

## BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

**IN THE MATTER OF THE APPLICATION )**  
**OF IDAHO POWER COMPANY FOR A ) CASE NO. IPC-E-11-10**  
**DETERMINATION REGARDING THE FIRM )**  
**ENERGY SALES AGREEMENT WITH )**  
**INTERCONNECT SOLAR DEVELOPMENT ) ORDER NO. 32384**  
**LLC FOR THE SALE AND PURCHASE OF )**  
**ELECTRIC ENERGY )**

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On June 17, 2011, Idaho Power Company filed an Application with the Commission requesting acceptance or rejection of a 25-year Firm Energy Sales Agreement (Agreement) between Idaho Power and Interconnect Solar Development LLC (Interconnect Solar; Project). Interconnect Solar would sell and Idaho Power would purchase electric energy generated by the Murphy Flats Solar Power Project located near Murphy, Idaho. On July 8, 2011, the Commission issued a Notice of Application/Notice of Modified Procedure and established comment deadlines.<sup>1</sup> Order No. 32290.

Following the submission of comments by the parties and the public, the case was fully submitted for the Commission's consideration. On September 20, 2011, the Commission issued Order No. 32361. The Commission noted that all parties had acknowledged a computational error that was made in the escalation rate that was applied to the CCCT capital cost component from the 2009 IRP that was carried through and used in the IRP pricing model for the Interconnect Solar project. The Commission stated that we would not be fulfilling our role of ensuring just and reasonable rates if we approved an Agreement that contained a known computational error. *Idaho Code* §§ 61-301, 61-502. In an effort to permit the parties an opportunity to correct the mathematical error without creating undue delay, the Commission allowed Idaho Power and Interconnect Solar until September 27, 2011, to resubmit their Firm Energy Sales Agreement with accurate calculations prior to the Commission making a final determination regarding the Agreement. Order No. 32361.

On September 23, 2011, Interconnect Solar filed a Motion for Extension of Time. Interconnect Solar requested that the Commission allow the parties until September 29, 2011, to

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<sup>1</sup> Comment deadlines were modified twice with comments ultimately being due no later than September 9, 2011, and reply comments due no later than September 16, 2011. Order Nos. 32308 and 32347.

resubmit their Agreement. The Project's Motion was considered at the Commission's decision meeting held on September 26, 2011. During the meeting, Interconnect Solar and Idaho Power notified the Commission that, due to the nature of the changes, it would be impossible to complete and submit a corrected and signed Agreement by the originally requested extension date. Interconnect Solar asked that the Commission allow the Project and Idaho Power until October 13, 2011, to resubmit a Firm Energy Sales Agreement with correct computations. The Commission granted the Project's request for an extension. Order No. 32364.

On October 11, 2011, pursuant to Commission Order Nos. 32361 and 32364, Idaho Power resubmitted the parties' Firm Energy Sales Agreement. The record is now complete. By this Order, the Commission approves the replacement Agreement signed by Idaho Power and Interconnect Solar on October 4, 2011, for the sale and purchase of electric energy.

### **THE APPLICATION**

The Application states that Interconnect Solar proposes to construct, own, operate and maintain a 20 MW (maximum capacity, nameplate) photovoltaic solar generating facility. Application at 2. The Facility will be a QF under the applicable provisions of PURPA.

#### ***A. The Agreement***

The Agreement is for a term of 25 years and contains avoided cost rates established pursuant to the Commission's approved Integrated Resource Plan (IRP) avoided cost methodology as currently required by the Commission for solar QFs with a design capacity of more than 100 kilowatts (kW). Order No. 32262. Idaho Power asserts that the 25-year contract term was the result of negotiations that attempted to balance the parties' interests in a manner that was favorable to Idaho Power customers and to Interconnect Solar. *Id.* at 3.

Interconnect Solar selected June 1, 2012, as its Scheduled First Energy Date and July 1, 2012, as its Scheduled Operation Date. *Id.* at 3. Idaho Power asserts that various requirements have been placed upon the Interconnect Solar Facility in order for Idaho Power to accept the Facility's energy deliveries. Idaho Power states that it will monitor the Facility's compliance with initial and ongoing requirements through the term of the Agreement.

