

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

----- In the Matter of -----)
)
HAWAIIAN ELECTRIC COMPANY, INC.)
)
For Approval and/or Modification of)
Demand-Side and Load Management)
Programs and Recovery of Program)
Costs and DSM Utility Incentives.)
_____)

DOCKET NO. 05-0069

DECISION AND ORDER NO. 23258

Filed Feb. 13, 2007

At 10 o'clock A.M.

Karen Higashi

Chief Clerk of the Commission

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DECISION AND ORDER

By this Decision and Order, the commission:

(1) establishes energy efficiency goals for HAWAIIAN ELECTRIC COMPANY, INC. ("HECO"), HAWAII ELECTRIC LIGHT COMPANY, INC. ("HELCO"), and MAUI ELECTRIC COMPANY, LTD. ("MECO") (collectively, the "HECO Companies") until their next Integrated Resource Planning ("IRP")¹ dockets; (2) selects the appropriate market structures for providing demand-side management ("DSM") programs; (3) determines the cost recovery mechanisms for utility recovery of utility-incurred DSM program costs; (4) determines the types of costs that are appropriate for utility recovery of utility-incurred DSM program costs; (5) establishes the appropriate DSM incentive mechanism for the HECO Companies; (6) determines that HECO's proposed energy efficiency DSM programs (collectively, "Proposed Energy

¹The IRP process is described in the commission's "A Framework for Integrated Resource Planning, revised May 22, 1992, attached to Decision and Order No. 11630, filed on May 22, 1992, in Docket No. 6617 ("IRP Framework"), which provides guidelines and requirements under which all of Hawaii's energy utilities must develop integrated resource plans.

Efficiency DSM Programs")² are likely to achieve the energy efficiency goals and be cost-effective; (7) establishes the appropriate cost level for HECO's utility-incurred costs in base rates; (8) approves HECO's proposed DSM utility incentive, with modifications; (9) approves HECO's Proposed Energy Efficiency DSM Programs and Residential Customer Energy Awareness ("RCEA") Program, with modifications; and (10) approves HAWAII RENEWABLE ENERGY ALLIANCE's ("HREA") Seawater Air Conditioning ("SWAC") proposal, with modifications, under HECO's CICR Program.

I.

Procedural Background

In its application, filed on November 12, 2004, in Docket No. 04-0113 (the "Rate Case Docket"), HECO requested, among other things, the approvals necessary to: (1) implement the seven Proposed Energy Efficiency DSM Programs; (2) recover the program costs for the seven Proposed Energy Efficiency DSM Programs, a pilot version of the RCEA Program, and two load management DSM programs through base rates; (3) implement and recover the costs of a proposed DSM utility incentive through base rates; and (4) reconcile DSM customer incentives and the DSM utility incentive through a proposed DSM Reconciliation Clause.

²As discussed in section III.F., *infra*, the seven Proposed Energy Efficiency DSM Programs are: (1) Commercial and Industrial Energy Efficiency ("CIEE") Program; (2) Commercial and Industrial New Construction ("CINC") Program; (3) Commercial and Industrial Customized Rebate ("CICR") Program; (4) Residential Efficient Water Heating ("REWH") Program; (5) Residential New Construction ("RNC") Program; (6) Residential Low Income ("RLI") Program; and (7) Energy\$olutions for the Home ("ESH") Program.

By Order No. 21698, filed on March 16, 2005, in Docket Nos. 04-0113 and 05-0069 ("Order No. 21698"), the commission separated HECO's requests for approval and/or modification of demand-side and load management programs and recovery of program costs and DSM utility incentives from the Rate Case Docket, and opened the instant docket (the "Energy Efficiency Docket") in which to consider these matters. By various orders, the commission determined that the parties to this Energy Efficiency docket are the HECO Companies, the DIVISION OF CONSUMER ADVOCACY, DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS ("Consumer Advocate"),³ the DEPARTMENT OF THE NAVY, ON BEHALF OF THE DEPARTMENT OF DEFENSE ("DoD"), LIFE OF THE LAND ("LoL"), the ROCKY MOUNTAIN INSTITUTE ("RMI"), HAWAII SOLAR ENERGY ASSOCIATION ("HSEA"), HAWAII RENEWABLE ENERGY ALLIANCE ("HREA"), KAUAI ISLAND UTILITY COOPERATIVE ("KIUC"), and THE GAS COMPANY ("TGC") (collectively, "Parties"), and that the participants are the COUNTY OF MAUI ("CoM") and the COUNTY OF KAUAI ("CoK") (collectively, "Participants").⁴

³Pursuant to Hawaii Revised Statutes ("HRS") § 269-51 and Hawaii Administrative Rules ("HAR") § 6-61-62, the Consumer Advocate is an ex officio party to this proceeding.

⁴By Order No. 21698, the commission granted the respective motions to intervene of the DoD, LoL, RMI, and the motion to participate of the CoM in this proceeding. By Order No. 21749, filed on April 14, 2005, the commission granted the respective motions to intervene of HSEA and HREA. By Order No. 21861, filed on June 7, 2005, the commission sua sponte named HELCO, MECO, KIUC, and TGC as parties to this docket, limiting their participation to the issues related to statewide energy policies. By Order No. 22029, filed on September 14, 2005, the commission sua sponte named the CoK a participant in this proceeding, limiting its participation to the issues related to statewide energy policies.

On December 5, 2005, HECO filed for commission approval of modifications to its existing energy efficiency DSM programs, and also approval of a new interim DSM program (collectively referred to as HECO's "Interim DSM Proposals").⁵ By Interim Decision and Order No. 22420, filed on April 26, 2006 ("Interim Decision and Order No. 22420"), the commission: (1) approved, on an interim basis, HECO's Interim DSM Proposals; and (2) required the discontinuance of HECO's recovery of lost gross margins and shareholder incentives for its DSM programs within thirty days of the filing of Interim Decision and Order No. 22420, until further order by the commission.⁶

On May 31, 2006, CoK filed its Final Statement of Position ("FSOP"). On June 1, 2006, the HECO Companies, the

⁵On January 9, 2006, RMI filed comments to HECO's Interim DSM Proposals. On January 10, 2006, the Consumer Advocate, DoD, HSEA, and HREA filed comments to HECO's Interim DSM Proposals. On January 31, 2006, HECO responded to the aforementioned comments on its Interim DSM Proposals.

On March 15, 2006, the commission provided the Parties and Participants with a copy of a report submitted to the commission by one of its consultants in this proceeding, the U.S. Environmental Protection Agency ("EPA"), entitled EPA Review of HECO Interim Demand-Side Management Proposals (Docket No. 05-0069) ("EPA Review of HECO's Interim DSM Proposals"), dated March 3, 2006. On March 28, 2006, HECO filed a response to the EPA Review of HECO's Interim DSM Proposals.

⁶On May 8, 2006, HECO requested an extension of time to file a motion for clarification and/or motion for reconsideration of Interim Decision and Order No. 22420, which was granted by Order No. 22468, filed on May 16, 2006. On May 15, 2006, HECO filed its Motion for Partial Reconsideration of Interim Decision and Order No. 22420 ("Motion for Partial Reconsideration"). By letter dated June 13, 2006, the commission granted HECO's request to schedule a hearing on its Motion for Partial Reconsideration during the evidentiary hearing scheduled for this docket. By Order No. 22921, filed on October 4, 2006, the commission denied HECO's Motion for Partial Reconsideration.

Consumer Advocate, KIUC, TGC, LoL, CoM, HSEA, RMI, HREA, and DoD filed their FSOPs.⁷

On June 21, 22, and 23, 2006, the Parties issued various information requests upon the other Parties. On July 11, 12, and 14, 2006, the Parties filed their responses to the information requests. Revisions to certain responses were filed on July 17 and August 22, 2006.

On July 26, 2006, the commission provided the Parties and Participants with a copy of a report submitted to the commission by the EPA, entitled EPA Comments on Docket No. 05-0069 for the State of Hawaii Public Utilities Commission ("EPA Report"). On August 22, 2006, the HECO Companies, the Consumer Advocate, KIUC, DoD, HREA, and CoK filed their responses to the EPA Report. On August 25, 2006, the commission provided the Parties and Participants with a copy of EPA's Reply To Parties' Questions And Comments To July 26, 2006 Final Analysis of the Environmental Protection Agency ("EPA Reply").

Commencing on August 28, 2006, and ending on September 1, 2006, the commission held a panel-format evidentiary hearing in this docket, with Mr. Scott Hempling, Esq.

⁷HECO, HELCO, and MECO's filings, when jointly submitted, are designated with "the HECO Companies." In addition, the HECO Companies note that "[w]ith respect to the statewide issues (i.e., issue numbers 1-5), references to HECO or Company generally also will be applicable to HELCO and MECO. For specific DSM program-related issues (i.e., issue numbers 6-9), references to HECO or Company generally will be applicable to HECO only." The HECO Companies' Opening Brief at 1 n.1.

moderating,⁸ and Chairman Carlito P. Caliboso and Commissioner John E. Cole, presiding ("Panel Hearings").⁹ All of the Parties and Participants were present. The HECO Companies, HREA, and RMI submitted hearing exhibits.¹⁰ With respect to HREA Hearing Exhibit 2, HREA Proposal for Inclusion of Seawater Air Conditioning District Cooling Systems on HECO's CICR DSM Program ("SWAC Proposal"), the Parties agreed to a schedule to submit information requests to HREA, have HREA respond to those information requests, and then have the Parties respond to HREA's SWAC Proposal.

