

BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF HAWAII

In the Matter of the Application of )  
HAWAII ELECTRIC LIGHT COMPANY, INC.)  
For Approval of a Restated and )  
Amended Power Purchase Contract )  
with Apollo Energy Corporation, )  
and a Commission Determination that )  
the HELCO-Owned Interconnection )  
Facilities can be Constructed )  
Above the Surface of the Ground, )  
Pursuant to Hawaii Revised Statutes )  
§ 269-27.6(a). )  
\_\_\_\_\_ )

Docket No. 04-0346

DECISION AND ORDER NO. 21693

Filed March 10, 2005  
At 2 o'clock P.M.

Karen Higashi  
Chief Clerk of the Commission

DIV. OF CONSUMER ADVOCACY  
DEPT. OF COMMERCE AND  
CONSUMER AFFAIRS  
STATE OF HAWAII

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Chief Clerk, Public Utilities  
Commission, State of Hawaii.

K. Higashi

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DECISION AND ORDER

The commission approves: (1) the Restated and Amended Power Purchase Contract, dated October 13, 2004, between HAWAII ELECTRIC LIGHT COMPANY, INC. and Apollo Energy Corporation; and (2) other related matters.

I.

Background

HAWAII ELECTRIC LIGHT COMPANY, INC. ("HELCO") requests the commission's approval: (1) of a Restated and Amended Power Purchase Contract, dated October 13, 2004 ("RAC"), with Apollo Energy Corporation ("Apollo"); and (2) of other matters related to the RAC.<sup>1</sup> In addition, HELCO requests that the commission

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<sup>1</sup>HELCO's Application, Exhibits 1 - 12, Verification, and Certificate of Service, filed on November 26, 2004 (collectively, the "Application").

find that the two (2) 69 kilovolt ("kV") line drops associated with the HELCO-owned interconnection facilities can be constructed above the surface of the ground, consistent with Hawaii Revised Statutes ("HRS") § 269-27.6(a).<sup>2</sup>

HELCO makes its requests in accordance with Hawaii Administrative Rules ("HAR") § 6-60-6(2) and HRS § 269-27.6(a), respectively.<sup>3</sup> HELCO served copies of its Application upon: (1) the Department of Commerce and Consumer Affairs, Division of Consumer Advocacy ("Consumer Advocate") (collectively, the "Parties"); and (2) Apollo.

On January 27 and 28, 2005, HELCO responded to the Consumer Advocate's information requests. On February 22 and 24, 2005, the Consumer Advocate filed its position statements, stating that it does not object to the commission's approval of HELCO's Application.<sup>4</sup> On March 1, 2005, HELCO filed its response to the Consumer Advocate's policy concerns.<sup>5</sup>

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<sup>2</sup>Id.

<sup>3</sup>HAR § 6-60-6(2) provides:

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.

For the applicable provisions of HRS § 269-27.6(a), see Section VIII of this Decision and Order.

<sup>4</sup>Consumer Advocate's position statement, filed on February 22, 2005; and the Consumer Advocate's supplemental position statement, filed on February 24, 2005.

<sup>5</sup>HELCO's reply, filed on March 1, 2005.

This Decision and Order addresses HELCO's requests.

## II.

### Apollo's Existing Wind Farm

HELCO is a public utility engaged in the production, purchase, transmission, distribution, and sale of electricity on the island of Hawaii. Apollo is a Hawaii corporation, formed for the primary purpose of acquiring, developing, and operating wind farms and other alternative energy generation systems.

The commission described the current operations and proposed repowering and expansion of Apollo's wind farm in Docket No. 00-0135, as follows:<sup>6</sup>

Apollo operates the Kamaoa wind farm located at South Point on the island of Hawaii. Apollo's wind farm: (1) presently utilizes Mitsubishi wind turbine generators; and (2) is designated a qualifying facility by the Federal Energy Regulatory Commission. The wind farm's current capacity is 7 megawatts ("MW").

Apollo currently sells its as-available energy to HELCO, under the terms of a power purchase agreement ("PPA"). The PPA, which was scheduled to expire on or about June 29, 2002, continues in effect by [HELCO's and Apollo's] mutual agreement, subject to termination by either [of them] under the PPA's notice of termination provision. A one (1)-breaker switching station presently interconnects Apollo's wind farm to HELCO's system.

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<sup>6</sup>See Docket No. 00-0135, Decision and Order No. 21227, filed on August 9, 2004; and Decision and Order No. 18568, filed on May 30, 2001. The commission takes administrative notice of the files in Docket No. 00-0135.

Apollo states that "[t]he Mitsubishi wind turbines at the facility desperately need to be replaced, and the wind farm is overdue for repowering and expansion." In general: (1) the repowering involves replacing the existing wind turbine generators with state-of-the-art generators; and (2) Apollo proposes to expand its wind farm to 20 MW. Accordingly, Apollo is negotiating a new or restated PPA (known as the Restated and Amended Contract, or "RAC") with HELCO.

Initially, Apollo planned to repower and expand its wind farm using Lagerway wind turbine generators, model 30/250 and possibly model 50/750. It later switched to Vestas V80 1.8 MW wind turbine generators. Presently, Apollo proposes to use approximately fourteen (14) GE Wind Energy ("GEWE") 1.5 MW wind turbine generators.

The present rates for the purchase of energy by HELCO from Apollo, under the existing PPA, is eighty-five (85) per cent of HELCO's on-peak and off-peak avoided energy costs data filed pursuant to the commission's avoided cost rules.

