), COM002-2 Communications and Coordination, VAR002-1 Voltage Control Schedules) or FERC or destabilization of the CAISO's Energy Management System.

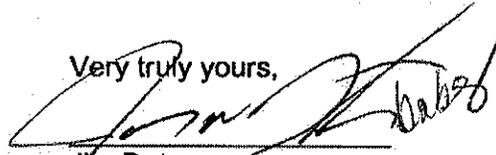
15. This Letter Agreement will be binding until the earliest date on which one of the following events occurs:
- a. AES and the CAISO mutually agree to discontinue Sano's participation in the Pilot Program described herein and terminate this Letter Agreement;
 - b. AES or the CAISO terminates this Letter Agreement by providing ten days advance written notice to the other party
 - c. CAISO terminates, based on its determination, and at its sole discretion, that insufficient funds remain available from the CAISO amount reserved to cover CAISO Market charges and payments to other Market Participants resulting from conduct of the Test Plan, as set forth in the Appendix 1, and insufficient information exists for the CAISO to make its determination in accordance with paragraph 14c above whether to proceed with the Interim Certification Procedures; or
 - d. AES fails to comply with any term or condition set forth in this Letter Agreement and fails to cure the non-compliance. In the event the CAISO determines that AES has failed to comply with the terms and conditions of this Letter Agreement, it will provide prompt written notice to AES that describes the nature of the non-compliance. AES shall either cure the non-compliance within seven calendar days of the date of the notice or, if AES is not able to cure such non-compliance, demonstrate that it has modified its operating arrangements for Sano, including modification of any applicable procedures and policies, to end such non-compliance and ensure that it is not repeated in the future. If the CAISO determines that AES has not cured the non-compliance or modified its operating arrangements to end such non-compliance within seven calendar days of the date of the notice, the CAISO may terminate this Letter Agreement by providing thirty calendar days advance written notice to AES.
16. In the event that this Letter Agreement or the Sano Pilot Program terminates for any reason prior to the CAISO's implementation of superseding policies and procedures for Sano in particular, or for non-generation resources generally, AES shall immediately cause Sano to cease bidding in the Ancillary Services market, submitting schedules for the provision of Ancillary Services or Energy, and producing or using Uninstructed Imbalance Energy.
17. Sano shall not submit bids or schedules into any CAISO market for Energy or Ancillary Services other than Regulation service, or produce or use Uninstructed Imbalance Energy, until the following occur:

- a. Either (i) the acceptance by FERC of a new letter agreement between AES and CAISO that sets forth rules, procedures, and other requirements for Sano to be certified to provide Energy or Ancillary Services other than Regulation service on an interim basis, pending completion of the stakeholder initiative and approval and implementation of the provisions resulting from that project; or (ii) the acceptance by FERC (to the extent necessary) and effectiveness of amendments to the CAISO Tariff, revised operating procedures, or other rules or requirements that create an effective means for the participation of non-generation resources in CAISO Markets; and
- b. Sano is certified to provide Ancillary Services or Energy, as applicable, subject to the requirements applicable under subparagraph a. above.

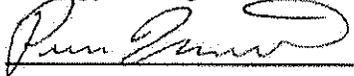
If there is any inconsistency between this Letter Agreement and the CAISO Tariff, this Letter Agreement will prevail to the extent of the inconsistency. Except as otherwise defined herein, all terms and expressions used in this Letter Agreement shall have the same meaning as those contained in the Master Definitions Supplement, Appendix A to the CAISO Tariff.

Please sign below, as the authorized representative for AES, to confirm AES's agreement to and acceptance of the terms and conditions of this Letter Agreement.

Very truly yours,


Jim Detmers
Vice President, Grid Operations
1/26/2010

Accepted and agreed:
AES Energy Storage LLC

By: 

Name: PRAVEEN KATHDAL

Title: VICE PRESIDENT

Date: 22 JAN 2010

SCHEDULE 1

AES Energy Storage LLC

Sano Regulation Center ("Sano")

Advanced Energy Storage Technology - Lithium ion Nano-Phosphate Batteries

Technical Information

RESOURCE ID: Ellis 2 Sano

Type of Resource	A/S Product Provided	Max. Storage Rating Capacity	Regulation Up Limit (MW)	Regulation Down Limit (MW)	Ramp Rate (MW/Min)	Time Req'd. for Max. Reg. Up	Time Req'd. for Max. Reg. Down
Non-Generation Resource	Regulation	2 MW	2	-2	999	1 sec.	1 sec.