On October 24 and 25, 2006, the Parties and Participants filed their Post-Hearing Opening Briefs ("Opening Brief(s)").

On November 15, 2006, the HECO Companies, the Consumer Advocate, DoD, HREA, HSEA, and RMI filed Post-Hearing Reply Briefs ("Reply Brief(s)").

⁸The commission retained Mr. Hempling as a consultant and moderator for this docket.

⁹Citations to the transcript of the August 28, 2006 to September 1, 2006 Panel Hearings are as follows: Transcript of Proceedings ("Tr."), followed by the applicable volume number ("Vol. ____") and page number(s), followed by the last name of the individual in parentheses. For example, "Tr. Vol. I at 26-32 (Hempling)" refers to Moderator Hempling's discussion found at Volume I, pages 26-32, of the transcript.

¹⁰See HECO Hearing Exhibits A and B; HREA Hearing Exhibits 1 and 2; RMI Hearing Exhibits A and B.

II.

Issues

By Order No. 22251, filed on January 31, 2006, the commission adopted the Parties' list of proposed issues:

Statewide Energy Policy Issues:

- (1) Whether energy efficiency goals should be established and if so, what the goals should be for the State;
- (2) What market structure(s) is the most appropriate for providing these or other DSM programs (e.g., utility in competition with non-utility providers, non-utility providers);
- (3) For utility-incurred costs, what cost recovery mechanism(s) is appropriate (e.g., base rate, fuel clause, IRP Clause);
- (4) For utility-incurred costs, what types of costs are appropriate for recovery;
- (5) Whether DSM incentives mechanisms are appropriate to encourage the implementation of DSM programs, and, if so, what is the appropriate mechanism(s) for such DSM incentives;

HECO's Proposed DSM Programs Issues:

- (6) Whether the seven (7) Proposed DSM Programs (i.e., the CIEE, CINC, CICR, REWH, RNC, RLI, and ESH programs), the RCEA program, and/or other energy efficiency programs will achieve the established energy efficiency goals and whether the programs will be implemented in a cost-effective manner;
- (7) If utility-incurred costs for the programs in issue 6 are to be included in base rates, what cost level is appropriate, and what the transition mechanism for cost recovery will be until the respective utility's next general rate case;

- (8) Whether HECO's proposed DSM utility incentive is reasonable, and should be approved with modifications, or rejected; [and]
- (9) Which of the Proposed DSM Programs, the RCEA Program, and/or other energy efficiency programs should be approved, approved with modifications, or rejected.¹¹

III.

Discussion

For the purposes of this Decision and Order, consistent with the Panel Hearings, the term "Energy Efficiency" will refer to the savings of energy usage; the term "Load Management" will refer to direct control or management of the load; and the term "DSM" will refer to Energy Efficiency and Load Management collectively.¹²

¹¹Order No. 22251, filed on January 31, 2006, in Docket No. 05-0069, at 4 and Exhibit A, at 4-5.

¹²See Tr. Vol. I at 32 (Hempling). Energy efficiency programs are programs that focus on reducing both energy and demand, while Load Management and demand response programs focus on achieving reductions in demand. HECO's Proposed Energy Efficiency DSM Programs, described in section III.F., infra, are examples of Energy Efficiency programs. HECO's Residential Direct Load Control ("RDLC") Program, approved in Docket No. 03-0166, and Commercial and Industrial Direct Load Control ("CIDLC") Program, approved in Docket No. 03-0415, are examples of Load Management programs. See The HECO Companies' Opening Brief at 11 n.8 (citing The HECO Companies' FSOP at 9-10).

HSEA and HREA recommend that the commission revise the definition of DSM. HSEA recommends, and CoM agrees, that the commission adopt the October 2001 California Standard Practice Manual definition of DSM. See HSEA Opening Brief at 3; HSEA Reply Brief at 11; CoM Opening Brief at 5-6. In particular, HSEA seeks to expand the definition of DSM "to include self-generation on the customer's side of the meter." HSEA Opening Brief at 3. In addition, HREA recommends that the commission revise the

Although the commission examines each of the foregoing issues separately, to the extent that the discussion in one section is applicable to another section, this Decision and Order should be read in conjunction with, and in the context of, this entire Decision and Order.

A.

Issue 1: Goals

1.

DSM Objectives

First, the commission examines whether DSM objectives should be established in this docket. Pursuant to HRS § 269-6, the commission has general supervisory powers over all public

definition of DSM contained in the IRP Framework by adding the underlined text as follows:

"Demand-side management programs" means programs designed to influence customer uses of energy to produce desired changes in demand. It includes conservation, customer-sited renewable energy displacement technologies, renewable energy electricity displacement district energy systems (such as seawater air conditioning district cooling), customer-sited self-generation (including renewables), and load management and efficiency resource programs.

HREA Opening Brief at 5-6. HSEA argues that the "[t]he definition of DSM adopted by this [c]ommission in this docket will broaden or severely limit Hawaii's DSM program options regardless of administrative structure." HSEA Opening Brief at 3. However, the issue of whether to revise the definition of DSM in the IRP Framework would be better addressed in an IRP proceeding. Therefore, the commission will not consider the requested revisions in this docket.

utilities. Therefore, notwithstanding the IRP Framework,¹³ the commission retains the general authority to establish DSM objectives under HRS § 269-6.

The HECO Companies describe their principle DSM objectives as "energy savings and peak demand reductions."¹⁴ In addition, the HECO Companies state that "the DSM programs should provide all classes of customers the opportunity to participate in the programs" and that the programs should be "cost-effective, recognizing that this objective may sometimes be at odds with . . . customer equity."¹⁵ Finally, at the

¹³As described in the IRP Framework:

1. The ultimate objective of a utility's integrated resource plan is meeting the energy needs of the utility's customers over the ensuing 20 years.
2. The utility may specify any other utility-specific objective that it seeks to achieve through its integrated resource plan. For example, given the parameter of the State goal of less dependence on imported oil, the utility may set as an objective the achievement of lowering to a specified level the use of imported oil.
3. The commission may specify other objectives for the utility. Such specifications, if any, shall be included in the order opening a docket for integrated resource planning at the commencement of each planning cycle.

IRP Framework, section IV.B., at 20.

¹⁴The HECO Companies' Opening Brief at 13; the HECO Companies' FSOP at 10; see also Tr. Vol. I at 39-40 (Hee).

¹⁵The HECO Companies' Opening Brief at 13; the HECO Companies' FSOP at 10; see also Tr. Vol. I at 39-40 (Hee).

Panel Hearings, the HECO Companies also included "market transformation" as an additional objective.¹⁶

None of the Parties or Participants disagree with the objectives put forth by the HECO Companies. However, the Parties suggest the inclusion of additional DSM objectives. Specifically, HREA testified that the commission should announce oil displacement and emissions reduction as goals.¹⁷ In response, the HECO Companies testified that their DSM objectives will result in oil displacement and emissions reduction.¹⁸ In its testimony, RMI agreed that although oil displacement and emissions reduction are not independent objectives, they should be an outcome of the efficiency goals.¹⁹

HREA also requests that the commission establish DSM goals (i.e., "objectives") to encourage investments in DSM applications and technologies as follows:

- "Utility-side of the meter" (i.e., the "wholesale market") - including:

¹⁶See The HECO Companies' Opening Brief at 13-14; see also Tr. Vol. I at 39-40 (Hee). The HECO Companies describe market transformation as "trying to get customers to be energy efficient without the necessity of having [active utility] participation." Tr. Vol. I at 40 (Hee).

¹⁷See Tr. Vol. I at 69 (Bollmeier). Similarly, LoL testified that emissions reduction should be a mandate. See id. at 68 (Curtis).

¹⁸See Tr. Vol. I at 68 (Hee). Similarly, the HECO Companies testified that load shifting goals should not be resolved in this docket because: (1) load shifting may or may not shave the peak, and (2) load shifting is a means of achieving demand reduction, and is not a separate goal. See id. at 62-63 (Hee). The HECO Companies also testified that reliability and grid support are outcomes of its DSM objectives. See id. at 68 (Hee).

¹⁹See Tr. Vol. I at 66-67 (Datta).

1. utility investments in energy efficiency, e.g., measures (retrofits/replacements) to improve utility-owned generation and transmission and distribution resources, and energy storage to improve the overall system operating efficiency;
2. utility investments in load management, e.g., pumped-storage for peak-shaving, and commercial, industrial and residential load control measures;
3. independent power producer (IPP) investments in energy efficiency, e.g., retrofits or replacements to improve IPP generators efficiency; and
- "Customer-side of the meter" (i.e., the "retail market") - including customer investments in:
 1. energy efficiency and power conditioning technologies, e.g., traditional energy-efficient lighting and appliances, lighting control systems, and power conditioning technologies, such as ElectroFlow;
 2. renewable displacement technologies, e.g., solar hot water, solar air conditioning, and seawater district air conditioning systems, and off-grid mechanical water pumping wind turbines;
 3. on-site renewable electricity technologies, e.g., customer-sited, grid-connected systems that may be net metered; and
 4. on-site conventional systems to supply customer demand for electricity (e.g., diesel generators), electricity and thermal energy (Combined Heat and Power ["CHP"]) systems, and stand-by power (e.g., emergency generators, which could operate in a "Virtual Power Plant" mode as proposed by the County of Maui.²⁰

²⁰HREA Opening Brief at 3-4.