The projected in-service date of Apollo's parallel operation of its wind farm with HELCO's system is March 2006.<sup>8</sup>

### III.

#### Apollo's Expanded Facility

Apollo will design, construct, own, and operate its expanded wind farm, located at South Point on the island of Hawaii (the "wind farm"). Apollo's wind farm will have a total capacity of 21 MW, with a net design output to HELCO's system of

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<sup>7</sup>Decision and Order No. 21227, at 2 - 3 (footnotes and citations therein omitted).

<sup>8</sup>HELCO's response to CA-IR-3.

20.5 MW. It will utilize fourteen (14) GEWE wind turbine generators.<sup>9</sup>

Apollo intends to operate its small power production facility as a non-fossil fuel producer, pursuant to HRS § 269-27.2. Apollo must designate its facility as a "qualifying facility," no later than the initial in-service date of the RAC.

Apollo will install and operate its wind farm in two (2) phases, Groups A and B. Group A will consist of the first set of wind turbines, up to five (5), while Group B will comprise the remaining wind turbines, up to nine (9), following the installation of the Group A turbines.

#### IV.

##### HELCO's Requests

In Docket No. 00-0135, Apollo filed a petition against HELCO, requesting the commission's assistance and guidance in finalizing the RAC, pursuant to HAR § 6-74-15. The commission, in response, issued an array of orders and decisions that culminated in HELCO's and Apollo's joint filing of their executed RAC in Docket No. 00-0135 for informational purposes.

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<sup>9</sup>A brochure and diagrams of the GEWE wind turbine generators are attached as Exhibit 2 to HELCO's Application.

Now HELCO, by its Application filed in Docket No. 04-0346,<sup>10</sup> requests that the commission:

1. Approve the RAC;
2. Authorize HELCO to include the purchased energy costs and related revenue taxes that HELCO incurs under the RAC, in HELCO's energy cost adjustment clause ("ECAC") for the term of the RAC;
3. Find that the energy charges to be paid by HELCO pursuant to the RAC are reasonable;
4. Find that HELCO's purchased power arrangements under the RAC, pursuant to which HELCO will purchase energy from Apollo, are prudent and in the public interest;
5. Determine that the two (2) subject 69 kV line drops be constructed above the surface of the ground, pursuant to HRS § 269-27.6(a).

HELCO ultimately contends that the RAC, negotiated at arms-length with Apollo, and with the commission's guidance and assistance, is reasonable.

V.

Interconnection Requirements Study

In Docket No. 00-0135, the commission reviewed the two (2) preliminary Interconnection Requirements Studies ("IRS") prepared by the Hawaiian Electric Company, Inc. ("HECO"),

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<sup>10</sup>Upon the filing of HELCO's Application in Docket No. 04-0346, the commission closed Docket No. 00-0135. See Order No. 21494, filed on December 17, 2004, in Docket No. 00-0135. Apollo is not a party to Docket No. 04-0346.

Transmission Planning Division.<sup>11</sup> Following the commission's issuance of its Decision and Order No. 21227 in Docket No. 00-0135, HELCO's Transmission Planning Division, in October 2004, completed the Final IRS. Excerpts of the Final IRS are attached as Exhibit 6 to HELCO's Application. The Final IRS sets forth the technical requirements for interconnecting Apollo's wind farm with HELCO's system.

In order to accommodate Apollo's request to execute the RAC as soon as possible, Apollo and HELCO, on October 13, 2004, executed the RAC, prior to the completion of the Final IRS. Hence, following Apollo's receipt of the Final IRS on October 27, 2004, Apollo has thirty (30) days to terminate the RAC if it disagrees with the interconnection requirements that result from the Final IRS and if Apollo and HELCO are unable to resolve any such interconnection requirements issues.<sup>12</sup>

## VI.

### The Restated and Amended Contract

Apollo will provide energy from its wind farm to HELCO on an as-available basis. Apollo may consume energy produced from its wind farm for its own use. Apollo is precluded from

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<sup>11</sup>Specifically, the: (1) October 2003 Preliminary IRS; and (2) November 2002 Draft IRS. See Decision and Order No. 21227, at 3.

<sup>12</sup>That said, HELCO states that "[t]he results of HELCO's preliminary assessment of interconnection requirements (both HELCO-owned and Apollo-owned), which was transmitted to Apollo on September 27, 2004, are included in the RAC, and are the same as the results in the [F]inal IRS." HELCO's Application, at 14.

selling energy to: (A) any third-party that is not located on the site of its wind farm; and (B) more than one (1) third-party that is interconnected to HELCO's system. Subject to these exclusions, Apollo has the option of selling energy to third-parties under certain conditions.

The RAC will commence when Apollo first starts to sell energy to HELCO from Apollo's new wind turbines.<sup>13</sup> Apollo's projected date of operating in parallel with HELCO's system is March 2006.<sup>14</sup>

In general, the minimum term of the RAC is twenty (20) years following the initial in-service date. The RAC will continue in effect after the minimum twenty (20)-year term, until terminated by either Apollo or HELCO.

Appendix D of the RAC, Energy Purchases by the Company, sets forth the rates for HELCO's purchase of energy from Apollo.<sup>15</sup> After the in-service date, HELCO is obligated to accept and pay for energy up to the allowed capacity. The total allowed capacity under the RAC will not exceed 20,500 kW (net output).

For the minimum term of the RAC:

The on-peak and off-peak rates for HELCO's purchase of energy from Apollo will be a rolling four (4)-year average of the on-peak and off-peak

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<sup>13</sup>See Appendix F of the RAC (definitions of "acceptance test" and "control system acceptance test").

<sup>14</sup>HELCO's response to CA-IR-3.