Interconnect Solar and Idaho Power agreed to liquidated damage and security provisions of \$45 per kW of nameplate capacity. Agreement ¶¶ 5.3.2, 5.8.1. Delay Liquidated Damages shall apply if Interconnect Solar fails to bring the Facility on-line by the Scheduled Operation Date.

Interconnect Solar is responsible to complete a Generation Interconnection Agreement (GIA) and is responsible for all costs associated with interconnection of the Facility to Idaho Power's system and any necessary transmission upgrades for its generation to serve load. Idaho Power states that, at the time this Application was filed, the GIA has not yet been signed and the required payment for interconnection and transmission upgrades has not been paid. Idaho Power estimates that, after payment is made, 18 months is required for Idaho Power to complete the interconnection and transmission facilities.

Idaho Power maintains that Interconnect Solar has been expressly advised in writing that the Scheduled Operation Date it selected was prior to such time that the interconnection/transmission facilities are scheduled to be constructed and completed. Application at 8. Idaho Power states that Interconnect Solar has acknowledged and expressly agreed to accept all risk associated with not meeting the Scheduled Operation Date, including forfeiture of the Delay Security, and potential termination of the Agreement. *Id.*

The parties have agreed to terms providing for each party's 50 percent ownership of any environmental attributes, including RECs, generated by the Facility for the full 25-year term of the Agreement.

Energy prices in this Agreement are derived from Idaho Power's AURORA economic dispatch model for this Facility's estimated energy shape as specified by Commission requirements for the IRP-based avoided cost methodology. *Id.* at 5. The energy prices contain the previously approved differentiation between Heavy Load and Light Load pricing, as well as different seasonal prices. *Id.* This Agreement adds Heavy Load Peak pricing to the months of July and August. The energy price identified by the IRP methodology for this Facility is equivalent to a 20-year levelized price of \$105.15 per MWh. *Id.* However, Idaho Power states that the actual energy pricing stream varies throughout the term of the contract based upon the month and time of day during which the energy is delivered to Idaho Power. *Id.*

By its own terms, the Agreement will not become effective until the Commission has approved all of the Agreement's terms and conditions and declares that all payments made by Idaho Power to Interconnect Solar for purchases of energy will be allowed as prudently incurred expenses for ratemaking purposes. Agreement ¶ 21.1.

## COMMENTS

### *Staff Comments*

Staff noted that the IRP methodology has only been employed twice since its inception—once by Avista to develop rates for Potlatch’s PURPA facility (now Clearwater Paper), and once by Idaho Power to develop rates for the Rockland wind project. Staff stated that this case is the first to derive IRP-based rates for a solar project. Staff further observed that the Agreement presented for Commission approval contains rates, terms and conditions that differ considerably from those in recent power sales agreements wherein rates were based on published avoided cost rates. In this Agreement, an assortment of methods have been used to determine the rates. In particular, energy rates have been computed using an IRP methodology; a capacity component to the rates has been computed using an entirely new methodology; and seasonal and heavy/light load hour adjustments have been made using the same adjustment mechanisms approved for published avoided cost rates. Other terms and conditions in the Agreement have been determined purely through negotiation between the parties.

As a threshold matter, in preparing responses to Staff’s production requests in this case, Idaho Power identified errors in its computations to determine the capacity component of the rates. The current levelized price within the Agreement calculates to be \$105.15 (\$43.44 capacity cost component and \$61.71 energy cost component). Upon review of its calculations, Idaho Power discovered that an inappropriate escalation rate had been applied to the 2009 IRP combined-cycle combustion turbine (CCCT) capital cost used in this PURPA IRP pricing model. Correction of the CCCT capital cost component results in a calculated levelized price of \$94.59 (\$32.88 capacity cost component and \$61.71 energy cost component). Staff reviewed the Company’s initial calculations and its revised calculations. Staff agreed that the revised calculations are correct.

As a basis for determining the capacity value of generation from the Interconnect Solar Facility, Idaho Power used the capacity cost of a CCCT.<sup>2</sup> Idaho Power states that it based the value of capacity on a CCCT in order to maintain consistency with the published avoided cost methodology and also to be consistent with previous IRP-based PURPA price calculations. Staff believes that the generation shape of this project is distinctly different from other PURPA

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<sup>2</sup> The Company considered the probability of the solar Facility to provide generation during the 3:00 p.m. to 7:00 p.m. peak load period during July, and in turn, valued this capacity based on the capacity costs of a CCCT from the Company’s 2009 IRP.

resources and it is possible that a simple-cycle combustion turbine (SCCT) more closely resembles the operating characteristics of a solar resource and may be a more appropriate basis for the avoided cost of capacity. Idaho Power's existing and future SCCT units would typically be dispatched in peak summer and winter hours, somewhat similar to the hours when a solar facility's generation would be greatest. Staff maintains that solar generation could, at least in theory, frequently displace generation from SCCT units.