Similarly, TGC suggests that:

Energy efficiency objectives could include:

- (a) Using less fuel and/or energy to accomplish the same results;
- (b) Using a diverse range of fuels/energy sources as economic and supply availability hedges;
- (c) Extending the "life" of depletable energy resources through the use of cost-effective, efficient processes, conservation and substitution using renewable energy sources;
- (d) Reducing net negative environmental impacts;
- (e) Robustness in performance under normal, outage and disaster recovery scenarios; and
- (f) Utilization of efficient procurement strategies, distribution processes, and reduction of losses.²¹

Although (a) oil displacement and emissions reduction are both desirable outcomes of the DSM objectives, (b) the DSM applications and technologies listed by HREA may be worthy investments, and (c) the objectives listed by TGC may merit further consideration, the establishment of these as independent DSM objectives is not necessary at this time. The commission may consider establishing oil displacement, emissions reduction, or any of the other suggestions by HREA and TGC, as DSM objectives through the IRP process or in another appropriate docket.

Accordingly, the commission establishes the following DSM objectives: (1) energy savings; (2) peak demand reductions (including overall demand reduction, targeted peak reduction,

²¹TGC FSOP at 4 (numbering added).

targeted geographical load reduction, and load shifting); (3) customer equity (providing all classes of customers the opportunity to participate in the programs); (4) cost-effectiveness (recognizing that this objective may sometimes be at odds with customer equity); and (5) market transformation.

2.

Energy Efficiency Goals to Measure Actual Efficiency

In addition to DSM objectives, Energy Efficiency goals must also be established to measure performance. The IRP Framework defines "objective" as "a statement of the end result, product, or condition desired, for the accomplishment of which a course of action is taken."²² To date, DSM objectives have described qualitative end results, products, or conditions desired.

As explained by the HECO Companies, "[r]easonable demand and energy savings goals for the performance of utility [E]nergy [E]fficiency DSM programs are important because they can serve as a 'yardstick' against which actual savings can be measured, and as an expression of the parties' commitment toward improved [E]nergy [E]fficiency."²³ Indeed, the EPA states that "the setting of [Energy Efficiency] targets [(i.e., goals)], could create more impetus for successful implementation of

²²IRP Framework, section I, at 2.

²³The HECO Companies' Opening Brief at 11, 13; The HECO Companies' FSOP at 10. As stated in the list of statewide issues, the issue of statewide goals in this docket applies to Energy Efficiency only, as differentiated from Load Management, distributed generation, or CHP.

[E]nergy [E]fficiency."²⁴ The HECO Companies, the Consumer Advocate, KIUC, TGC, HREA, HSEA, LoL, RMI, CoK, and CoM support the creation of quantitative "Energy Efficiency goals" for energy and demand savings, and DoD does not object to the creation of such goals.²⁵

Therefore, in addition to any quantitative or qualitative DSM objectives, Energy Efficiency goals will be established and used to measure actual demand and energy savings.²⁶

²⁴EPA Report at 2; see also id. at 4 (stating that it may be appropriate for the State to consider specific statewide Energy Efficiency goals or targets as a means to best capture the benefits of Energy Efficiency).

²⁵See The HECO Companies' Opening Brief at 11, 13; Consumer Advocate Opening Brief at 12 ("In the abstract, setting goals establishes a target or an objective to be achieved by an organization or entity. Articulated with some degree of specificity, goals serve as an effective tool that directs the efforts of an organization towards an end deemed desirable by the appropriate planning body."); Consumer Advocate FSOP at 31; KIUC Opening Brief at 9; TGC Opening Brief at 5; HREA Opening Brief at 3 (also expressing a preference for the establishment of broader DSM goals); HSEA Opening Brief at 15 (favoring the establishment of DSM goals); HSEA Reply Brief at 13; LoL Opening Brief (unnumbered) at 3 (recommending that "[t]he state should not have goals but requirements"); RMI Opening Brief at 18; CoK Opening Brief at 1-2; CoM Opening Brief at 8.

²⁶The Renewable Portfolio Standards ("RPS") statute does not have any effect on the commission's authority to establish goals in this docket. See The HECO Companies' FSOP at 14 (stating that the HECO Companies "do[] not regard the RPS (or percentage of RPS) as a cap on the amount of [E]nergy [E]fficiency savings that the Company needs to achieve"). Whether and how much the Energy Efficiency savings will count toward RPS, thereby reducing the required contribution of renewable energy electricity production, is a separate matter to be addressed in another proceeding. See id. at 13 (stating that "[t]he goals established in this docket should provide linkage to the legislative target for renewable energy kwh savings").

Establishment of Energy Efficiency Goals

While there is no dispute that the commission has the authority to set Energy Efficiency goals outside of the IRP process,²⁷ several of the Parties and Participants express a preference for goals to be established through the IRP process.²⁸ The HECO Companies explain that the use of the IRP process is advantageous because it:

- (1) Is open to, and considers the input of, many community groups, government agencies, and business organizations,
- (2) Examines the potential market for demand-side resources,

²⁷See, e.g., Tr. Vol. I at 103 (McCawley).

²⁸See The HECO Companies' Opening Brief at 16 ("Since the IRP process is intended to be an open and comprehensive process, IRP can be the source for the megawatt-hour and megawatt levels of the [E]nergy [E]fficiency goals"); The HECO Companies' FSOP at 12; Consumer Advocate Opening Brief at 23-24 (stating that establishing DSM goals "is a natural consequence of each utility's IRP," and recommending that "the [c]ommission use the IRP Framework to set aggressive, yet realistic goals for [E]nergy [E]fficiency efforts that must be met by each utility authorized to provide service in the State"); KIUC Opening Brief at 9-10 (stating that Energy Efficiency goals "should be established through the current well-established IRP process rather than through this proceeding" because the existing IRP Framework "offers a suitable means through which [E]nergy [E]fficiency goals can and are being developed and implemented by the individual electric utilities"); KIUC FSOP at 4; TGC Opening Brief at 6 (stating that "[i]f the [c]ommission should choose to establish quantified [E]nergy [E]fficiency goals, TGC submits that any quantification of the goals be established through the IRP (Integrated Resource Planning) process . . ."); TGC FSOP at 5; CoM Opening Brief at 10 (recommending that "the [c]ommission use the IRP process to address DSM planning and implementation issues, such as the establishment of DSM goals . . ."); CoK Opening Brief at 2 (stating that Energy Efficiency goals "should be established through the integrated resource planning (IRP) process, and subject to [c]ommission review and approval"); CoK FSOP at 3.

- (3) Determines whether the demand-side programs meet IRP objectives and are cost effective, e.g., pass the Total Resource Cost test, and
- (4) Compares both supply-side and demand-side resources to meet the projected electricity needs of the service territory.²⁹

The Consumer Advocate explains that "[a]s currently formulated, the [c]ommission's IRP Framework provides an excellent mechanism to set aggressive, yet achievable DSM goals for each utility on an island-by-island basis."³⁰

In contrast, HREA and LoL recommend that goals be established in this proceeding because waiting for the IRP-3 process will result in too much delay.³¹ In addition, although RMI states that "[n]ormally the goals should be established in each utility's IRP process," RMI recommends that goals "should be established in this docket to be reviewed and amended based on findings in each utility['s] IRP proceeding."³²

After consideration of all of the foregoing, the commission determines that it is necessary to immediately establish Energy Efficiency goals in this docket, and that the goals may be revised in the IRP process. This will allow Energy Efficiency goals to be set immediately (except for KIUC

²⁹The HECO Companies' Opening Brief at 16.

³⁰Consumer Advocate Opening Brief at 21; see also Consumer Advocate FSOP at 31.

³¹See HREA FSOP, Exhibit A, at 1; HREA Opening Brief at 3; Tr. Vol. I at 100-01 (Curtis).

³²RMI Opening Brief at 4; Tr. Vol. I at 104 (Freedman); see also id. at 18 n.8 (citing RMI FSOP at 7-8) ("IRP is an ideal venue in which to determine objectives and goals for DSM resources in the context of each utility system.").

and TGC, as discussed below), and allow for a comprehensive review in subsequent IRP processes.

4.

Deferment of KIUC's Energy Efficiency Goals to Its IRP Process

With respect to cooperative electric utilities, KIUC requests that "the commission allow KIUC to continue to develop [EE] goals through the well-established [IRP] process."³³ CoK, one of KIUC's largest customers/members,³⁴ states that "[t]here should also be recognition that a cooperative utility structure is very different from an investor-owned utility."³⁵ CoK states that "[u]nder the cooperative market structure, all ratepayers are members, who elect directors to provide oversight and direction to utility management."³⁶ Thus, CoK "strongly supports goal[-]setting at the utility level for KIUC, since in principle, ratepayers/members participate in the goal[-]setting process through their elected board."³⁷

Due to its unique structure as an electric cooperative, the commission finds that KIUC should not be included in the Energy Efficiency goals at this time, and that any goals for KIUC should be established through its IRP process.

³³KIUC Opening Brief at 2.

³⁴See KIUC Opening Brief at 9.

³⁵CoK FSOP at 3.

³⁶CoK Opening Brief at 2.

³⁷CoK Opening Brief at 2.

Exclusion of TGC from Energy Efficiency Goals

Next, the commission examines whether TGC should be excluded from any Energy Efficiency goals. TGC states that "[w]hile it may be possible to set quantitative [E]nergy [E]fficiency goals for the electric utilities . . . TGC does not recommend establishing comparable quantitative goals for the gas utility."³⁸ TGC provides two arguments in support of its position:

First, TGC is not aware of any correlation between quantified energy goals for electric and gas utilities. That is, any finding that an electric utility should achieve a particular level of energy savings, e.g., 15%, does not mean that a gas utility should or would be able to achieve the same results.