<sup>15</sup>See also Appendix D1, Avoided Loss Factor Calculation; and Appendix D2, Examples Illustrating the Payment Adjustment for Avoided Transmission Losses and the Calculation of the Avoided Loss Factor.

avoided energy costs, as shown by HELCO's avoided energy cost data, filed with the commission pursuant to HAR § 6-74-17(b), with a minimum purchase rate of 5.88 cents per kWh for both on-and off-peak periods, as adjusted for avoided transmission losses. The on-peak hours will be from 7:00 a.m. to 9:00 p.m., daily, and the off-peak hours will be from 9:00 p.m. on one (1)-day and 7:00 a.m. on the following day.

The rolling average means that with each new filing of HELCO's avoided energy cost data, the most recently filed avoided energy cost values (on- and off- peak avoided energy costs) will be added to the calculation of the four (4)-year averages, and the oldest filed avoided energy cost will no longer apply. The rolling four (4)-year average will be recalculated and new payment rates will apply each time HELCO files updated avoided energy cost data with the commission pursuant to the avoided cost rules.<sup>16</sup>

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<sup>16</sup>On the date of the execution of the RAC, the rolling four (4)-year on-peak and off-peak avoided energy cost averages were 8.98 cents per kWh and 7.36 cents per kWh, respectively, based on HELCO's filed quarterly avoided energy costs from the first quarter of 2001 to the fourth quarter of 2004. Should the commission later approve or order changes in the avoided cost methodology, or in the frequency of the quarterly filings, then said changes will be reflected in the calculation of the rolling average.

The payment for energy delivered by Apollo to HELCO will be adjusted for avoided transmission losses. The adjustment amount: (1) will be equal to the avoided transmission losses priced at Apollo's on-peak and off-peak energy prices; and (2) can increase or decrease the energy payment to Apollo, depending upon the avoided loss factor.

Under the RAC: (1) avoided transmission losses is the difference between system transmission losses "with" Apollo delivering energy to HELCO, as compared to "without" Apollo delivering energy to HELCO; and (2) the avoided loss factor is the avoided transmission energy losses relative to the energy delivered by Apollo to HELCO.

Following the completion of the minimum term of the RAC:

The respective on-peak and off-peak energy rates for HELCO's purchase of energy from Apollo will: (1) decrease by 0.14 cents per kWh; and (2) be subject to a minimum purchase rate of 5.88 cents per kWh.

HELCO has the right to temporarily curtail, interrupt, or reduce the delivery of energy from Apollo whenever necessary for operational, emergency, or technical reasons.<sup>17</sup> HELCO is required to take all reasonable steps to minimize the number and duration of curtailments, interruptions, and reductions.

HELCO is not required to purchase energy during any period where, due to operational circumstances, purchases from Apollo will result in costs greater than those HELCO would incur if it did not make those purchases but instead generated an equivalent amount of energy itself.

HELCO also has the right to disconnect from Apollo's wind farm and withhold said delivery of energy at any time for operational or safety reasons. Apollo must separate from HELCO's system whenever requested to do so by HELCO's system operator. When separated from HELCO's system, Apollo is prohibited from "reclosing" into the system without first obtaining specific approval to do so from HELCO's system operator.

Moreover, notwithstanding any other provisions of the RAC, HELCO has the right to curtail or disconnect, in its sole discretion, if it reasonably determines that: (1) Apollo's wind

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<sup>17</sup>HELCO may not, however, interrupt deliveries of energy solely to purchase or take advantage of less expensive energy from other qualifying facilities.

farm may endanger HELCO's personnel; or (2) the continued operation of Apollo's wind farm may endanger the integrity of HELCO's system, or adversely affect HELCO's customers' electric service. For safety reasons, Apollo must also provide a manually operated disconnect switch that is readily accessible to HELCO personnel at all times.

In the event HELCO determines that the curtailment of energy is necessary for reasons other than those directly attributable to Apollo's wind farm, curtailments will be made "to the extent possible in reverse chronological order of the chronological seniority dates determined by [HELCO] for the [applicable power purchase] contracts, with deliveries under the contract with the most recent chronological seniority date being the first curtailed, and deliveries under the contract with the earliest chronological seniority date being the last curtailed."<sup>18</sup> Conversely, when HELCO determines that curtailment is necessary for engineering or operating reasons that are directly attributable to Apollo's wind farm, the reverse chronological curtailment order "may" not apply.<sup>19</sup>

The RAC also addresses the disconnection from HELCO's system of at least 9.5 MW from Apollo's wind farm over a rolling

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<sup>18</sup>Appendix B, Section 2(k), of the RAC. The chronological seniority date for the Group A turbines "remains" at September 15, 1986, the chronological seniority date for the allowed capacity of 7 MW under the existing PPA. The chronological seniority date for the Group B turbines, meanwhile, is the non-appealable commission approval order date, subject to adjustment if the in-service date for Apollo's wind farm is more than twelve (12) months after the non-appealable commission approval date. Id. at Section 2(1).

<sup>19</sup>Id. at Section 2(k).

120-second period: (1) that is not caused by a fault on HELCO's system; but rather: (2) is due to a defect in or a failure of Apollo's interconnection facilities.

Performance standards are specified as ramp rates and power fluctuation rates. Apollo must ensure that the ramp rates and power fluctuation rates of its wind farm are less than the limits specified in the RAC. If the ramp rate or power fluctuation rate is greater than or equal to the specified limits, HELCO has the right to curtail Apollo's wind farm, or to disconnect Apollo's wind farm from HELCO's system, if such curtailment does not adequately resolve the problem.

Limits on voltage flicker and harmonic distortion caused by Apollo's wind farm are also specified. Voltage flicker and harmonic distortion at the point of interconnection caused by Apollo's wind farm may not exceed the limits set forth in the Institute of Electrical and Electronics Engineers' Standard 519-1993. Apollo is responsible for installing any necessary controls or hardware to limit the voltage and current harmonics generated from Apollo's wind farm to defined levels.