SCHEDULE 2**NOTICES****AES Energy Storage LLC**

Name of Primary Representative: Dauren Kilish
Title: Project Director
Company: AES Energy Storage LLC
Address: 21730 Newland Street
City/State/Zip Code: Huntington Beach, CA, 92646
Email Address: dauren.kilish@aes.com
Phone: (562) 577 7706
Fax No: (714) 374 1495

Name of Alternative Representative: Praveen Kathpal
Title: Vice President
Company: AES Energy Storage LLC
Address: 4300 Wilson Blvd.
City/State/Zip Code: Arlington, VA, 22203
Email Address: praveen.kathpal@aes.com
Phone: (703) 522 - 1315
Fax No: (703) 528 - 4510

SCHEDULE 2

(Cont'd from previous page)

NOTICES**California Independent System Operator**

Name of Primary Representative: Roni L. Reese
Title: Senior Contracts Analyst
Address: 151 Blue Ravine Road
City/State/Zip Code: Folsom, CA 95630
Email Address: rreese@caiso.com
Phone: (916) 608-7027
Fax No: (916) 608-7292

Name of Alternative Representative: Brij Basho
Title: Senior Contracts Negotiator
Address: 151 Blue Ravine Road
City/State/Zip Code: Folsom, CA 95630
Email Address: bbasho@caiso.com
Phone: (916) 608-7136
Fax No: (916) 608-7292

Appendix 1

Energy Storage Test Plan and Interim Certification Procedures



California ISO
Your Link to Power

Energy Storage Test Plan and Interim Certification Procedures

Sano Regulation Center Pilot Project

Version 4.0

January 22, 2010

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Energy Storage Test Plan and Interim Certification Procedures		Version No.:	4.0
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Part 1

1. Overview of the Pilot Program

Purpose: The Pilot Program between AES Energy Storage, LLC ("AES") and the California Independent System Operator Corporation ("CAISO") relating to the SANO Regulation Center ("SANO") is divided into two successive phases as follows:

1. Test Plan
2. Interim Certification Procedures.

The first phase, or Test Plan, seeks (a) to demonstrate the capability of SANO to provide the CAISO with Regulation or a "Regulation-like" service consistent with reliability criteria and the developed Interim Certification Procedures and (b) to provide the CAISO and AES with experience and data for understanding the processes and effects, both financial and operational, of allowing a limited energy storage device to provide Ancillary Services through the CAISO markets. The second phase, or Interim Certification Procedures, establishes interim procedures that will allow SANO to be certified for commercial operation to supply Regulation service as a Market Participant. As set forth in the Letter Agreement between AES and the CAISO, the second phase of the Pilot Program will not commence until after conclusion of the Test Plan and execution by both parties of written consents.

1.1 Relevant Background

SANO is a 2 MW / 500 KW-Hr Lithium Ion battery energy storage facility installed at the Huntington Beach Generating Plant and is interconnected to the SCE system.

An energy storage facility is designed to have a positive P_{max} number and a negative P_{min} number with its Preferred Operation Point (POP) set at zero (or a small negative number). However, this is incompatible with the CAISO EMS system that is currently designed to send only a positive POP number to generators on regulation. Therefore, to conduct the Pilot, an "off set" or positive bias number has to be used for modeling an energy storage system to enable EMS to always send a positive POP or set point number. The model P_{max} for the facility will be P_{max} actual, plus the bias number and the model P_{min} will be zero which is the P_{min} actual plus the bias number.

The strategy of using an energy offset number to establish a positive POP for the resource requires the submission of a counter-balancing load schedule in the Day-Ahead Market. This mitigates any error that may be introduced to the State Estimator model as a result of the energy bias offset. It will also help mitigate potential deviation charges borne by the resource that may result from the energy schedule needed to create the positive set point. For this ± 2 MW energy storage facility, a 2 MW energy bias will be used so the unit will have a P_{max} of +4 and P_{min} of zero.