Second, TGC is not at a comparable level with the electric utilities in the DSM process . . . In contrast [to the electric utilities], TGC has yet to identify and implement any [c]ommission-approved DSM programs.³⁹

The Consumer Advocate acknowledges that TGC may have specialized circumstances:

As an energy utility, statewide [E]nergy [E]fficiency and DSM guidelines would apply with equal force to TGC, however because TGC faces different market forces than other electric utilities operating in the State, TGC may have special circumstances that merit more individualized treatment by the [c]ommission. TGC currently has sufficient capacity to serve its customers on Oahu, and

³⁸TGC Opening Brief at 6.

³⁹TGC Opening Brief at 6-7. In addition, at the Panel Hearings, TGC testified that Energy Efficiency goals should not apply to TGC for the following three reasons: (1) TGC is a small utility with capacity constraints; (2) TGC has non-utility competitors; and (3) there would be an adverse impact on ratepayers. See Tr. Vol. I at 82-84 (Golden).

capacity to serve its customers on Oahu, and faces competition from suppliers of bottled gas (i.e., installers of propane tanks situated on a customer's premise). As a result, TGC does not have a need to pursue conservation and [L]oad [M]anagement measures at this time.⁴⁰

Due to the special circumstances resulting from its different market forces, the commission finds that TGC should be excluded from Energy Efficiency goals at this time, and that Energy Efficiency goals, if established for TGC, should be established through the IRP process.

6.

Energy Efficiency Goals as Utility-Specific

Next, the commission examines whether goals should be statewide or utility-specific. The HECO Companies, KIUC, the Consumer Advocate, TGC, RMI, CoK, and CoM recommend that Energy Efficiency goals be utility- (or island-) specific,⁴¹ and HSEA

⁴⁰Consumer Advocate Opening Brief at 11 (internal citation omitted).

⁴¹See The HECO Companies' Opening Brief at 12; Tr. Vol. I at 121 (Hee); Consumer Advocate Opening Brief at 9 ("Energy [E]fficiency goals should be established for each electric utility authorized to provide service in the State."); Consumer Advocate FSOP at 31; KIUC Opening Brief at 9, 12 (recommending that "separate [E]nergy [E]fficiency goals be established for each utility"); Tr. Vol. I at 91-92 (Blume); TGC Opening Brief at 8 (stating that "[E]nergy [E]fficiency goals, if established by the [c]ommission, need to . . . appropriately reflect the capabilities and services of each utility to which they are meant to apply"); RMI Opening Brief at 18 (stating that the commission should "[s]et DSM goals for each utility service territory based on findings in the utility's IRP process. The goals should be set collectively for the utility service territory and individually for the utility and third[-]party administrators."); CoK Opening Brief at 1-2 (stating that "[g]oals should be established on an island or County-specific basis"); CoM Opening Brief at 8 (stating that it "supports the

does not oppose utility-specific Energy Efficiency goals.⁴² The HECO Companies explain that "[e]nergy efficiency goals should be developed within each utility's service territory because if goals are set on a statewide basis, the identities and differences that exist in each utility's service territory could be lost."⁴³ In addition, the HECO Companies argue that they already cover almost the entire service territory of the State, so statewide goals are unnecessary.⁴⁴ KIUC explains that "[e]ffectively, this is goal[-]setting at the utility level where it is more meaningful and directly applicable to each island's market and the electric utility that is directly responsible for providing effective DSM."⁴⁵ The Consumer Advocate states that "establishing uniform statewide goals . . . [is] a 'one-size-

position of the [Consumer Advocate] on this matter because [CoM] believes that better DSM portfolios will be developed if specific planning objectives are targeted by goals, as proposed by the [Consumer Advocate]").

⁴²See HSEA FSOP at 9 (stating that "it may become apparent that the best approach will be to establish efficiency goals by individual island utility system").

⁴³The HECO Companies' Opening Brief at 12 (citing Tr. Vol. I at 121 (Hee)).

⁴⁴See Tr. Vol. I at 106 (Hee).

⁴⁵KIUC Opening Brief at 12. KIUC expresses its concern that "establishing [Energy Efficiency] policies, practices, or goals to apply on a statewide basis across all utilities may not adequately reflect or take into consideration the successful and/or differing levels of cost-effective [E]nergy [E]fficiency that have already been or may be implemented on each of the islands nor reflect the respective high or low potential [E]nergy [E]fficiency market remaining on each of the islands." KIUC FSOP at 4; see also KIUC Opening Brief at 8. KIUC states that "the establishment of general statewide [E]nergy [E]fficiency goals to be implemented universally throughout each island and each individual electric utility may not be realistic, prudent and reasonable[.]" KIUC FSOP at 4; see also KIUC Opening Brief at 8.

fits-all' approach that makes little practical sense" because uniform statewide goals "ignore the unique geographic, economic, political, social, and cultural factors affecting each service territory in Hawaii and the utility's ability to achieve such goals."⁴⁶

In contrast, HREA and LoL support a statewide portfolio standard. HREA requests "that the [c]ommission establish and implement a DSM Portfolio Standard ('DPS')" that recognizes and incorporates DSM programs and measures "on both the 'utility-side and customer-sides of the meter.'"⁴⁷ HREA "supports the application of the DPS to each of our island utilities, i.e., in

⁴⁶Consumer Advocate Opening Brief at 14. In addition, the Consumer Advocate provides the following two reasons in support of island-by-island goals:

Hawaii's energy industry is unique in that each electric utility provides service on a given island as a stand-alone utility. The utilities are not interconnected as are most utilities providing service on the mainland United States. Consequently, there is a need to be confident that each utility can reliably meet customer demands; this requires that the DSM goals for each utility be realistic.

Establishing goals on an island-by-island basis takes into consideration the unique circumstances of the utility serving each of the Hawaiian islands (e.g., the type of customer base, customer load patterns, size of service territory, size and types of generation available to serve customer's needs, availability of specific types of resources, etc.).

Consumer Advocate Opening Brief at 16 (internal citation omitted). Island-by-island Energy Efficiency goals would only affect MECO. Because there is no demonstration that it is necessary for each of MECO's service territories to have separate Energy Efficiency goals, the commission will not require island-by-island Energy Efficiency goals at this time.

⁴⁷HREA Opening Brief at 4; see also HREA FSOP at 3.

this case, HREA believes one-size [sic] fits all."⁴⁸ Although LoL did not brief this issue, at the Panel Hearings, LoL testified that "we should have an [E]nergy [E]fficiency portfolio standard."⁴⁹

Because setting Energy Efficiency goals at the utility level will provide a more useful performance measurement than a statewide portfolio standard would, the commission will establish Energy Efficiency goals as utility-specific.

7.

Separate Energy Efficiency Goals for Commercial and Industrial Customers, and for Residential Customers

Next, the commission examines (a) whether separate goals should be set for commercial and industrial customers, and for residential customers; (b) whether separate goals should be set based on usage types (e.g., air conditioning, lighting, etc.); and (c) whether separate goals should be set for each program. The HECO Companies state that Energy Efficiency goals "should be by the commercial/industrial sector and by the residential sector."⁵⁰ However, the HECO Companies state that goals should not be set based on usage type or at the program level.⁵¹ As explained by the HECO Companies, "[i]f customers participate more readily in some programs than others, the goals

⁴⁸HREA Opening Brief at 6.

⁴⁹Tr. Vol. I at 111 (Curtis).

⁵⁰Tr. Vol. I at 155 (Hee); see also The HECO Companies' Opening Brief at 13; Tr. Vol. I at 88 (Hee).

⁵¹See The HECO Companies' Opening Brief at 13; Tr. Vol. I at 88 (Hee).

should allow the utilities to take advantage of that response by moving their resources to those programs to acquire the savings."⁵² Thus, the HECO Companies state that "[s]etting the goals at the utility level in [megawatt] hours and megawatts rather than at the DSM program level provides flexibility in customer choice and in the utilities' response to those choices."⁵³

Establishing separate Energy Efficiency goals for the commercial and industrial sector, and for the residential sector, will allow the commission to better evaluate the HECO Companies' performance in each sector. Therefore, separate goals should be set for commercial and industrial customers, and for residential customers. In addition, basing Energy Efficiency goals on usage type or at the program level will deter from a utility's ability to maximize energy savings without providing a discernable benefit. Therefore, Energy Efficiency goals will not be set based on usage type or at the program level.

8.

Energy Efficiency Goals Quantified as Aggregate of
All Energy Efficiency Programs Within Service Territory

Next, the commission examines how the Energy Efficiency goals in this docket should be quantified. The HECO Companies state, and the commission agrees, that goals should "(1) pertain to the intended objectives, (2) be achievable, and (3) be

⁵²The HECO Companies' Opening Brief at 13 (citing the HECO Companies' FSOP at 14; Tr. Vol. I at 89-90, 155 (Hee)).

⁵³The HECO Companies' FSOP at 14; see also The HECO Companies' Opening Brief at 12.

measurable."⁵⁴ In order to achieve these requirements, goals for energy savings should be expressed in terms of megawatt hours, and goals for demand reduction should be expressed in terms of megawatts.

With respect to selecting the amount of megawatts and megawatt hours, the Parties and Participants provide the following recommendations:⁵⁵

- The HECO Companies state that goals should "be developed using the most recent market potential studies available for the service territories served by each utility, provided that the utilities were involved to a significant degree in the development of those studies."⁵⁶ Specifically, the HECO Companies recommend that goals be set at 80% of their Maximum Achievable Potential ("MAP") as determined in their study.⁵⁷ The HECO Companies explain that using a percentage of MAP as the basis for goals is reasonable.⁵⁸
- RMI recommends that [E]nergy [E]fficiency goals should be stated as a percentage of total sales.⁵⁹ RMI states that "[a]n initial [E]nergy [E]fficiency goal of 0.6% [of gross electricity

⁵⁴The HECO Companies' Opening Brief; the HECO Companies' FSOP at 10.