Apollo must operate its wind farm in accordance with Good Engineering and Operating Practices, aka "GEOP." HELCO has the right to inspect the wind farm and Apollo's operation and maintenance of the wind farm.

The RAC also includes provisions that enable HELCO and its parent entity to address certain financial accounting matters

relating to consolidation and lease accounting, respectively, that arise out of the RAC.<sup>20</sup>

Appendix E of the RAC, Termination Events, sets forth specific events of default under which either HELCO or Apollo may terminate the RAC.

Apollo must maintain commercial general liability insurance coverage of a combined single limit of at least \$2 million for any occurrence, with HELCO named as an additional insured. Cross-indemnification and hold harmless provisions are also included in the RAC.

Appendix G of the RAC, Dispute Resolution, sets forth the general procedures for resolving disputes between HELCO and Apollo under the RAC.

HELCO states that the use of the rolling four (4)-year average in the RAC:

1. Allows for the "smoothing" of oil price spikes, in both directions, that is intended to minimize the risk of oil price spikes to both HELCO and Apollo.
2. Eliminates a maximum purchase rate.
3. Should provide Apollo with certainty as to the level of the payment rate for energy, and should assist Apollo in obtaining the necessary financing for its wind farm.

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<sup>20</sup>In general, Section 20(s) of the RAC sets forth procedures to comply with: (1) the Financial Accounting Standards Board's ("FASB") revised Interpretation No. 46, "Consolidation of Variable Interest Entities," aka FIN 46R; (2) Section 404 of the Sarbanes-Oxley Act of 2002 ("SOX 404"); (3) the FASB, Emerging Issues Task Force's Issue No. 01-8, "Determining Whether an Arrangement Contains a Lease," aka EITF 01-8; and (4) all clarifications, interpretations, and revisions that implement FIN 46R and SOX 404. See also Exhibit 9 of HELCO's Application.

HELCO also notes that, "[s]ince the energy payment rate to Apollo is actually based on a rolling 16-quarter average of HELCO's filed quarterly avoided energy cost and because HELCO's filed quarterly avoided energy cost fluctuates from month to month, the energy payment rate may sometimes be above HELCO's filed quarterly energy cost and at other times it may be below HELCO's filed quarterly avoided energy cost."<sup>21</sup> Moreover, the use of the 0.14 cents per kWh adjustment to the energy rates is intended to approximate the annual levelized revenue requirements for the depreciated value of the HELCO-owned interconnection facilities to be designed and constructed by Apollo, as adjusted to reflect HELCO's fixed cost contribution to the Kamaoa switching station (\$782,300), following the completion of the minimum term of the RAC.

With respect to the RAC as a whole, HELCO states:

1. The as-available energy generated from Apollo's wind farm: (A) increases HELCO's renewable energy portfolio, consistent with HRS chapter 269, part V, Renewable Portfolio Standards ("RPS"), as recently amended by Act 95, Session Laws of Hawaii 2004 ("Act 95"); and (B) assists HELCO in acquiring energy generated from a non-fossil fuel source, consistent with HRS § 269-27.2, as recently amended by Act 95.

2. Apollo's wind farm: (A) factors prominently with HELCO's strategy of meeting the renewable energy portfolio

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<sup>21</sup>HELCO's response to CA-IR-20(b).

standards set forth in Act 95, and greatly increases the amount of renewable energy required to meet Act 95's standards; (B) supports the State of Hawaii's ("State") objective of promoting the use of renewable energy resources, consistent with HRS § 226-18(a); and (C) replaces Apollo's existing wind farm with an expanded, repowered wind farm that must meet certain performance standards (ramp rates, power fluctuation rates, and undervoltage and underfrequency ride-through requirements) that are not included in Apollo's current PPA.

3. The RAC is consistent with: (A) its Integrated Resource Plan, 1999 - 2018 ("IRP"), taking into account current circumstances; and (B) its five (5)-year Action Plan. It is contemplated that, under the IRP Framework, independent as-available energy projects may be added to HELCO's system even though there is no explicit reference to such projects in the IRP.<sup>22</sup>

## VII.

### Interconnection Facilities

In general, the technical requirements governing the interconnection of Apollo's wind farm with HELCO's system are based on the findings and conclusions set forth in the Final IRS.

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<sup>22</sup>See Exhibit 10 (IRP Consistency) of HELCO's Application; and HELCO's response to CA-IR-1.

Apollo will construct, operate, and maintain the interconnection facilities it owns. Appendix B of the RAC, Facility Owned by the Seller, describes the Apollo-owned interconnection facilities (including diagrams).

Apollo will also: (1) design and construct certain HELCO-owned interconnection facilities, including the three (3) 69 kV circuit breaker Kamaoa switching station (the "Kamaoa switching station"); and (2) upon completion, transfer title of these facilities to HELCO. Following the transfer of the Kamaoa switching station to HELCO, HELCO will bill Apollo monthly for 2/3s of any reasonable costs incurred in operating and maintaining the HELCO-owned interconnection facilities. HELCO will be responsible for the remaining 1/3; provided that, with respect to such costs for the first twelve (12) months following the transfer, Apollo's share will not exceed \$3,600.<sup>23</sup>

HELCO is responsible for \$782,300 of the costs for constructing the Kamaoa switching station, while Apollo is responsible for the remaining construction costs of the switching station.<sup>24</sup> Apollo's authorized personnel are allowed reasonable

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<sup>23</sup>See Decision and Order No. 21227, at 17.