The annual capacity factor for the Interconnect Solar Facility is estimated to be 21 percent based on data collected by Idaho Power for its rooftop solar facility, roughly half the capacity factor for a typical CCCT but nearly double the capacity factor for a typical SCCT. Although there is a high likelihood that Interconnect Solar can provide at least some capacity during Idaho Power's peak load hours, the Facility cannot guarantee that it can provide capacity when needed with 100 percent certainty due to cloud cover and darkness. Moreover, unlike a CCCT or a SCCT, a solar facility is not dispatchable. Because capacity provided by a solar facility cannot be guaranteed while capacity from either a CCCT or an SCCT can be provided with nearly 100 percent certainty, Staff believes that whatever capacity a solar facility can provide is not equivalent to the same unit of capacity from a dispatchable CCCT or SCCT.

To calculate the value of the energy component of the prices in the Agreement, Idaho Power modeled expected generation from the Facility using the AURORA electric price forecasting model. The Company assumed that the prices generated by the model reflected the costs of energy only, and that no capacity value was reflected in the prices. Staff believes that Idaho Power's assumption is a conservative one in favor of Interconnect Solar. Staff believes that there is, in fact, some capacity value contained in AURORA prices. However, Staff is uncertain of how to quantify the amount.

The method used by Idaho Power to calculate the capacity component of the prices in the Agreement fails to recognize whether and when Idaho Power actually has a need for new capacity. Under Idaho Power's approach, capacity value is added to the prices from the beginning of the Agreement's term through its entire duration. The fact is, however, that Idaho Power does not show a capacity deficit in its 2011 IRP filing until 2015. By adopting a pricing schedule that includes payment of a capacity component several years prior to Idaho Power's identified need for new capacity, prices in the Agreement are higher than they would be

otherwise. Staff believes that some method needs to be devised and deployed to recognize need for new capacity (or lack of it in this case) in the computation of contract prices.

Annual energy prices in the Agreement are derived using the AURORA economic dispatch model for the Facility's estimated energy shape. The energy prices contain the same differentiation between heavy load and light load pricing, as well as different seasonal prices as is currently used for published avoided cost rates. In addition, this Agreement introduces heavy load peak pricing to hours between 3:00 p.m. and 7:00 p.m. in the months of July and August. Under this pricing mechanism a premium of five percent is added to heavy load peak prices and prices in heavy load standard hours are decreased by two percent. Staff agrees conceptually to increasing prices in heavy load peak hours, but sees no direct evidence to specifically support a five percent premium in heavy load peak hours and a two percent decrease in heavy load standard hours. The energy price components derived using AURORA would have recognized the higher and lower energy values throughout the day and throughout the seasons of the year. Staff suggests that the price shapes calculated by AURORA be used as the basis for hourly and seasonal price adjustments, rather than hourly and seasonal adjustment factors used for published avoided cost rates.

Solar, similar to wind, is an intermittent generation resource. Numerous studies have confirmed and quantified wind integration costs, but very few solar integration cost studies have been done. Staff believes that solar integration costs are material, and may be comparable to wind integration costs. Idaho Power reports that it appears to be widely assumed and accepted that there is some level of integration cost associated with all intermittent resources such as wind and solar generation. Staff noted that no integration costs have been incorporated into the Agreement.

Interconnect Solar must complete a Generation Interconnection Agreement (GIA) and is responsible for all costs associated with interconnection of the Facility to Idaho Power's system and any necessary transmission upgrades for its generation to serve load. Idaho Power maintains that Interconnect Solar has been expressly advised in writing that the Scheduled Operation Date it selected was prior to such time that the interconnection/transmission facilities are scheduled to be constructed and completed. Application at 8. Idaho Power states that Interconnect Solar has acknowledged and expressly agreed to accept all risk associated with not meeting the Scheduled Operation Date, including forfeiture of the Delay Security, and potential

termination of the Agreement. *Id.* Staff expressed concern that the Facility's Scheduled Operation Date is prior to the date on which Idaho Power is obligated to complete construction of the necessary transmission and interconnection facilities.