⁵⁵The Consumer Advocate states that "[a]t this time . . . [it] is not able to state what the [E]nergy [E]fficiency goals should be for each of the Hawaiian islands because the goals have yet to be determined." Consumer Advocate Opening Brief at 17.

⁵⁶The HECO Companies' FSOP at 11.

⁵⁷See The HECO Companies' Opening Brief at 12; Tr. Vol. I at 41 (Hee); Hearing Exhibit A. The HECO Companies explain that 80% of MAP could then be translated into a percentage of total sales. See Tr. Vol. I at 73 (Hee).

⁵⁸See Tr. Vol. I at 118-20 (Wikler).

⁵⁹See Tr. Vol. I at 76 (Datta).

sales] per year should be established in this docket to be reviewed and amended based on findings in each utility IRP proceeding."⁶⁰ With respect to HECO, 0.6% of gross electricity sales per year is approximately equal to HECO's projected impacts of its proposed DSM programs.⁶¹

- HSEA recommends that "Hawaii's DSM goal or standard should reflect an initial annual reduction in electric utility load somewhere between 0.6% and 1.0%."⁶²
- HREA recommends "a [DSM Portfolio Standard] of 1% per year of overall electric demand (utility sales) on an ongoing basis."⁶³ HREA further states that it believes that such a goal "could be readily met each year over the next 30-year period."⁶⁴

In evaluating these recommendations, the commission first addresses the use of the HECO Companies' February 2004 market potential study entitled Assessment of Energy Efficiency and Demand Response Potential ("MAP study").⁶⁵ The MAP study assesses the "energy efficiency and demand response potential for the five islands that [the HECO Companies] serve," and is "part of a broader initiative aimed at ultimately developing individual

⁶⁰RMI Opening Brief at 4.

⁶¹See RMI Opening Brief at 6, 19 and n.9.

⁶²HSEA Opening Brief at 15; see also HREA Reply Brief at 13. In addition, HSEA recommends that "[the HECO Companies'] RPS targets remain unchanged and that they be met with true renewable generation and displacement technologies." HSEA Opening Brief at 15.

⁶³HREA Opening Brief at 6.

⁶⁴HREA Opening Brief at 7.

⁶⁵See HECO-1101, filed on November 12, 2004, in Docket No. 04-0113.

energy efficiency and demand response plans for each of the [HECO Companies].”⁶⁶

RMI states, (1) MAP should be based on information from other Parties in addition to the HECO Companies, and should not rely solely on the HECO Companies’ analysis; and (2) the HECO Companies’ current MAP study may underestimate MAP because of (a) a 54.5% increase in electrical rates caused by an increase in oil prices, and (b) a change in consumer behaviors and attitudes, including a greater willingness to purchase more efficient products.⁶⁷ In addition, LoL states that although “MAP may be acceptable during a stable period of the economy,” it is less reliable in periods of rapid oil price changes and climate-change awareness.⁶⁸

Although MAP may be an appropriate mechanism to set Energy Efficiency goals in the future, the HECO Companies’ current MAP study is inadequate to serve as the basis for HECO’s currently proposed DSM programs, given the commission’s decisions in this docket. The HECO Companies’ current MAP study includes commercial and residential MAP numbers for each utility based on five-year periods (e.g., 2005, 2010, 2015), and does not contain MAP numbers for individual years. As the HECO Companies may only be administering DSM programs for two years, the commission will

⁶⁶See HECO-1101, filed on November 12, 2004, in Docket No. 04-0113. In addition to the MAP Study, the HECO Companies also engaged in a Phase II effort to develop individual tailored plans for each of the [HECO Companies].

⁶⁷See Tr. Vol. I at 123, 204, 209-10 (Datta).

⁶⁸Tr. Vol. I at 94-95 (Curtis).

not base the Energy Efficiency goals on their MAP study at this time.

The commission also declines to adopt RMI's, HSEA's, and HREA's recommendations. At this time, there is insufficient support in the record to justify their proposed percentages of electricity sales or load. Therefore, such proposed percentages are arbitrary, bearing no indication in the record of whether they would be too easily achievable, reasonably achievable, or unrealistic and un-achievable, and the commission will not base the Energy Efficiency goals on them. The commission does not foreclose the possibility, however, that future Energy Efficiency goals may be set at a percentage of electricity sales or load, or based on some other approach.

Accordingly, until the next IRP docket, the Energy Efficiency goals will be based on the HECO Companies' representations of the megawatt and megawatt-hour savings that their Proposed Energy Efficiency Programs could and would achieve. Specifically, within each utility's service territory, there will be megawatt and megawatt-hour Energy Efficiency goals for the commercial and industrial sector, and separate megawatt and megawatt-hour Energy Efficiency goals for the residential sector, that are each calculated based on the aggregate of the savings to be achieved by each individual program, as represented to the commission in the applications for, or requests to modify, each individual program.

Energy Efficiency Goals Expressed as Gross of Free-Riders

Finally, the commission addresses whether Energy Efficiency goals should be expressed as gross of or net of free-riders.⁶⁹ The HECO Companies state that Energy Efficiency goals should be expressed net of free-riders (i.e., excluding free-riders) because "it is net savings that provide[s] the load reduction from the demand forecast that assist[s] the utilities with serving projected customer demand."⁷⁰ The HECO Companies explain that its evaluation consultant, KEMA, Inc., "conducted three cycles of DSM program impact evaluations which assess individual DSM measure energy and demand savings and the level of free-ridership."⁷¹ As explained by the HECO Companies:

The net impacts [are] derived by calculating average net-to-gross (NTG) ratios Separate NTG ratios were developed for annual [kilowatt-hour] savings and peak demand reductions. The NTG ratios are multiplied by the total gross savings for the utilities to produce the net savings. The NTG ratios were developed based on a survey of participants⁷²

⁶⁹The HECO Companies describe free-riders as "customers who participate in a DSM program and receive the financial incentive, but would have installed the DSM measure even if the utility did not have the DSM programs." The HECO Companies' Opening Brief at 44.

⁷⁰The HECO Companies' Opening Brief at 15; see also The HECO Companies' FSOP at 13-14; Tr. Vol. I at 226 (Hee)). RMI's testimony also indicates that Energy Efficiency goals should be expressed net of free-riders. See Tr. Vol. I at 223-25 (Datta).

⁷¹The HECO Companies' Opening Brief at 45.

⁷²See, e.g., 1998-99 Commercial & Industrial New Construction Program Impact Evaluation Report, filed as Attachment B to HECO's Annual Program Modification and Evaluation Report, filed on November 30, 2001, in Docket Nos. 94-0010, 94-0011, 94-0012, 92-0206, and 94-0216, at 44; see also 1998-99 Residential

Thus, the "net of free-riders" figure would be calculated by making an adjustment to the "gross of free-riders" figure to estimate and take into account the amount of free-riders. For purposes of establishing Energy Efficiency goals, using the "gross of free-riders" figure will require one less level of estimation and uncertainty, and therefore reduce the subjectivity of the Energy Efficiency goals and their attainment. Accordingly, the commission concludes that Energy Efficiency goals should be expressed gross of (including) free-riders.

For purposes of illustration, based on HECO's filings, the commission estimates HECO's gross Energy Efficiency goals as follows:

HECO's Energy Efficiency Megawatt-Hour Goals		
	2007	2008
Commercial and Industrial		
CIEE	46,757	70,136
CINC	19,540	29,311
CICR	25,252	37,878
Total Gross Energy Savings (MWh)	91,549	137,324
Residential		
ESH	30,745	37,887
REWH	7,533	11,300
RNC	7,008	9,830
RLI	5,267	7,900
Total Gross Energy Savings (MWh)	50,553	66,917

Efficient Water Heater (REWH) Program and Residential New Construction (RNC) Program Impact Evaluation Report, filed as Attachment C to HECO's Annual Program Modification and Evaluation Report, filed on November 30, 2001, in Docket Nos. 94-0010, 94-0011, 94-0012, 92-0206, and 94-0216, at 35.

HECO's Energy Efficiency Megawatt Goals		
	2007	2008
Commercial and Industrial		
CIEE	6.878	10.318
CINC	2.864	4.297
CICR	3.299	4.948
Total Gross Demand Savings (MW)	13.041	19.563
Residential		
ESH	8.164	10.319
REWH	1.728	2.591
RNC	2.262	3.385
RLI	1.182	1.773
Total Gross Demand Savings (MW)	13.336	18.068

B.

Issue 2: Market Structure

In considering which market structures may be the most appropriate for providing DSM programs, the Parties and Participants discussed alternatives that generally fall into the following three categories: (1) utility administration of DSM programs ("Utility Market Structure"); (2) non-utility administration of DSM programs ("Non-Utility Market Structure"); and (3) hybrid administration in which the utility would administer some DSM programs and a non-utility would oversee other programs ("Hybrid Market Structure"). Currently, DSM programs are provided under the Utility Market Structure.

1.

The HECO Companies' DSM Market Structure

a.