<sup>24</sup>The \$782,300 amount is the difference between HELCO's estimated costs for a one (1)-breaker and three (3)-breaker switching station. See Decision and Order No. 21227, at 15 - 16. Since HELCO's \$782,300 fixed cost contribution to Apollo exceeds the net total estimated interconnection cost, HELCO will pay Apollo \$279,300, the difference between those two (2) amounts. The PPA Parties must comply with the terms of the RAC regarding the reconciliation of the total estimated interconnection cost and the total actual interconnection cost.

access to the Kamaoa switching station, as necessary, to:  
(1) operate Apollo's wind farm; and (2) perform its obligations under the RAC.

HELCO will: (1) design and construct the other HELCO-owned interconnection facilities; and (2) operate and maintain all of the HELCO-owned interconnection facilities, whether constructed by Apollo or HELCO.

Appendix C of the RAC, Interconnection Facilities Owned by the Company: (1) describes the HELCO-owned interconnection facilities; and (2) sets forth the estimated cost of the HELCO-owned interconnection facilities.

The point of interconnection between Apollo's wind farm and HELCO's system: (1) is the point where the conductors cross the Kamaoa switching station fence line; and (2) will be at the voltage level of HELCO's 69 kV system. A single-line diagram that identifies the point of interconnection is attached as Exhibit 6, page 1, to HELCO's Application.

Apollo must, at its own cost, furnish, install, operate, and maintain breakers, relays, switches, synchronizing equipment, monitoring equipment, and control and protective devices designated by HELCO as suitable for the parallel operation of Apollo's wind farm with HELCO's system. Such facilities shall be accessible at all times to HELCO's personnel.

VIII.

HRS § 269-27.6(a)

HRS § 269-27.6(a) provides:

**Construction of high-voltage electric transmission lines; overhead or underground construction.** (a) Notwithstanding any law to the contrary, whenever a public utility applies to the public utilities commission for approval to place, construct, erect, or otherwise build a new forty-six kilovolt or greater high-voltage electric transmission system, either above or below the surface of the ground, the public utilities commission shall determine whether the electric transmission system shall be placed, constructed, erected, or built above or below the surface of the ground; provided that in its determination, the public utilities commission shall consider:

- (1) Whether a benefit exists that outweighs the costs of placing the electric transmission system underground;
- (2) Whether there is a governmental public policy requiring the electric transmission system to be placed, constructed, erected, or built underground, and the governmental agency establishing the policy commits funds for the additional costs of undergrounding;
- (3) Whether any governmental agency or other parties are willing to pay for the additional costs of undergrounding;
- (4) The recommendation of the division of consumer advocacy of the department of commerce and consumer affairs, which shall be based on an evaluation of the factors set forth under this subsection; and
- (5) Any other relevant factors.

The HELCO-owned interconnection facilities that are being constructed to interconnect HELCO's system with Apollo's wind farm include two (2) new 69 kV overhead line drops, one (1)

from HELCO's Kilauea switching station, the other from HELCO's Kealia switching station.

HELCO contends that the proposed installation of the two (2) subject 69 kV line drops, above the surface of the ground, is consistent with HRS § 269-27.6(a):<sup>25</sup>

1. Subsection (a)(1): The benefits, if any, of undergrounding the two (2) 69 kV line drops do not outweigh the costs. HELCO estimates that it will cost approximately eight (8) times more to construct the two (2) line drops overhead/underground, than to construct it overhead.<sup>26</sup>

In addition, the visual impact of the overhead lines will not significantly increase, "as there are existing 69 kV overhead lines in the area, i.e., the existing

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<sup>25</sup>HELCO states that HRS § 269-27.5, the public hearing requirement governing the construction of new 46 kV or greater transmission systems above the surface of the ground through any residential area, is inapplicable. Thus, a public hearing by the commission is not required in this instance.

According to HELCO:

The two 69 kV line drops will result from extending two 69 kV line extensions from the present Kilauea-Kealia 69 kV line close to the Mamalahoa Highway to the Kamaoa Switching Station site and terminate on the deadend frames within the Kamaoa Switching Station, and will be located in an area zoned 'Agriculture.' The nearest home is over 1,000 feet away, and the proposed 69 kV line drops will not be visible from the nearest home.

HELCO's Application, at 47.

<sup>26</sup>HELCO explains that if the two (2) line drops were to go underground, "a portion of the second 69 kV line drop would [still] need to be constructed overhead in order to install a disconnect switch on one of the poles and the need for a riser pole to transition to underground." Id. at 46.

Kilauea-Kealia 69 kV overhead line on Hawaii Belt Road (Mamalahoa Highway) that will be tapped for the proposed second 69 kV line drop, and the existing 69 kV overhead line to the existing Kamaoa Switching Station."<sup>27</sup> Also, Apollo proposes to build an approximately seven (7) mile 69 kV overhead line from its wind farm to the new Kamaoa switching station.

2. Subsections (a)(2) and (a)(3): To HELCO's knowledge, there is no governmental public policy requiring the undergrounding of the two (2) 69 kV overhead line drops, and there is no governmental agency or other entity willing to pay for the additional costs of undergrounding the two (2) line drops.<sup>28</sup>

3. Subsection (a)(4): The Consumer Advocate does not object to the overhead installation of the two (2) 69 kV line drops.

4. Subsection (a)(5): HELCO is unaware of any other relevant factors that "could affect the Commission's determination for the proposed 69 kV line drops to be constructed underground."<sup>29</sup>

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<sup>27</sup>Id.

<sup>28</sup>HELCO represents that Apollo has expressed its unwillingness to pay for the additional costs of undergrounding the two (2) 69 kV overhead line drops. See Exhibit 12 of HELCO's Application.

