BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF HAWAII

In the Matter of the Application of MAUI ELECTRIC COMPANY, LIMITED For Approval of Power Purchase Contract With Lanai Sustainability Research, LLC and Approval to Include The Purchased Energy Costs In Maui Electric Company, Ltd.'s Energy Cost Adjustment Clause.	DOCKET NO. 2008-0167

DECISION AND ORDER

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DECISION AND ORDER

By this Decision and Order, the commission approves the Power Purchase Contract for As-Available Energy ("PPC") dated August 8, 2008, between MAUI ELECTRIC COMPANY, LIMITED ("MECO") and Lanai Sustainability Research, LLC ("LSR"), and authorizes MECO to include the purchased energy charges (and related revenue taxes) that MECO incurs under the PPC in MECO's Energy Cost Adjustment Clause ("ECAC") for the term of the PPC, as further described herein.

I.

Background

A.

Application

On August 22, 2008, MECO filed an application for commission approval of the PPC. As described in the application, under the terms of the PPC, LSR will build, own, and operate a

1.2 megawatt ("MW") photovoltaic ("PV") small power production facility, with a battery-based energy storage system ("BESS") based on flow technology (collectively, "PV Facility"), in parallel with MECO's Lanai electrical system.[1] The PV Facility will utilize twelve PV array systems each controlled by a Satcon 135 kW inverter to produce electrical energy at Miki Basin on Lanai.[2] The PPC governing the delivery of power to MECO includes provisions pertaining to term, pricing, LSR's delivery of as-available energy from the PV Facility, and operating procedures for the PV Facility.

The on-peak and off-peak rates for purchases of energy from LSR are a fixed price: $270 per megawatt-hour ("MWh") on-peak and off-peak for contract years 1 through 9, where year 1 is 2009; $300 per MWh on-peak and off-peak for years 10 through 19; and $330 per MWh on-peak and off-peak for years 20 through 25.[3] Specifically, the pricing for energy under the PPC starts at $0.27/kWh for years 1 through 9; increases to $0.30/kWh for years 10 through 19, and increases to $0.33/kWh for years 20 through 25.[4] According to MECO, the increases in

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[1]Application; Exhibits 1-10; Exhibits A-F; Verification; and Certificate of Service, filed on August 22, 2008 ("Application"), at 2. MECO served copies of the application on the DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS, DIVISION OF CONSUMER ADVOCACY ("Consumer Advocate"), an ex officio party to this proceeding, pursuant to Hawaii Revised Statutes ("HRS") § 269-51 and Hawaii Administrative Rules ("HAR") § 6-61-62(a).

[2]Application, at 2 and 8.

[3]Application, at 2.

[4]Application, at 13.

pricing at years 10 and 20 are necessary to compensate for anticipated battery replacement expenses of $1.5 million in year 11 and $2.0 million in year 21.[5] The BESS, which is being installed in the PV Facility, has a capacity of 250 kW for three hours, and is necessary to address intermittency issues inherent in the PV Facility, such as the impact of rain and cloud cover.[6] According to MECO, its evaluation of the pricing was reasonable considering the following:

> (a) over the 25-year term of the proposed PPC, the NPV of payments to LSR under the terms of the PPC would be below MECO's total avoided costs under a high fuel price forecast; (b) MECO's fuel prices in August 2008 were already above (and continue to be above) MECO's forecast fuel prices for 2008; (c) LSR's proposed pricing of $270, $300, and $330 per MWh was below MECO's third quarter filed quarterly avoided energy cost of $344.80 per MWh and also below the August 2008 filed avoided energy cost of $389.7 per MWh (composite on-peak ($434,363 per MWh) and off-peak ($327,267 per MWh)) for the Lanai Division; (d) LSR's pricing structure meets the requirement of Hawaii Revised

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[5]Application, at 14.

[6]Application, at 14. As stated by MECO:

> In order to place this amount of "as available" renewable energy on to the Lanai system, it is necessary to provide "Line Stabilization" for the PV Station to compensate for the potential swings in power output that would impact the Lanai grid when passing clouds cause the PV production to fluctuate beyond the ability of MECO's two 2.2 MW diesel generators to respond fast enough to keep the frequency within acceptable limits for the Lanai customers. "Line Stabilization" is to be achieved by the addition of BESS with "Flow Battery" technology to the PV solar farm system.