Ultimately, Staff recommended that the Commission not approve the Agreement. Staff acknowledged the Commission's support, and recent reinforcement of, rates derived by the IRP methodology and negotiations between the parties. However, Staff does not believe that the rates contained in the Agreement are an accurate reflection of Idaho Power's avoided costs.

***Idaho Power Reply Comments***

Idaho Power noted Staff's rigorous review of the Agreement between Idaho Power and Interconnect Solar. Idaho Power emphasized that, in calculating and negotiating the rates in the Agreement, the Company "attempted to apply the methodology in such a way as to be consistent with both past Commission orders establishing the methodology as well as the Company's past practices and assumptions that it has utilized for other QF projects' IRP rate determinations." Reply at 3.

Idaho Power recommended that, at a minimum, the rates in the Agreement be revised to correct the acknowledged computational error. Idaho Power also agreed, on reply, with Staff's recommendation that the price shapes calculated by AURORA be used as the basis for hourly and seasonal price adjustments, rather than the hourly and seasonal adjustment factors used for published avoided cost rate contracts that were applied to this Agreement. Idaho Power noted that using the price shapes calculated by AURORA would result in a much more accurate and appropriate seasonal and hourly variation that is unique to this particular project's energy output.

Idaho Power agreed with several other recommendations made by Staff, but felt "constrained to apply the existing methodology in its good faith contract negotiations with this QF, even if it believed a different methodology was more appropriate, unless and until it is relieved of that obligation by the Commission." Reply at 6.

***Interconnect Solar Reply Comments***

Interconnect Solar strongly opposed Staff's recommendations. Interconnect Solar classified Staff's recommendations as fundamental changes to significant policy, methodology and input factors. Generally, the Project argues that Staff's concerns are better addressed as part

of the generic PURPA case currently proceeding before the Commission. Case No. GNR-E-11-03.

The Project maintains that shifting to the use of a SCCT for avoided capital cost differentials “would be completely inconsistent with longstanding Commission requirements for the calculation of QF avoided cost rates for all PURPA projects, as applied for almost two decades.” Reply at 5 (emphasis in original). Interconnect Solar also disputes Staff’s suggestion that AURORA energy prices include some value for capacity. The Project further disagrees with Staff’s recommendation that no capacity payments be made under the Agreement until Idaho Power shows a need for new capacity. Interconnect Solar maintains that capacity payments, even prior to a utility’s need for such capacity, is well-established with this Commission.

Interconnect Solar maintains that Staff’s recommendation to assess a solar integration charge is arbitrary and unsupported by evidence. The Project states that “[d]evelopment of a solar integration charge deserves the openness of multi-party participation and the many different expert opinions that will likely emerge. . . .” Reply at 10.

Interconnect Solar chose a Scheduled Operation Date that is prior to Idaho Power’s estimated date for completion of the Project’s interconnection. Idaho Power required the Project to acknowledge in a separate letter the financial risk associated with this apparent discrepancy. Interconnect Solar maintains that “it is likely that the BLM permitting process will be concluded within a six month time frame, not the 12 months projected by Idaho Power.” Reply at 13. The Project argues that, “if Interconnect Solar is wrong on this point, the [liquidated damages] more than adequately compensate Idaho Power and its ratepayers for this mistake.” The Project explains that, in this way, the ratepayers are fully protected from the risk.

Despite an acknowledged computational error, Interconnect Solar argues that other considerations such as ownership of renewable energy credits and capacity modeling based on Idaho Power’s “aging rooftop solar panels” should be recognized as adequate offsets for the mathematical error. Interconnect Solar urges the Commission to approve the Agreement as originally submitted.

### **REVISED AGREEMENT**

On September 20, 2011, the Commission issued its decision to allow the parties an opportunity to correct a mathematical error in their Agreement prior to the Commission deliberating because, as we stated, this Commission cannot approve an agreement with a known



computational error. Order No. 32361. On October 11, 2011, pursuant to Commission Order Nos. 32361 and 32364, Idaho Power resubmitted the parties' Firm Energy Sales Agreement. In addition to correcting the mathematical error identified by the Commission, Idaho Power and Interconnect Solar recalculated pricing based upon (1) an adjustment for daylight savings time and (2) use of a new energy shape based on utilization of different solar panels by the Project. The parties also moved out the First Energy Date and the Scheduled Operation Date for the Project by two months.