Non-Utility Market Structure

The commission first examines which market structure is the most appropriate for providing the HECO Companies' DSM programs. Under the Utility Market Structure, the utilities would continue to administer all DSM programs. The Utility Market Structure is partially supported by HSEA.⁷³ HSEA recommends that the utilities retain administration of the REWH and RNC programs, since they are the most successful of their type in the country, but suggests several changes and improvements.⁷⁴ HSEA is concerned that a third-party administrator may focus on programs "that look most cost-effective under the traditional forms of measurement and may disregard customer class or other program equity issues."⁷⁵ However, HSEA also believes that a third party may be more effective at administering programs that accelerate deployment of solar water heating systems and other efficiency measures to low income homeowners, renters, the multi-family condo and apartment communities and other difficult-to-service customer categories.⁷⁶

Under the Non-Utility Market Structure, the commission would appoint a Public Benefits Fund ("PBF") Administrator to

⁷³See HSEA Opening Brief at 6.

⁷⁴See HSEA Opening Brief at 6.

⁷⁵HSEA Opening Brief at 7.

⁷⁶See HSEA Opening Brief at 14.

administer DSM programs, pursuant to Act 162, Session Laws of Hawaii (2006) ("Act 162"), which is codified in HRS § 269-121, et seq. The Non-Utility Market Structure is supported by the Consumer Advocate, HREA, LoL, and CoM,⁷⁷ with no opposition from DoD.⁷⁸ According to the Consumer Advocate, (1) use of a non-utility third-party administrator is consistent with the intent of the Legislature and the Governor when Act 162 was passed and signed into law;⁷⁹ (2) use of a third-party administrator would remove the perceived inherent conflict between (a) a utility's desire to generate revenues and income by increasing sales and rate base, and (b) Energy Efficiency

⁷⁷See Consumer Advocate Opening Brief at 27; HREA Opening Brief at 2, 8; HREA Reply Brief at 5; LoL Opening Brief (unnumbered) at 2; CoM Opening Brief at 9. HREA suggests the Energy Trust of Oregon as a model for Hawaii, and LoL cites the approaches taken in Vermont, Oregon, and New York. See HREA Opening Brief at 11; LoL Opening Brief (unnumbered) at 2-3.

⁷⁸DoD takes no position on whether a third party should administer some or all of the DSM programs, but states that it is not opposed to a third party administering the programs, provided that appropriate safeguards are in place (e.g., reporting requirements, commission approval of the programs and their funding levels, approval of changes to the programs and their funding levels, approval of third-party compensation, and other requirements that currently apply to the HECO Companies under the existing market structure). See DoD Opening Brief at 7-8. DoD notes that one major potential advantage of a third-party administrator is "the removal of any concerns that [the HECO Companies] might not be doing as good a job as [they] could because of concerns over lost revenues" because "third-party administration of the DSM programs in effect creates competition between [the HECO Companies] supplying electricity efficiently, and the third party delivering DSM programs efficiently." *Id.* at 8-9.

⁷⁹See Consumer Advocate Opening Brief at 27. The Consumer Advocate argues that "enactment of Act 162 signals that the Legislature and the Governor believe that third-party administration of [E]nergy [E]fficiency and DSM programs in Hawaii constitutes the preferred market structure for DSM program administration in the State." *Id.* at 28.

measures that serve to decrease sales and defer the need for additional plant investment;⁸⁰ and (3) the costs of implementing Energy Efficiency measures may be lower under a non-utility third-party administrator because recovery of lost margins would no longer be an issue and additional monies in the form of incentives may not be necessary.⁸¹ HREA cites the following benefits: (1) the realignment of host utility objectives and incentives, through the removal of the inherent conflict between an investor-owned utility's motivation to earn more profits by selling more electricity and the DSM programs goal of encouraging customers to use less electricity; (2) ratepayer benefits resulting from lower administrative costs; and (3) increased customer choice because a PBF administrator will be highly motivated to explore and implement all possible DSM programs.⁸²

Finally, under the Hybrid Market Structure, a third-party administrator would oversee the DSM programs for certain customer segments that are difficult to reach (i.e., residential low-income customers, renters of individually metered housing units, low-rise multi-unit housing buildings that are master metered, and small commercial customers in Schedule G), and possibly for certain programs (i.e., the residential Energy Star appliance marketing programs, the Interim Energy Solutions for the Home program, and programs that install Energy Efficiency measures using non-ratepayer provided funds (e.g., charitable or

⁸⁰See Consumer Advocate Opening Brief at 27.

⁸¹See Consumer Advocate Opening Brief at 27.

⁸²See HREA Opening Brief at 9-11.

government funding) that result in a financing cost that is significantly lower than what can be found in the market).⁸³ The utilities would retain administration over the remaining DSM programs.⁸⁴ The Hybrid Market Structure is supported by the HECO Companies and RMI.⁸⁵ The HECO Companies acknowledge that

[I]n situations in which the utility does not possess a clear advantage, a third-party administrator (1) may provide the opportunity for more cost-effective DSM program delivery to certain under-served customer segments, and/or (2) may be a source of innovative delivery methods that could increase customer participation due to its prior experience working with these customer segments.⁸⁶

In addition, RMI explains that "[a]doption of a hybrid market structure that provides for both utility and non-utility DSM program administration provides flexibility."⁸⁷

In the commission's view, the Non-Utility Market Structure for administering Energy Efficiency programs is the most appropriate for the HECO Companies. First, the Non-Utility Market Structure will remove the perceived inherent conflict between a utility's desire to generate revenues and income, and

⁸³See The HECO Companies' Opening Brief at 153-57; The HECO Companies' Reply Brief at 49-50. RMI agrees with the HECO Companies that the programs for the hard-to-reach sectors, RLI, Schedule G (small commercial), rental, multi-family, and the ESH program, should be given to a third-party administrator. See RMI Opening Brief at 2-3, 7.

⁸⁴See The HECO Companies' Opening Brief at 159. RMI agrees that certain programs, such as Load Management programs, "are probably most effectively planned, designed and implemented by utility management." RMI Opening Brief at 7-8.

⁸⁵See The HECO Companies' Opening Brief at 150; RMI Opening Brief at 2.

⁸⁶The HECO Companies' Opening Brief at 150.

⁸⁷RMI Opening Brief at 7.

Energy Efficiency measures that serve to decrease sales and defer the need for additional plant investment, as discussed by the Consumer Advocate, DoD and HREA. Second, the commission expects that DSM program administration by a new entity will facilitate the introduction of innovative Energy Efficiency programs to the State, resulting in greater customer choice, increased participation levels, and higher overall energy savings. In particular, the Non-Utility Market Structure is expected to result in improved penetration in hard-to-reach and under-served segments. Third, the Non-Utility Market Structure is expected to improve the cost-effectiveness of administering DSM programs. Significantly, all of the Parties and Participants either support or do not oppose at least some participation by a third-party administrator to provide Energy Efficiency programs to the HECO Companies' customers.

Act 162, however, requires a transition plan to ensure that: (a) "[u]tility [DSM] programs are continued, to the extent practicable, until the transition date;" and (b) "[t]he fund administrator will be able to provide [DSM] and [E]nergy[-E]fficiency services on the transition date[.]"⁸⁸ Therefore, the Non-Utility Market Structure will be effective and begin operations on or about January 2009. The commission's framework regarding the transition mechanism for cost recovery is discussed in section III.G.2., infra. In addition, the commission's preliminary vision for the Non-Utility Market Structure is discussed in section III.J.2., infra.

⁸⁸See HRS § 269-124.

b.

The HECO Companies' Load Management Programs

The HECO Companies argue that Load Management programs, which "provide load reductions when called for and activated by the utilit[ies]," should remain utility-administered.⁸⁹ The HECO Companies state that "the load must be available for interruption shortly after being notified of a possible load control event and/or must be dropped immediately when [the] HECO [Companies] determine[] that an emergency situation exists."⁹⁰ Thus, the HECO Companies contend that "[t]he utilit[ies are] is in the best position to [decide when the enrolled load should be interrupted] based on projections of demand, the status of the generating units and other available resources, and the state of [their] transmission and distribution systems."⁹¹ RMI and HREA agree that the HECO Companies should retain responsibility for administering Load Management programs.⁹²

At this time, utility control over Load Management programs is crucial to system stability. Therefore, in finding that the Non-Utility Market Structure is the most appropriate for the HECO Companies at this time, the commission specifically

⁸⁹The HECO Companies' Opening Brief at 162.

⁹⁰The HECO Companies' Opening Brief at 162.

⁹¹The HECO Companies' Opening Brief at 162.

⁹²See RMI Opening Brief at 8 (stating that Load Management programs "are probably most effectively planned, designed and implemented by utility management"); HREA Reply Brief at 8 (agreeing that the HECO Companies should retain responsibility for Load Management programs).

excludes Load Management programs from the third-party administrator's area of responsibility.

c.

Administration of Energy Efficiency DSM Programs

The HECO Companies argue that programs targeting commercial and industrial customers should remain utility-administered.⁹³ The HECO Companies state that this would enable the HECO Companies to take advantage of their expertise and customer relationships. For example, with respect to HECO:

Utility administration of the CIEE, CINC, and CICR programs as applied to large commercial and industrial customers in Schedules J, PP, PS, and PT, take advantage of the utility's local market and technical expertise and the depth and nature of the customer relationships that HECO has developed over the years of serving these customers by responding to their business needs.⁹⁴

The HECO Companies also state that HECO has: (a) established professional relationships with architects, engineers, and developers; (b) the infrastructure to administer, track, follow-up with, and deliver Energy Efficiency; and (c) an account management process that manages every aspect of the customer relationship for large customers.⁹⁵ The HECO Companies claim that utility administration of these programs would result in greater

⁹³See The HECO Companies' Opening Brief at 159.