Application, at 8.

Statutes Section 269-27.2(c) in that there is no linkage between LSR's energy price and MECO's cost of fossil fuels; (e) the fixed price structure is simple and will contribute to stabilizing MECO's overall energy prices; and (f) LSR's cost to install the PV Station is lower than the utility's cost to install a similar size project.[7]

Under the PPC, MECO shall accept and pay for energy generated by the PV Facility and delivered by LSR to MECO at the above rates provided that the instantaneous MW output from the PV Facility of such energy shall not exceed the 1.2 MW at any given time, and MECO shall not be obligated to pay for energy in excess of such amount. MECO and/or LSR will construct, and MECO will own, operate, and maintain, all interconnection facilities required to interconnect the PV Facility with MECO's system at 12,470 volts, up to the Point of Interconnection.

MECO requests expedited commission approval by October 31, 2008.[8]

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[7]Application, at 16-17.

[8]In its Application, MECO states that "LSR's ability to enter into the PPC at the agreed upon rates is largely based upon LSR's ability to obtain the renewable energy tax credits" and that under the terms of the PPC, MECO must receive a "Non-appealable PUC Order" by December 1, 2008. By letter dated October 6, 2008, the commission inquired as to whether expedited commission action was still required given the passage of the Energy Improvement and Extension Act of 2008, which extended the federal renewable energy tax credit. By letter dated October 15, 2008, MECO reiterated LSR's request for commission action by October 31, 2008.

While the commission understands that LSR may be anxious for a commission decision, it would have been fairer to the commission to have asked for a decision by the December 1, 2008 date in the PPC. The Consumer Advocate has recommended approval of the PPC, and there are no intervenors in this docket. As such, there is no real reason for a commission decision by October 31 (rather than December 1), unless MECO intends to

B.

Consumer Advocate's Statement of Position

On October 17, 2008, the Consumer Advocate filed its statement of position in which it recommends that the commission approve the PPC and MECO's request to include the purchased energy charges in MECO's ECAC.

According to the Consumer Advocate, the PV Facility satisfies the requirements of HAR Chapter 6-74; the terms and conditions of the PPC are reasonable and in the public interest; and the PPC is consistent with the State's Renewable Portfolio Standards ("RPS") law. Specifically, the Consumer Advocate notes that the twenty-five year term of the PPC is reasonable and in the public interest as it provides a "great degree of long-term

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appeal the commission's decision, which would require more than one month to resolve.

In addition, the commission notes that HELCO has pending before the commission an application for approval of a power purchase agreement with Keahole Solar Power LLC, which requests a commission decision by November 28, 2008, based on the same rationale articulated by LSR. The difference in the deadlines for commission action in those dockets cannot be made in a meaningful way. Notably, prior to the filing of the application in this docket, LSR had informed the commission that a decision would not be needed until the end of November 2008.

As a general statement, the commission makes every effort to issue decisions in the time frame needed by the applicant. However, when applicants create artificial or unrealistic deadlines for the commission, whether out of business necessity or an attempt to deny the commission a sufficient amount of time to review the application, the public interest is not served. Indeed, such a scenario would result in many applicants attempting to game the commission review process by imposing artificial deadlines. Accordingly, the commission requests that in the future, MECO give careful thought and consideration to the deadline requested, and to only request deadlines that are based on genuine necessity.

certainty with respect to the source, quantity, quality, and price of electricity delivered to MECO under the terms and conditions of the PPC."[9]

The Consumer Advocate also asserts that the rates set forth in the PPC are reasonable and in the public interest because:

- Recently, the price of a barrel of oil increased sharply over the price from the recent past few years. Oil prices may vary significantly in short time periods due to the circumstances that affect the availability, processing, and distribution of oil at any given point in time. Since MECO's generation uses oil as the fuel source, MECO's avoided energy cost will vary in relation to the changes in the price of oil. Thus, fixing the price at which MECO will purchase energy produced by LSR's PV System for various periods over the 25-year term of the contract effectively delink's the PPC price from the price of fossil fuel. This is consistent with the requirements set forth in Hawaii Revised Statutes ("HRS") § 269-27.2(c) . . . .