Idaho Power states that, upon Interconnect Solar's review of the Agreement's calculations, the Project asserted that it had made an error in the energy shape that it provided to Idaho Power that serves as the basis for the energy pricing in the PURPA IRP avoided cost pricing model. The new energy shape contained different output levels during peak load hours based upon a correction for daylight savings time. "The new energy shape also contained an increase in total energy delivered based upon the proposed use of different solar panels than those that were originally planned by Interconnect Solar." Resubmittal at 2. The result of all these adjustments is a levelized price of \$97.47 per MWh.

### **DISCUSSION AND CONCLUSIONS**

The Idaho Public Utilities Commission has jurisdiction over Idaho Power, an electric utility, and the issues raised in this matter pursuant to the authority and power granted it under Title 61 of the Idaho Code and the Public Utility Regulatory Policies Act of 1978 (PURPA). The Commission has authority under PURPA and the implementing regulations of the Federal Energy Regulatory Commission (FERC) to set avoided costs, to order electric utilities to enter into fixed-term obligations for the purchase of energy from qualified facilities (QFs) and to implement FERC rules.

The Commission has reviewed the record in this case, including the Application, the June 7 and October 4, 2011, Agreements, the explanation of revisions, and the comments of the parties. We initially note that Idaho Power and Interconnect Solar went beyond the scope of the Commission's Order allowing the parties to correct a mathematical error in regard to the CCCT capital cost component of the IRP pricing model. While a correction for daylight savings time might reasonably be construed as an additional computational error, a change in the acreage, number of panels, panel wattage and, ultimately, nameplate rating cannot. As a general matter, the Commission does not take issue with the configuration of a QF project. However,

Interconnect Solar's configuration changed only after a calculation error caused a downward adjustment in the levelized price for the Project.

We share the concerns of Commission Staff and Idaho Power regarding Interconnect Solar's choice of a Scheduled Operation Date that precedes Idaho Power's estimated date for completion of the Project's interconnection. The Project's optimism may prove to be foolhardy. Interconnect Solar maintains its position that interconnection will occur ahead of Idaho Power's estimated schedule at its own peril.

We recognize that this is the first solar project to utilize IRP-based rates. We appreciate Staff's thorough analysis of factors in consideration of an accurate IRP-based avoided cost for a solar project. These are reasonable factors that the utilities should be considering while negotiating future power purchase agreements until such time as the Commission establishes firm guidelines for IRP-based rates. It is this Commission's intent, and consistent with PURPA and FERC regulations, that a utility negotiate these agreements with an awareness of its actual avoided cost.

Ultimately, Idaho Power negotiated an Agreement with Interconnect Solar based on its past practices and current understanding of this Commission's directives. As such, and despite the last minute change in the Project's configuration, we find that the October 4, 2011, Agreement contains acceptable contract provisions and is consistent with the Commission's directives that the terms of an IRP-based avoided cost rate contract be negotiated between the parties. We further find it reasonable to allow payments made under the Agreement as prudently incurred expenses for ratemaking purposes.

### **ORDER**

IT IS HEREBY ORDERED that the October 4, 2011, Firm Energy Sales Agreement between Idaho Power and Interconnect Solar is approved without change or condition.

THIS IS A FINAL ORDER. Any person interested in this Order may petition for reconsideration within twenty-one (21) days of the service date of this Order. Within seven (7) days after any person has petitioned for reconsideration, any other person may cross-petition for reconsideration. See *Idaho Code* § 61-626.

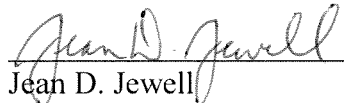
DONE by Order of the Idaho Public Utilities Commission at Boise, Idaho this 20<sup>th</sup>  
day of October 2011.

  
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PAUL KJELLANDER, PRESIDENT

  
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MACK A. REDFORD, COMMISSIONER

  
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MARSHA H. SMITH, COMMISSIONER

ATTEST:

  
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Jean D. Jewell  
Commission Secretary

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