<sup>29</sup>HELCO's Application, at 46.

IX.

Consumer Advocate's Position

At the outset, the Consumer Advocate states that: (1) the addition of more wind energy in the State is desirable; and (2) the terms and conditions of the RAC meet the State's current rules. Moreover, the Consumer Advocate recognizes that the RAC arises in part from the commission's guidance and assistance in Docket No. 00-0135.

Accordingly, the Consumer Advocate does not object to the commission's approval of HELCO's Application. (See Section IX(A) and (C), below.) Nonetheless, it expresses concern on how the RAC will impact consumers. (See Section IX(B), below.)

A.

The Restated and Amended Contract  
and Interconnection Facilities

The Consumer Advocate identifies four (4) issues it deems critical to its review of the RAC: (1) whether Apollo meets the requirements of HAR chapter 6-74; (2) whether the terms and conditions of the RAC are reasonable; (3) whether the RAC is consistent with the State's RPS policy; and (4) whether the costs associated with the interconnection facilities are reasonable.

The Consumer Advocate finds that:

1. Apollo plans to operate its wind farm as a small power production, non-fossil fuel producer of electric power, consistent with HRS § 269-27.2. Apollo's wind farm meets the

requirements set forth in HAR §§ 6-74-4, 6-74-5, and 6-74-7, and thus, should receive certification as a qualifying facility.

2. By choosing a sixteen (16)-quarter, four (4)-year rolling average short-run avoided energy cost methodology, HELCO's current quarterly avoided cost filing is used in accordance with HAR § 6-74-22(3), and is the maximum rate allowed under HRS § 269-27.2(c), as amended by Act 95.<sup>30</sup> While the RAC's pricing terms differ slightly from HELCO's filed avoided costs, HAR § 6-74-15(b)(1) allows parties to negotiate pricing terms that differ from the filed avoided cost, if both parties agree to the terms. Using the sixteen (16)-quarter averaging of the data reflected in the quarterly avoided energy cost filings will help to smooth out the quarter-to-quarter volatility that is caused by changes in the price of fuel.<sup>31</sup>

3. The minimum price along with a twenty (20)-year term, it appears, is intended to assist Apollo in securing project financing. Moreover, the use of a twenty (20)-year contract is consistent with other, recently approved qualifying facility-type power purchase contracts.

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<sup>30</sup>In rebuttal, HELCO clarifies that the avoided energy cost data that will be used under the RAC is the avoided energy cost payment rates that apply to facilities over 100 kW. See HELCO's reply, at 2 - 3, footnote 1.

<sup>31</sup>Conversely, the Consumer Advocate notes that the RAC includes a minimum purchase rate but no ceiling, meaning that HELCO's ratepayers may not receive the full benefit of occasional reductions in oil prices.

4. "Because [the RAC's] pricing is consistent with current rules, the . . . pricing terms must be viewed as reasonable."<sup>32</sup>

5. The non-pricing terms and conditions of the RAC do not appear discriminatory or otherwise inappropriate.

6. It does not object to the commission's approval of the RAC's terms and conditions.

7. Approving the RAC and commitment of funds for the related interconnection facilities: (A) will increase the electric utilities' ability to meet the RPS targets set forth in Act 95;<sup>33</sup> and (B) is consistent with the State's energy policy, as set forth in HRS § 226-18(a).

8. In Docket No. 00-0135, the commission instructed HELCO and Apollo on how to appropriately allocate the interconnection costs. As such, the Consumer Advocate does not object to the cost allocations for the interconnection facilities.

B.

Policy Concerns

On a policy level, the Consumer Advocate expresses its overall concerns on how future power purchase contracts of this

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<sup>32</sup>Consumer Advocate's position statement, at 11.

<sup>33</sup>Specifically, the electric utilities that are affiliated with Hawaiian Electric Industries.

nature will impact consumers, and how a future contract may be problematic due to:

1. Its interaction with the IRP Framework and the commission's on-going Act 95 (non-docketed) and competitive bidding (Docket No. 03-0372) proceedings, respectively, which may impact the procurement of energy produced by renewable resources in the State.<sup>34</sup>

2. Its use of short-run avoided costs, tied to volatile oil prices and high utility heat rates, as the basis for pricing long-term contracts for renewable resources.<sup>35</sup>

3. Its burdening consumers with prices that substantially exceed the actual costs of power production.<sup>36</sup>

4. Its potential for precluding other lower cost renewable projects from entering an electric utility's supply portfolio.<sup>37</sup>

The Consumer Advocate concludes by stating that "the Commission should state clearly that the approval of this [RAC]

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<sup>34</sup>Consumer Advocate's position statement, Section IV(A).

<sup>35</sup>Id. at Section IV(B).

<sup>36</sup>Id. at Section IV(C).

<sup>37</sup>Id. at Section IV(D).

should not set a precedent for future contracts involving renewable power supplies."<sup>38</sup>

C.

HRS § 269-27.6(a)

The Consumer Advocate finds that the proposed installation of the two (2) 69 kV line drops, above the surface of the ground, is consistent with HRS § 269.27.6(a):

1. Subsection (a)(1): The limited benefits that may be achieved through the underground placement of the two (2) 69 kV line drops will not justify the additional costs, estimated at more than eight (8) times more than the proposed overhead installation.

2. Subsection (a)(2): There is no statutory requirement to install the two (2) 69 kV line drops underground, and it is unaware of any County of Hawaii ("County") requirement that said facilities be installed underground. Thus, the underground placement of the two (2) 69 kV line drops is not required as a matter of governmental public policy.