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Part 2

2. Pilot Test Plan

2.1 Test Plan Strategy

The key features of the Test Plan are:

1. The Test Plan will be limited to a maximum of 32 hours in 8 hour blocks occurring over 2 weeks (4 days total of testing) and one optional 24 hour test. Each 8-hour block will be considered a separate Test Event. The intent is to conduct a series of daily Test Events with 3 Test Events occurring in the first week and potentially two additional Test Events the following week.
 - a. The Test Events conducted during the first week will apply all charge codes applicable to a typical generating resource providing Regulation service. To the extent the additional two days of Test Events are performed, any settlement flags applicable to SANO, pursuant to the terms of the Letter Agreement, will be activated to verify functionality and impacts. AES will receive any generated settlement statements during the Test Plan.
 - b. The determination whether to proceed with each Test Event will be governed by the provisions of Section 2.3.2 relating to Test Plan Limitations.
2. AES must use a unique Scheduling Coordinator ID ("SCID") for SANO.
3. Under its unique SCID for Sano, AES must (a) Self-Schedule in the Day-Ahead Market 2 MW of Energy at PNode ELLIS_6_N006 and 2 MW of Load at APNode DLAP to be created and assigned to AES upon its request for the unique SCID and (b) make a Submission to Self-Provide Ancillary Services consisting of self-provided Regulation Up Reserves of 2 MW and of self-provided Regulation Down Reserves of 2 MW. As noted, the objective of the Energy Self-Schedule is to establish the positive Energy offset required by the CAISO's EMS system to provide an AGC signal that utilizes the full range of SANO's capabilities. In addition, the objective of the Load Self-Schedule is to (a) compensate for the error potentially created in the State Estimator due to the Energy Self-Schedule and (b) to mitigate the Imbalance Energy charges resulting from the need to create the positive Energy set point.
4. SANO will be subject to CAISO Tariff metering requirements, including the Revenue Meter Data Acquisition and Processing System. The CAISO meter will record both the Energy output and Energy consumption by SANO. CAISO metering will not be affected by the presence of an SCE meter. During the Test Plan, regardless of any commercial arrangements AES may have with SCE regarding SANO, the CAISO will meter the net load of SANO and all applicable charges will be reflected on SANO's settlement statements. However, as noted below in Section 2.3.2, SANO shall not be responsible for applicable CAISO charges for the net Energy consumed during the Test Plan. Nothing in the Pilot Program is intended to modify or supersede any arrangement SANO may have with SCE, but CAISO and AES acknowledge that they shall cooperate to eliminate or mitigate any potential double billing for Energy that may result from the operation of SANO. During the Test Plan phase of the Pilot Program, the CAISO will use best efforts, within the capabilities of its current EMS design, to calibrate its AGC dispatch signal to correspond with the performance characteristics of SANO and the CAISO's requirements for Regulation service. However, despite best efforts, the CAISO cannot guarantee that the AGC dispatch signal design

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will be a zero net energy signal over any particular finite period of time, such as a 15 minute interval.

2.2 Phase 1 – Pilot Test Plan

Subject to limitations in Section 2.3.2, the Test Plan will be conducted over 32 hours, consisting of 4-eight hour Test Events. A provision is made in the testing schedule for one optional test for a continuous 24 hour period if the parties believe it is desirable and consistent with Section 2.3.2. The schedule is set forth below in Section 2.3.3

2.2.1 Basic Acceptance Tests (BATs)

The Basic Acceptance Tests (BATs) as defined for the Test Plan are a set of activities required before proceeding with AGC Regulation testing of Sano in a production environment. BATs will be considered complete once the following tests have been successfully completed:

2.2.1.1 BAT 1 - CAISO EMS Standard testing for new generators

Point testing - This test provides Point to Point Testing. It will validate outgoing points (e.g. ACE, Manually issued set point). Successful completion of EMS testing will demonstrate that the CAISO EMS is able to communicate with Sano and AES, send Sano an AGC set-point signal every 4 seconds and have Sano follow the signal successfully.

This test has been completed and all points verified – no further action is necessary to meet this requirement

2.2.1.2 BAT 2 - RIG (Remote Intelligent Gateway) Acceptance Test

Details of the CAISO RIG (Remote Intelligent Gateway) Acceptance Test are available on the CAISO web site at <http://www.aiso.com/1b91/1b91dffc51210.pdf>.

After the RIG has been connected and powered, secure connectivity with the CAISO interface shall be verified. (Note the establishment of secure communications, as required, on the RIG Installation Checklist.) Once communication has been verified, the test of inputs and outputs will commence. A point-to-point check validating the correct scaling of the signal from the meter side through each device to the EMS display at the CAISO will be conducted. All analog inputs will be verified using a three-point check (0, mid-scale, and full scale). The data will be validated, as scaled correctly through each input device, as appropriate. All data will be verified for appropriate encryption.