⁹⁴The HECO Companies' Opening Brief at 159.

⁹⁵See The HECO Companies' Opening Brief at 159.

DSM program acceptance by the customer, as compared with a third-party administrator entering the market anew.⁹⁶

Although a third-party entity may not initially have the advantages currently enjoyed by the HECO Companies, a third-party administrator will bring other strengths and benefits that balance, if not outweigh, that concern. In addition, active and ongoing cooperation and communications between the third-party administrator, the utilities, and other stakeholders, should mitigate any potential for customer confusion and misunderstanding. Finally, applying the Non-Utility Market Structure to all Energy Efficiency DSM programs (as compared to only hard-to-reach and under-served customers and other limited segments) will (1) increase the likelihood of interested potential third-party administrators; (2) result in a greater potential for energy savings, due to higher economies of scale and overall cost-effectiveness; and (3) increase the third-party administrator's flexibility in designing and administering programs that meet or exceed the DSM objectives and Energy Efficiency goals. Therefore, all DSM programs, including those designed for the commercial and industrial sector, will be administered by the non-utility third-party.

d.

The HECO Companies May Compete

The HECO Companies request that if the commission selects certain DSM programs for third-party administration, then

⁹⁶See The HECO Companies' Opening Brief at 159-60.

the HECO Companies "be allowed to compete for the implementation of these programs at its discretion."⁹⁷ The HECO Companies state that if they were to be awarded the implementation of any of these programs, they would report to the third-party administrator based on the terms of a service contract.⁹⁸ HREA states that it is "open to [the HECO Companies'] participation in DSM under contract to the PBF administrator and/or to [the HECO Companies'] provision of certain DSM programs and services deemed outside the scope of the PBF administrator [e.g., utility-side of the meter programs, as opposed to customer-side of the meter programs]."⁹⁹

As it may be beneficial for the HECO Companies to be allowed to compete for implementation of the Energy Efficiency DSM Programs and the RCEA Program, the commission does not foreclose such possibility at this time. However, because the third-party administrator has yet to be selected, and the bidding process for program implementation has yet to be developed, the commission makes no determination at this time as to any of the parameters of the HECO Companies' eligibility or the selection criteria that will be used in awarding program implementation.

⁹⁷The HECO Companies' Opening Brief at 158.

⁹⁸See The HECO Companies' Opening Brief at 158.

⁹⁹HREA Opening Brief at 9.

e.

Third Party Administrator and the HECO Companies' Accountability

In its filings, the HECO Companies express concerns that a third-party administrator may not be accountable to achieve the targeted load reductions that the HECO Companies rely on to meet their long-term demand projections. The HECO Companies also question whether the Non-Utility Market Structure obviates their obligation to serve.¹⁰⁰ The commission fully intends to closely oversee the third-party administrator and will require it to comply with all appropriate regulatory and contractual requirements. At the same time, the commission holds the HECO Companies to their obligation to serve all customers in their service areas and expects them to coordinate their efforts with the third-party administrator so that all of their goals and objectives can be achieved. In short, notwithstanding the new market structure for administering DSM programs, both the third-party administrator and the HECO Companies will be accountable to achieve their obligations to their customers in the State.

2.

KIUC's DSM Market Structure

KIUC requests that any alternative market structure not apply to KIUC.¹⁰¹ KIUC's position is that the appropriate

¹⁰⁰ See The HECO Companies' Opening Brief at 164-65.

¹⁰¹ See KIUC Opening Brief at 13, 19.

market structure for Kauai is the Utility Market Structure.¹⁰² KIUC states that as a not-for-profit member-owned electric cooperative with a membership that expects a proactive approach to administering DSM programs, renewable energy sources, and reasonable energy costs, it does not require financial incentives or the potential for profit to aggressively pursue DSM programs.¹⁰³ KIUC claims that a non-utility provider "will not be motivated by the non-financial incentives, philosophies, or customer/member needs that KIUC must consider and often implements."¹⁰⁴ KIUC also states that a non-utility provider would lack the intimate business knowledge to effectively perform IRP on Kauai, and would adversely affect KIUC's IRP efforts.¹⁰⁵ KIUC further states that a non-utility provider would not have the same responsibility as a utility for meeting adequacy of supply requirements.¹⁰⁶

All Parties and Participants have either indicated support for KIUC to continue under the Utility Market Structure, or have taken no position on the matter.¹⁰⁷ However, RMI

¹⁰² See KIUC Opening Brief at 13.

¹⁰³ See KIUC Opening Brief at 13.

¹⁰⁴ KIUC Opening Brief at 16.

¹⁰⁵ See KIUC Opening Brief at 17.

¹⁰⁶ See KIUC Opening Brief at 18.

¹⁰⁷ See Consumer Advocate Opening Brief at 9 (recommending that KIUC "be allowed to retain responsibility for the administration of [E]nergy [E]fficiency and DSM programs offered to customers on the island of Kauai"); CoK Opening Brief at 2 (supporting "the continuation of KIUC's provision of [DSM] programs on the island of Kaua'i as an integral part of KIUC's IRP process" and recommending that KIUC be exempt from any

recommends that if a statewide non-utility DSM or fund administrator is established, KIUC should work in partnership with that entity, to the extent that KIUC's customers will benefit.¹⁰⁸ Similarly, HREA recommends that KIUC should hire a DSM consultant, as well as consult with any third-party DSM or fund administrator that is established.¹⁰⁹

KIUC's structure as a not-for-profit member-owned electric cooperative, in which its members are also its customers, distinguishes it from the HECO Companies because no inherent conflict of interest in aggressively pursuing DSM programs exists in its case.¹¹⁰ For these reasons, the commission finds that the Utility Market Structure is appropriate for KIUC at this time.

alternative market structure); RMI Opening Brief at 7 (recommending that the existing utility-only market structure should apply to KIUC, except that to the extent that KIUC's customers will benefit, KIUC should work in partnership with any statewide non-utility DSM or fund administrator that is established); HREA Opening Brief at 9 n.7 (stating that because there is no inherent conflict for KIUC, alternative market structures should not apply, provided that KIUC hires a DSM consultant and/or consults with any third-party DSM or fund administrator that is established); Tr. Vol. III at 762-63 (Curtis) (LoL testifying that it "would not favor having an [E]nergy [E]fficiency utility applied to KIUC unless KIUC wanted it.").

¹⁰⁸ See RMI Opening Brief at 7.

¹⁰⁹ See HREA Opening Brief at 9 n.7.

¹¹⁰ See CoK Opening Brief at 2; KIUC Opening Brief at 14-15.

TGC's DSM Market Structure

Given that TGC currently does not provide any DSM programs, the commission first examines which market structure is the most appropriate for TGC. TGC states that it would be difficult for Energy Efficiency measures by TGC to pass cost-effectiveness tests because TGC is not capacity constrained, and there are no plans to add capacity within the 20-year horizon.¹¹¹ Thus, TGC submits that it should continue under the Utility Market Structure, and that its market structure can be reviewed at the time that TGC identifies any cost-effective DSM programs as part of its IRP process.¹¹² RMI agrees, and no other party or participant disagrees.¹¹³

Because TGC does not currently offer DSM programs, and does not intend to add capacity for at least 20 years, the commission finds that TGC should continue under the Utility Market Structure at this time. In the event that relevant circumstances change (e.g., DSM programs are implemented for TGC's customers), the selection of the appropriate market structure can be reviewed at that time.

¹¹¹See TGC Opening Brief at 9.

¹¹²See TGC Opening Brief at 8-9. TGC also states that specialized knowledge of its operations and customer base may not be matched by a third-party administrator. See id. at 10.

¹¹³See RMI Opening Brief at 7 (recommending that TGC should continue under the existing utility-only market structure, "unless and until it is decided to implement DSM programs for TGC's customers").

C.

Issue 3: Cost Recovery Mechanisms

The commission next examines which cost recovery mechanism(s) is (are) the most appropriate for utility recovery of utility-incurred costs. The HECO Companies propose to modify the cost-recovery mechanism for all of HECO's DSM programs, including its two approved Load Management programs. Therefore, the below-described cost recovery mechanisms apply to all DSM programs. In addition, in considering this issue, the commission addresses both the cost recovery mechanism under the Utility Market Structure and the cost recovery mechanism under the Non-Utility Market Structure.

1.