3. Subsection (a)(3): HELCO states that the two (2) 69 kV line drops will be constructed on Kamehameha

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<sup>38</sup>The Consumer Advocate specifically recommends that, for future power purchase contracts involving wind energy, a better alternative to the utility's quarterly avoided energy cost data "would be to negotiate a fixed price, or a portion being fixed, that is tied to the actual costs of operating the wind generators. This would help to eliminate the volatility risk on both sides and would benefit consumers with a predetermined price." Id. at 19.

Highway/Bishop Estate property, and not in the right-of-way of a State or County highway. Thus, neither the State nor County was contacted to determine whether either entity is willing to pay for the additional costs to underground said facilities. In addition, HELCO represents that Apollo is unwilling to pay for the additional costs to install the two (2) 69 kV line drops underground.

In conclusion, the Consumer Advocate notes that, based on a study by the Honolulu Chapter of the American Institute of Architects:

1. The estimated cost to convert all existing overhead facilities to underground, on the island of Oahu, is approximately \$12.7 billion.

2. To mitigate the effects of this cost, such costs may have to be spread over a sixty (60)-year period.

Accordingly, "the matter of underground utility lines must be carefully examined to ensure that the cost implications do not negatively impact for years to come the price of electricity, which is deemed to be an essential service for all consumers in the State."<sup>39</sup>

X.

HELCO's Reply

At the outset, HELCO notes that the Consumer Advocate does not object to the commission's approval of its Application.

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<sup>39</sup>Consumer Advocate's supplemental position statement, at 6.

Hence, there is no need for any additional procedural steps, "and this matter is ready for decision-making by the Commission."<sup>40</sup>

Concomitantly, HELCO expresses practical concerns with some of the solutions the Consumer Advocate proposes for the first time, and urges the commission to refrain from considering or commenting on the Consumer Advocate's proposals in this present docket.

HELCO then responds:

1. The commission recognizes that wind and other renewable resources do not need to be explicitly included in the IRP for utilities to purchase power from renewable resource facilities. The IRP does not include independent power producer ("IPP") projects, unless there is a signed power purchase contract for the project. Nonetheless, it is contemplated that IPP firm capacity projects may defer utility generation additions, and that IPP as-available energy projects may be added to the utility's system even though there is no specific reference to these projects in the IRP.

2. The procurement of renewable energy produced by IPPs through a bidding process is a subject HELCO and its affiliated utilities may be able to discuss further with the Consumer Advocate in the pending competitive bidding docket, Docket No. 03-0372.

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<sup>40</sup>HELCO's reply, at 2 and 14. HELCO also responds to certain of the Consumer Advocate's statements it characterizes as "inaccurate." See *id.* at 2, footnote 1.

3. The IPPs are cognizant of their energy pricing rights under federal and State laws, and generally have used their rights as leverage in negotiations. Within this context, HELCO and its affiliated utilities have experienced some success in "de-linking" wind farm energy prices from the actual price of oil at the time energy is delivered, which can reduce or eliminate price volatility, by proposing pricing mechanisms based on rolling averages of avoided costs and fixed prices based on forecasts of avoided costs.<sup>41</sup> Ultimately, the energy pricing issue is subject to extensive discussions with the IPPs.

4. The Consumer Advocate's proposals to compute the avoided energy costs for a renewable energy contract raise certain concerns, such as the use of a proxy method, that are more appropriately addressed in Docket No. 7310.

5. HELCO concurs that a large amount of wind capacity on its system can lead to operational issues. The performance standards, included in the RAC at HELCO's insistence, address these operational concerns.

6. While the RAC and any Decision and Order concerning the RAC "should stand on their own[,] "it is unreasonable to contend that the [D]ecision and [O]rder should not set any precedent."<sup>42</sup>

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<sup>41</sup>As examples, HELCO cites to the present RAC, its PPA with Kahua Power Partners LLC (Docket No. 00-0177), and Maui Electric Company, Limited's PPA with Kaheawa Wind Power, LLC (Docket No. 04-0365).

<sup>42</sup>HELCO's reply, at 13 - 14.

## XI.

### Discussion

The Consumer Advocate does not object to the RAC, the related interconnection facilities, the allocation of the interconnection costs between HELCO and Apollo, or to the construction of the two (2) overhead 69 kV line drops. That said, the Consumer Advocate asserts that the RAC, Apollo's expanded wind farm, and future renewable power purchase contracts must ultimately co-exist with the IRP Framework, RPS, pending competitive bidding docket, and other policy matters affecting renewable energy in the State.

The commission duly recognizes the RAC's impact on matters affecting the statewide development of renewable energy resources. Such policies are an evolving work in progress, and presently, each power purchase contract, including the RAC, is negotiated and reviewed on a case-by-case basis.

### A.

#### Authorities

In general, HRS § 269-27.2 and HAR chapter 6-74, subchapter 3, guides the commission's review of the rates agreed upon between HELCO and Apollo. HRS § 269-27.2(c), as recently amended by Act 95, provides in relevant part:

1. The rate payable by the public utility to the producer for the non-fossil fuel generated electricity supplied to the public utility shall be as agreed upon between the public utility and the supplier and as approved by the commission; provided that in the event the public utility and supplier fail to reach an agreement for a rate, the rate shall be as prescribed by the commission

pursuant to the powers and procedures provided in HRS chapter 269.

2. In the exercise of its authority to determine the just and reasonable rate for the non-fossil fuel generated electricity supplied to the public utility by the producer, the commission shall establish that the rate for purchase of electricity by a public utility shall not be more than one hundred (100) per cent of the cost avoided by the utility when the utility purchases the electrical energy rather than producing the electrical energy.