This test has been completed and all data verified – no further action is necessary to meet this requirement

2.2.1.3 BAT 3 – ACE/Frequency Test

The CAISO will send a 4 second ACE and frequency signal to SANO for a 4 hour period to verify the resource's ability to follow a control signal from the CAISO. The CAISO will also use the data to validate its ability to monitor the resource and produce daily performance reports.

This test has been completed and all data verified – no further action is necessary to meet this requirement

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2.3 AGC Regulation Test

SANO will be added to the CAISO market data base and permitted to provide a Regulation-like service according to the terms of the Pilot Test Plan and Letter Agreement. The CAISO will not be relying on SANO to provide Regulation. The Regulation-like service provided by SANO during the Test Plan will be in addition to the Regulation determined by the CAISO to be needed to meet reliability criteria during the hours of the test event. Currently, SANO is configured for AGC, and when associated with its scheduling coordinator through generally applicable CAISO processes, the transition to regular AGC operations can be completed. Associating SANO with its scheduling coordinator can commence upon the parties mutual consent to the terms of the Pilot Test Program and Letter Agreement.

2.3.1 Test Procedure:

AES must obtain a new unique SCID for this Pilot Program in order to facilitate submission of bids for the SANO resource and maintain settlement data for SANO separate from all other AES bids and schedules.

Under its unique SCID for SANO, AES must for each Test Event (a) Self-Schedule in the Day-Ahead Market 2 MW of Energy at PNode ELLIS_6_N006 and 2 MW of Load at APNode DLAP to be created and assigned to AES upon their request for the unique SCID and (b) make a Submission to Self-Provide Ancillary Services consisting of self-provided Regulation Up Reserves of 2 MW and of self-provided Regulation Down Reserves of 2 MW. The schedule for such Test Events is set forth in Section 2.3.3 below. The schedule requires testing SANO for 8 continuous hours each day for 3 days of the first week and potentially for 8 continuous hours for 1 day the following week. There is a provision in the Test Plan for one additional day of testing for a continuous 24 hour period if both parties agree it is necessary and consistent with Section 2.3.2. Whether or not the CAISO and AES proceed to the tests anticipated for the second week will be governed by the Test Plan limitations set forth in Section 2.3.2 below.

CAISO and AES will modify the scaling of the set-point or retune the AGC signal to meet the Regulation capabilities of the resource. The ramp rate for SANO for the initial Test Event will be set at 999. Thereafter, prior to the next Test Event, the CAISO and AES shall mutually agree on the ramp rate(s) that will be bid for the following Test Event. Determining the appropriate ramp rate to use during the Interim Certification Procedures will be an objective of the Test Plan.

The CAISO will obtain preliminary settlement data 5 calendar days following each Test Event. However, the CAISO will use a spreadsheet calculation to assess the daily test results and review them with the CAISO's Settlements analyst. This daily assessment, including both the spreadsheet calculation and preliminary settlement data, will be used by the CAISO to assess whether to proceed with additional Test Events as set forth in Section 2.3.3 below.

2.3.2 Test Plan Limitations

The Test Plan will be performed in the CAISO market systems and, therefore, will result in actual settlement statements and invoice amounts being produced. In accordance with the Letter Agreement between the CAISO and AES, SANO will be held financially neutral. It will neither receive a nominal payment, nor be charged by the CAISO as a result of its participation in the Test Plan. In addition, to ensure CAISO market does not incur a net negative impact, the CAISO has reserved \$20,000.00 to absorb potential CAISO market costs that would otherwise result

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from charges incurred by Sano based on its participation in the CAISO Ancillary Services market. As a result of this arrangement, the Test Plan schedule has been structured to allow the CAISO to manage its cost exposure. The settlement amounts for any Test Event will be available to the CAISO at T+5 calendar days, but estimates of those settlement amounts will be prepared daily. Thus, the CAISO will assess after the each Test Event how much of the reserve amount remains to ensure the CAISO does not exceed the total reserved amount. The CAISO will inform AES of the settlement outcome of each Test Event and determine, at its sole discretion, whether sufficient reserve amounts are available to continue with the Test Plan. If it is determined that insufficient funds are available, the CAISO may terminate remaining Test Events or mutually agree with AES on test modifications. Moreover, if reserve funds remain at the end of the test schedule, the CAISO and AES may mutually agree to perform additional Test Events.