- The rates set forth in the PPC are presently below the August 2008 "avoided cost" of energy as calculated by MECO's Lanai Division, which are $0.434363 (43.4363 cents) per kWh for on-peak energy production and $0.327267 (32.7267 cents) per kWh for off-peak energy production. According to MECO, the composite of MECO's on-peak and off-peak "avoided cost" calculations equals $0.3897 (38.97 cents) per kWh.[10]

In addition, the Consumer Advocate states that the interconnection provisions contained in the PPC are reasonable and in the public interest because they "reasonably protect

[9]CA SOP, at 19.

[10]CA SOP, at 20-21 (footnotes and text therein omitted).

MECO's System from its interconnection with LSR's PV System" and "the costs to MECO (and its ratepayers) from MECO's interconnection with LSR's PV System is minimal due to the fact that LSR bears most of the costs to construct, install, operate, and maintain the PPC's Interconnection Facilities."[11] Notably, "the inspection, testing, and maintenance terms of the interconnection provisions allow MECO to receive the benefits derived from LSR's PV System while minimizing the risks and costs to [MECO's] Electric System."[12]

Finally, the Consumer Advocate states that "the other key terms and conditions of the PPC are reasonable and in the public interest because the other key terms and conditions of the PPC ensure that LSR will conduct itself in such a way that MECO and its System will be protected in the event that a liability-causing event occurs with respect to LSR's System during the term of the PPC."[13]

Because the Consumer Advocate recommends that the commission approve the PPC, it "also recommends that the Commission approve MECO's request to include the PPC energy payments in [MECO's] ECAC to the extent that such costs are not already recovered through MECO's base rates."[14]

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[11]CA SOP, at 22 (footnote and text therein omitted).

[12]CA SOP, at 23.

[13]CA SOP, at 24.

[14]CA SOP, at 25.

II.

Discussion

HAR § 6-60-6(2) states:

> No changes in fuel and purchased energy costs may be included in the fuel adjustment clause unless the contracts or prices for the purchase of such fuel or energy have been previously approved or filed with the commission.

HAR § 6-60-6(2). Thus, the commission must approve the PPC or the rates for purchase under the PPC, to allow MECO to include the costs of purchased energy under its PPC in its ECAC.

Here, the commission finds that the terms of the PPC are prudent and in the public interest, and accordingly, approves the inclusion by MECO of the costs of purchased energy under the PPC in its ECAC. Specifically, the commission finds that the terms of the PPC were negotiated by MECO and LSR at arms-length over a period of time and contain provisions, which will protect MECO and its customers from risks associated with interconnecting with the PV Facility. The commission acknowledges the conclusions of KEMA in the Interconnection Requirements Study for the project, that "[t]here are many aspects of the PV Station which are more along the lines of research and development rather than routine deployment" that require the design of protection schemes that lead MECO into "uncharted waters."[15] As such, the parties' staged implementation and integration of the PV Facility into Lanai's grid is important.[16] Also significant are the

[15]Application, Exhibit 7, at 8.

[16]Application, Exhibit 1, at 57-59.

insurance and indemnification provisions,[17] and the provisions that require that the PV Facility not adversely affect or present a safety hazard to MECO's system, property, employees or its customers;[18] and further require that LSR furnish, install, operate, and maintain suitable and sufficient equipment, maintain adequate records, and follow such operating procedures as may be specified by MECO to protect MECO's system from damage resulting from the parallel operation of LSR's PV Facility with MECO's system.[19] In addition, the PPC allows MECO to curtail or disconnect for operational or safety reasons,[20] and provides that Environmental Credits, as defined in the PPC, are the property of MECO to the benefit of its customers.[21] The terms and conditions of the PPC will not affect MECO's ability to provide electric service to its customers and are not discriminatory to other small power producers.

With respect to rates, the commission finds that the rates for purchase set forth in the PPC, are just and

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[17]Application, Exhibit 1, at 17-19.

[18]Application, Exhibit 1, at 5.

[19]Application, Exhibit 1, at 8.

[20]Application, Exhibit 1, at 13.