HAR § 6-74-22(a) of chapter 6-74, subchapter 3, provides that the rates for purchase shall:

1. Be just and reasonable to the electric consumer of the electric utility and in the public interest;
2. Not discriminate against qualifying cogeneration and small power production facilities; and
3. Be not less than one hundred (100) per cent of avoided cost for energy and capacity purchases to be determined as provided in HAR § 6-74-23 from qualifying facilities and not less than the minimum purchase rate.

HAR § 6-74-22(a)(3) sets the one hundred (100) per cent avoided cost threshold as a minimum floor. Act 95, Section 3, codified at HRS § 269-27.2(c) and which took effect on June 2, 2004, changed the one hundred (100) per cent avoided cost threshold from a floor to a ceiling. HAR § 6-74-22(a)(3), therefore, is now inconsistent with HRS § 269-27.2(c), where there is no agreement on a purchase rate, and the commission must thus prescribe or establish "the just and reasonable rate for the nonfossil fuel generated electricity supplied to the public utility by the producer[.]" HRS § 269-27.2(c).

Nonetheless, notwithstanding HAR § 6-74-22, nothing in HAR chapter 6-74, 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.<sup>43</sup> HAR § 6-74-15(b)(1).

B.

Findings and Conclusions

The commission makes the following findings and conclusions:

1. The four (4)-year, rolling average avoided energy cost methodology for calculating the energy payment rates under the RAC, is designed to: (A) smooth out the quarterly changes in the price of fuel; and (B) minimize the risk of oil spikes in both directions.

2. The energy charges to be paid by HELCO pursuant to the RAC are: (A) based on a sixteen (16)-quarter, four (4)-year rolling average of the utility's avoided energy cost filings, with a minimum purchase rate, as adjusted for avoided

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<sup>43</sup>Similarly, HRS § 269-27.2(c) states that "[t]he rate payable by the public utility to the producer for the nonfossil fuel generated electricity supplied to the public utility shall be as agreed between the public utility and the supplier and as approved by the . . . commission[.]" Here, HELCO and Apollo negotiated and agreed on the energy purchase rates, and the commission approves the RAC, including the energy purchase rate provisions. See Sections XI(B) and XII of this Decision and Order.

transmission losses;<sup>44</sup> and (B) reasonable and consistent with the underlying intent of HRS § 269-27.2(c), HAR §§ 6-74-15(b)(1), and 6-74-22, to the extent applicable, of facilitating the development of renewable energy resources in the State.

3. The RAC's terms and conditions, as a whole, are reasonable and consistent with the public interest and the State's overall energy policy. Thus, the purchase power arrangements described in the RAC, pursuant to which HELCO purchases energy from Apollo, are prudent and in the public interest.

4. HELCO is authorized to include the purchased energy costs and related revenue taxes that HELCO incurs under the RAC, in HELCO's ECAC, for the term of the RAC.

In addition, the commission finds that the construction of HELCO's two (2) 69 kV line drops above the surface of the ground, as part of its interconnection facilities, is consistent with HRS § 269-27.6(a). Specifically:

1. The commission is: (A) not convinced that a benefit exists that outweighs the estimated eight (8)-fold costs of undergrounding the two (2) 69 kV line drops; and (B) unaware of any governmental policy either requiring the undergrounding or committal of funds for the costs of undergrounding the 69 kV line drops.

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<sup>44</sup>In the event the commission later approves or orders changes to the avoided cost methodology, or in the frequency of the quarterly filings, said changes will be reflected in calculating the rolling average.

2. No governmental agency or other entity has expressed a willingness to pay for the undergrounding. In this respect, HELCO represents that: (A) it will cost approximately eight (8) times more to underground the 69 kV line drops; and (B) to its knowledge, funds from the government and private sectors are not available to pay for the cost differential between the underground and overhead facilities.

3. The Consumer Advocate does not object to the commission's approval of HELCO's Application.

4. HELCO represents that the visual impact will not significantly increase.

Accordingly, the commission approves HELCO's request to construct its two (2) 69 kV line drops above the surface of the ground, as part of its interconnection facilities.

## XII.

### Orders

#### THE COMMISSION ORDERS:

1. The RAC between HELCO and Apollo, dated October 13, 2004, is approved.

2. The energy charges to be paid by HELCO pursuant to the RAC are reasonable.

3. The purchased power arrangements under the RAC, pursuant to which HELCO will purchase energy from Apollo, are prudent and in the public interest.

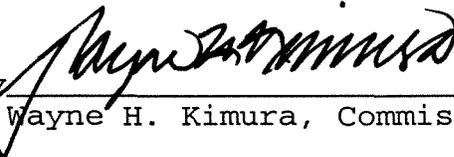
4. HELCO may include, in its ECAC, the purchased energy costs and related revenue taxes that it incurs under the RAC, for the term of the RAC.

5. HELCO's request to construct its two (2) 69 kV line drops above the surface of the ground, as part of its interconnection facilities, is approved.

DONE at Honolulu, Hawaii MAR 10 2005.

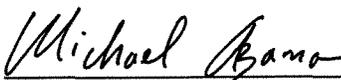
PUBLIC UTILITIES COMMISSION  
OF THE STATE OF HAWAII

By   
Carlito P. Caliboso, Chairman

By   
Wayne H. Kimura, Commissioner

By   
Janet E. Kawelo, Commissioner

APPROVED AS TO FORM:

  
Michael Azama  
Commission Counsel

04-0346.s11

CERTIFICATE OF SERVICE

I hereby certify that I have this date served a copy of the foregoing Decision and Order No. 21693 upon the following parties, by causing a copy hereof to be mailed, postage prepaid, and properly addressed to each such party.

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Karen Higashi

DATED: MAR 10 2005