2.3.3 Test Schedule

AGC Tests	Test Description	Start Date/Time	End Date/Time
1	Morning load pick up	2/9/2010 / 0600 (HE 7)	2/9/2010 / 1400 (HE 15)
2	Afternoon/ Evening peak load	2/11/2010 / 1400 (HE 15)	2/11/2010 / Midnight(HE 24)
3	Off Peak load Saturday Morning	2/13/2010 / 0000 (HE 1)	2/13/2010 0800 (H 9)
4	Mid-day period	2/16/2010 / 0900 (HE 10)	2/16/2010 / 1700 (HE 18)
5	Optional 24 hour period	2/18/2010 -/ 0000 (HE1)	2/18/2010 / Midnight(HE24)

2.3.4 Regulation Test Signal

The CAISO Regulation signal to SANO will be based on the CAISO's Area Control Error ("ACE"), change of ACE, and frequency with the objective of meeting the CAISO' control performance needs and meeting SANO's need for frequent charge and discharge signals and a preferred net-zero Energy dispatch over a limited time period.

2.3.5 Metric Plan

1. SANO output will be measured via metered data provided to the CAISO metering group.
2. SANO performance results will also be measured via settlement calculations provided by a CAISO Settlements analyst.
3. SANO performance will be analyzed on a daily basis by the Operations-Integration of Renewables team and compiled into a daily report. The daily reports will be shared with AES.

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2.4 Test Coverage

2.4.1 Market Scenario test for DA

Certification requirement exempted as per Letter of Agreement between AES and CAISO

2.4.2 Market Scenario test for RT

Certification requirement exempted as per Letter of Agreement between AES and CAISO

2.4.3 Additional Test Plan Execution Requirements

Additional execution requirements of the Test Plan are:

1. The SANO/AES Scheduling Coordinator must be appropriately staffed for submitting bids.
2. Certificates must be in place for SANO/AES to access SIBR
3. Team members must participate as required by the unique needs of the project.

2.5 Assumptions and Risks

2.5.1 Assumptions

Although the CAISO acknowledges that AES has entered into commercial arrangements with SCE regarding the provision of Energy for Sano, the CAISO and AES agree that Sano will be considered a wholesale load for purposes of CAISO Settlements.

The CAISO will cover the cost of the Settlements charges Sano would normally have incurred during the Test Plan as well as receive the benefits of the Settlements charges Sano would have normally received during the Test Plan.

Since AES is interconnected to SCE distribution system, SCE could terminate the test at any given point under the terms of its wholesale distribution interconnection agreement.

2.5.2 Risks

Potential risks are that the market system or settlements system or the EMS dispatch system cannot successfully handle the very fast responding energy storage and that the "work around" strategies proposed for this Test Plan do not work as intended. These risks appear to be low, but there is a possibility the software in these system does not perform as expected.

A second set of risk is that the CAISO Regulation signal may not produce an Energy neutral signal for the SANO battery over a 15 minute period and that AES may not be successful in creating a strategy for handling the Energy bias in the Regulation signal. The result will be that the SANO battery will frequently hit the limits of fully charging or discharging.

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Part 3

3. Interim Certification Procedures

3.1 Conditions Prior to Commencement of the Interim Certification Procedures

The conditions governing the parties' relationship after completion of the Test Plan and prior to the commencement of the Interim Certification Procedures are set forth in Paragraph 11c of the Letter Agreement.

3.2 Strategy for the Interim Certification Procedures

The key features of the Interim Certification Procedures are:

1. AES must use the unique SCID for Sano created for the Test Plan.
2. For each hour during which AES seeks to provide Regulation from Sano, AES must Self-Schedule in the Day-Ahead Market using its unique SCID for Sano 2 MW of Energy at PNode ELLIS_6_N006 and 2 MW of Load at APNode DLAP, or a mutually agreed upon successor, to be created and assigned to AES upon their request for the unique SCID.
3. AES may Bid to provide Regulation service in accordance with generally applicable provisions of the CAISO Tariff and accompanying Business Process Manuals.
4. Sano will be subject to CAISO Tariff metering requirements for Regulation service, including the Revenue Meter Data Acquisition and Processing System. The CAISO meter will record both the Energy output and Energy consumption by Sano.
5. Sano will comply with all applicable provisions of the CAISO Tariff, except that it will not be required to convert its awarded Regulation capacity to Energy production and maintain that output for 2 hours as required by CAISO Tariff Section 8.4.3.
6. Sano will be subject to all applicable charges and payments under the CAISO Tariff, except that AES will be exempt from double GMC charges. In this regard, AES will be subject to the applicable GMC charge only for its Energy-related schedule(s) for SANO and it will not be charged for its Load-related schedule for SANO. Accordingly, if the AES omits to schedule both an Energy schedule and a corresponding Load schedule as set forth Paragraph 2 above, then AES's Scheduling Coordinator will be subject to the deviation charges for SANO in a manner similar to other Scheduling Coordinators.
7. During the Interim Certification Procedures, the CAISO will continue to use best efforts, within the capabilities of its current EMS design, to calibrate its AGC dispatch signal to correspond with the performance characteristics of Sano and the CAISO's requirements for Regulation service. However, despite best efforts, the CAISO cannot guarantee that the AGC dispatch signal will be a zero net energy signal over any particular finite period of time, such as a 15 minute interval.

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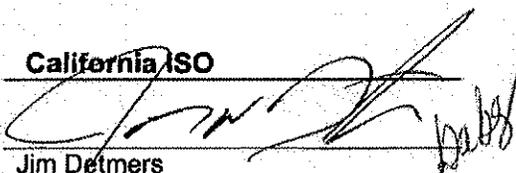
8. Sano must be responsive to frequency deviations with the electronic equivalent of a 5% governor droop setting for Generating Units.

3.3 Termination of Interim Certification Procedures

The termination of the Interim Certification Procedures shall be governed by the Letter Agreement.

4. Approval of Test Plan and Interim Certification Procedures

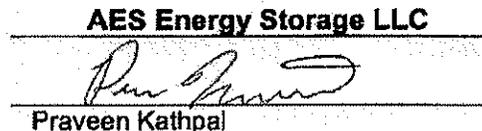
Approval signatures are required from AES and the CAISO for the acceptance of this Pilot Program document.

California ISO


 Jim Detmers

 Vice President, Grid Operations
 1/26/10

 Date:

AES Energy Storage LLC


 Praveen Kathpal

 Vice President
 22 JAN 2010

 Date:

Attachment 2

1 Hour Example - Positive Gen

	MW	Price	\$	Total
DA_ENERGY				
Gen	2.00	20.00	40.00	
Load	(2.00)	19.50	(39.00)	1.00
GRID_MGMT_CHG				
DA_Sched	1.00	0.06	0.06	
DA Sched MW	2.00	1.71	3.42	
IE	1.50	0.23	0.34	
UIE	0.00	0.23	0.00	3.82
IMBALANCE_ENERGY				
Gen - UIE	0.00	30.00	0.00	
- IIE	(1.50)	30.25	(45.38)	
Load	2.00	30.50	61.00	15.63
AS_REG_DOWN	2.00	1.75	3.50	
AS_REG_UP	2.00	1.75	3.50	7.00

27.45

1 Hour Example - Negative Gen

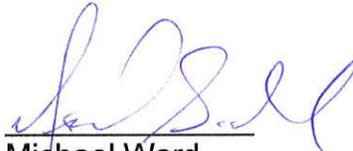
	MW	Price	\$	Total
DA_ENERGY				
Gen	2.00	20.00	40.00	
Load	(2.00)	19.50	(39.00)	1.00
GRID_MGMT_CHG				
DA_Sched	1.00	0.06	0.06	
DA Sched MW	2.00	1.71	3.42	
IE	2.00	0.23	0.46	
UIE	0.50	0.23	0.11	4.05
IMBALANCE_ENERGY				
Gen - UIE	(0.50)	30.00	(15.00)	
- IIE	(2.00)	30.25	(60.50)	
Load	2.00	30.50	61.00	(14.50)
AS_REG_DOWN	2.00	1.75	3.50	
AS_REG_UP	2.00	1.75	3.50	7.00

(2.45)

CERTIFICATE OF SERVICE

I hereby certify that I have served the foregoing document on the parties specified within that document, in accordance with the requirements of Rule 2010 of the Commission's Rules of Practice and Procedure (18 C.F.R. § 385.2010).

Dated at Washington, D.C. this 27th day of January, 2010.



Michael Ward