[21]Application, Exhibit 1, at 28.

reasonable and in the public interest[22] and are consistent with HRS § 269-27.2(c).[23] As noted above, the on-peak and off-peak rates for purchases of energy from LSR are a fixed price of $0.27/kWh for years 1 through 9; $0.30/kWh for years 10 through 19, and $0.33/kWh for years 20 through 25. According to MECO, LSR "is developing the PV Station as a community benefit for the entire Island of Lanai and its residents" to allow the "movement toward independence from fossil fuels, as well as stabilization of energy costs – [which] will flow directly to MECO's customers."[24] MECO asserts that the energy pricing in the PPC "will yield LSR a very modest effective internal rate of return of 4.46%" and is "substantially less than MECO's Lanai Division current quarterly avoided costs, for on-peak times, of $0.434363/kWh."[25] That, figure, however, has since changed and the on-peak avoided energy cost rate for the Lanai Division in

[22]HAR § 6-74-22(1). Section 6-74-22, HAR, requires that the rates for purchase shall "[b]e just and reasonable to the electric consumers of the electric utility and in the public interest" and "[n]ot discriminate against qualifying cogeneration and small power production facilities." Notwithstanding HAR § 6-74-22, nothing in subchapter 3 prohibits an electric utility or any qualifying facility from agreeing to a rate for purchase, or terms or conditions relating to any purchase, which differ from the rates, terms, or conditions that would otherwise be required by subchapter 3. HAR § 6-74-15(b)(1).

[23]HRS § 269-27.2(c) provides that the commission's determination of a just and reasonable rate shall be accomplished by removing, or significantly reducing, the linkage between the price of fossil fuel and the rate for the non fossil fuel generated electricity. The goal of the amendment is to enable utility customers to share in the benefits of fuel cost savings resulting from the use of non fossil fuel generated electricity.

[24]Application, at 12.

[25]Application, at 13.

October 2008 is now \$.40967/kWh and the off-peak energy cost rate is \$.30877/kWh. The total weighted avoided energy cost rate, according to MECO's most recent avoided cost filing, is \$.36763/kWh. Given the current volatility in oil prices, the fixed nature of the PPC, the fact that pricing under the PPC is delinked from oil prices, and the documentation provided by MECO in Exhibit 6 of its Application as to pricing evaluation and negotiations, the commission finds that the purchased energy charges to be paid by MECO are reasonable.

In sum, the commission finds that the terms and conditions of the PPC, as a whole, are prudent and consistent with the public interest and the State's overall energy policy of reducing the State's dependence on fossil fuel, and accordingly, approves the PPC between MECO and LSR.[26] Notably, consistent with HRS § 269-6(b),[27] the commission is persuaded that approval of the PPC will allow MECO to increase the use of renewable energy on Lanai; broaden commercial-sector deployment of photovoltaic

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[26]MECO has also requested that it be allowed to "include the reasonable costs incurred by MECO pursuant to the PPC in its revenue requirements for ratemaking purposes and for the purpose of determining the reasonableness of MECO's rates." Application, at 1-2, 40. The commission agrees with the Consumer Advocate that "[i]f the energy payments made to LSR in accordance with the terms and conditions of the PPC are deemed reasonable for inclusion in the determination of MECO's revenue requirement and the resulting rates in future rate proceedings, the Consumer Advocate would not object to the inclusion of such payments in the test year revenue requirement and the determination of resulting rates to the extent that such inclusion is warranted by the facts and circumstances of the rate proceeding." CA SOP, at 26.

[27]HRS § 269-6(b) authorizes the commission "to consider the need for increased renewable energy use in exercising its authority and duties."

technology; provide a long-term value to ratepayers by acting as a renewable energy hedge against the uncertainty of future fossil fuel costs; and allow MECO to develop familiarity and knowledge about PV system development, economics, performance, operations and maintenance.

As the commission is approving the PPC, it also approves MECO's request to include the purchased energy charges (and related revenue taxes) that MECO incurs under the PPC, for the term of the PPC, to the extent that such payments are not recovered in its base rates.

III.

Orders

THE COMMISSION ORDERS:

1. The PPC between MECO and LSR, dated August 8, 2008, is approved.

2. MECO may include, in its ECAC, the purchased energy charges (and related revenue taxes) that MECO incurs under the PPC, for the term of the PPC, to the extent that such payments are not recovered in its base rates.

DONE at Honolulu, Hawaii OCT 3 1 2008.

PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

By: Carlito P. Caliboso
Carlito P. Caliboso, Chairman

By: John E. Cole
John E. Cole, Commissioner

By:
Leslie H. Kondo, Commissioner

APPROVED AS TO FORM:

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2008-0167.sl

CERTIFICATE OF SERVICE

The foregoing order was served on the date of filing by mail, postage prepaid, and properly addressed to the following parties:

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