DSM Stipulations

By Order No. 19019, filed on November 15, 2001, in Docket No. 00-0169 ("Order No. 19019"), the commission approved, subject to certain conditions and modifications, the stipulation by HECO and the Consumer Advocate regarding HECO's existing commercial and industrial DSM programs, submitted on October 5, 2001 ("October 5, 2001 Stipulation"). Similarly, by Order No. 19020, filed on November 15, 2001, in Docket No. 00-0209 ("Order No. 19020"), the commission approved the stipulation by HECO and the Consumer Advocate regarding HECO's existing residential DSM programs, submitted on October 12, 2001 ("October 12, 2001 Stipulation"). Among other things, by the October 5, 2001 Stipulation and the October 12,

2001 Stipulation, HECO and the Consumer Advocate agreed that in the next rate case, the DSM program costs would be incorporated into base rates.¹¹⁴

Despite the foregoing Stipulations, both HECO and the Consumer Advocate prefer that DSM program costs be recovered at least partially through a surcharge mechanism.¹¹⁵ The circumstances have changed dramatically since the time that HECO and the Consumer Advocate entered into their DSM Stipulations. Indeed, through the Energy Efficiency docket in general and this Decision and Order in particular,

¹¹⁴October 5, 2001 Stipulation, filed on October 5, 2001, in Docket No. 00-0169, at 2-3; October 12, 2001 Stipulation, filed on October 12, 2001, in Docket No. 00-0209, at 2-3; see also Order No. 19019, filed on November 15, 2001, in Docket No. 00-0169, at 8 (Ordering ¶¶ 3, 13); Order No. 19020, filed on November 15, 2001, in Docket No. 00-0209, at 10 (Ordering ¶¶ 3, 13). By Order No. 20391, filed on August 26, 2003, in Docket No. 00-0169 ("Order No. 20391"), the commission approved, subject to certain conditions and modifications, HECO and the Consumer Advocate's August 7, 2003 Stipulation to Amend Order No. 19019 ("August 7, 2003 Stipulation"). Similarly, by Order No. 20392, filed on August 26, 2003, in Docket No. 00-0209 ("Order No. 20392"), the commission approved, subject to certain conditions and modifications, HECO and the Consumer Advocate's August 12, 2003 Stipulation to Amend Order No. 19020 ("August 12, 2003 Stipulation"). The commission approved, among other things, HECO and the Consumer Advocate's agreement to delay the filing of HECO's rate case by approximately 12 additional months such that HECO would utilize a 2005 test year for the filing. See Order No. 20391, filed on August 26, 2003, in Docket No. 00-0169, at 5-6; Order No. 20392, filed on August 26, 2003, in Docket No. 00-0209, at 6-7. In addition, HECO and the Consumer Advocate, among other things, agreed to: a) the temporary continuation of HECO's DSM programs until HECO's next rate case; and b) the continuation by HECO to accrue and recover the program costs, lost margins, and shareholder incentives for its DSM programs in accordance with the agreements, terms, and conditions of Order Nos. 19019 and 19020. See Order No. 20391, filed on August 26, 2003, in Docket No. 00-0169, at 5-6 n.6; Order No. 20392, filed on August 26, 2003, in Docket No. 00-0209, at 6 n.4.

¹¹⁵See discussion section III.C.2., infra.

the commission has re-structured the DSM objectives, Energy Efficiency goals, and the DSM market structure. In light of these changed circumstances, deviation from the DSM Stipulations may be appropriate and desirable. Therefore, to the extent that this Decision and Order conflicts with Order Nos. 19019 and 19020, this Decision and Order shall control. In all other respects, Order Nos. 19019 and 19020, as amended, shall remain unchanged.

2.

Cost Recovery Mechanism Under the Utility Market Structure

In considering which cost recovery mechanism is the most appropriate for the administration of DSM programs under the Utility Market Structure, the Parties and Participants generally discussed three options: (a) the existing cost recovery mechanism in which labor costs are recovered through base rates and all other DSM-related utility-incurred costs (e.g., administrative and marketing costs, customer incentives, and any utility incentives) are recovered through a surcharge¹¹⁶ ("Existing Cost Recovery Mechanism"); (b) cost recovery through base rates ("Base Rate Cost Recovery Mechanism"); and (c) cost recovery through a surcharge ("Surcharge Cost Recovery Mechanism").¹¹⁷

¹¹⁶See Decision and Order No. 14638, filed on April 22, 1996, in Consolidated Docket Nos. 94-0010, 94-0011 and 94-0012.

¹¹⁷These cost-recovery mechanisms are consistent with the IRP Framework:

The Consumer Advocate and KIUC favor cost recovery through the Existing Cost Recovery Mechanism,¹¹⁸ and RMI essentially favors the Existing Cost Recovery Mechanism.¹¹⁹

The cost recovery may be had through the following mechanisms:

- (1) Base rate recovery - the inclusion of costs in the utility's base rate during each rate case. A balancing account may be appropriate in this instance to reconcile, with interest, the utility's recovered expenditures with its actual expenditures. It may also be appropriate to consider the utility's under-expenditure of authorized cost to limit recovery, unless program objectives are met or exceeded.
- (2) Adjustment clause - the recovery of costs incurred between rate cases in excess of the baseline integrated resource planning-related costs that are included in the utility's base rates.
- (3) Ratebasing - the inclusion of costs that are capital in character (i.e., expenditures considered to produce long-term savings or benefits, such as appliance rebates, loans, etc.), with accumulated AFUDC, in the utility's rate base at its next rate case. The costs are to be amortized over a period set by the commission.
- (4) Escrow accounting - the accumulation, with interest, of costs, not capital in character, incurred between rate cases and not otherwise recovered through the utility's base rates, adjustment clause, or rate base, in a deferred account, to be amortized over a period set by the commission.

IRP Framework, section III.F.1.a., at 16-17.

¹¹⁸See Consumer Advocate Opening Brief at 9, 34; KIUC Opening Brief at 3, 20.

¹¹⁹RMI states that "DSM expenditures collected in base rates should be limited to labor expenses for DSM related positions that, as of the date of the beginning of the rate case test year, have already been established and filled for a period of time sufficient to demonstrate that the positions are necessary and ongoing in nature." RMI Opening Brief at 9. Thus, under RMI's

The Consumer Advocate explains that because labor costs are normalized based on the test year, it is difficult to discern which labor costs are recovered through base rates and which labor costs are incremental to those recovered in base rates.¹²⁰ Thus, the Consumer Advocate recommends that the HECO Companies utilize the Existing Cost Recovery Mechanism "[u]ntil responsibility for the administration of Energy Efficiency programs is transitioned to a non-utility third-party administrator."¹²¹ With respect to KIUC, the Consumer Advocate agrees with KIUC that "KIUC should be allowed to utilize the same mechanism as is now used for the recovery of KIUC-incurred costs to administer the Energy Efficiency and DSM programs."¹²²

DoD favors the Base Rate Cost Recovery Mechanism for utility-incurred DSM program costs.¹²³ DoD states that DSM program costs "are, in principle, no different than other costs incurred by the utility that are included in base rates, and remain at their included level until changed in a subsequent general rate case."¹²⁴ DoD "supports a periodic adjustment to 'true-up' actual program-related expenditures, above or below the amount included in base rates, subject to reasonableness proposal, sufficiently established "necessary and ongoing" labor expenses would be recovered through base rates and the remaining DSM costs would be recovered through a surcharge.

¹²⁰See Consumer Advocate Opening Brief at 35-36 and n.28.

¹²¹Consumer Advocate Opening Brief at 34.

¹²²Consumer Advocate Opening Brief at 9.

¹²³See DoD Opening Brief at 1.

¹²⁴DoD Opening Brief at 1.

reviews."¹²⁵ DoD states that "[t]rue-ups should be limited to direct, identifiable, out-of-pocket expenses incurred by [the] HECO [Companies]."¹²⁶ Examples of true-up adjustments are incentives paid to customers and payments to third parties.¹²⁷ DoD is opposed to true-ups for the HECO Companies' internal costs such as payroll and general office expenses.¹²⁸

The HECO Companies and HSEA favor the Surcharge Cost Recovery Mechanism.¹²⁹ The HECO Companies state that "[t]o a certain extent, [the Surcharge Cost Recovery Mechanism] would facilitate (1) reconciliation of revenues received to recover estimated costs that are initially included in the surcharge, and (2) tracking of costs expended on the programs."¹³⁰ Similarly, HSEA states that "[t]his is transparent and should make the reconciliation between costs recovered and the actual program costs much simpler."¹³¹

¹²⁵DoD Opening Brief at 2.

¹²⁶DoD Opening Brief at 2.

¹²⁷See DoD Opening Brief at 2.

¹²⁸See DoD Opening Brief at 2.

¹²⁹See Tr. Vol. IV at page 779 (Hee) (testifying that if HECO were released from the DSM Stipulation, its preference would be to recover all DSM Program costs and utility compensation through a surcharge, as long as HECO is granted the flexibility provisions that will allow them to do the five requested functions without prior commission approval); The HECO Companies' Opening Brief at 176 (same); HSEA Opening Brief at 7, 16 (recommending that DSM program costs be recovered through a surcharge); HSEA Reply Brief at 10-11 (same).

¹³⁰The HECO Companies' Opening Brief at 176.

¹³¹HSEA Reply Brief at 10.

The commission agrees with the Consumer Advocate that it is difficult to separate labor costs that are incremental to base rates from those that are recovered through base rates. Therefore, the Existing Cost Recovery Mechanism is the most appropriate cost recovery mechanism under the Utility Market Structure, and labor costs shall be recovered through base rates and all other DSM-related utility-incurred costs shall be recovered through a surcharge. The commission expressly notes that the Existing Cost Recovery Mechanism shall apply to TGC and KIUC for so long as the Utility Market Structure applies, unless otherwise ordered by the commission.¹³² Moreover, notwithstanding the foregoing, the commission states that it retains the authority to "determine the appropriate mechanism for the recovery of costs associated with [DSM] programs when specific [DSM] programs are submitted for commission approval."¹³³

3.

PBF Cost Recovery Mechanism

Next, the commission examines which cost recovery mechanism will be the most appropriate when the Non-Utility Market Structure becomes effective on or about January 2009. Pursuant to Act 162, the commission may "redirect all or a

¹³²See KIUC Opening Brief at 3, 20 (stating that the Existing Cost Recovery Mechanism "is appropriate and should not be modified"); TGC Opening Brief at 15 (stating that "any decision as to the specific recovery mechanism to be used by TGC should be deferred until TGC re-enters the IRP process and develops its own DSM programs").

¹³³IRP Framework, section III.F.1.b., at 17.

portion of the funds collected through the current demand-side management surcharge by Hawaii's electric utilities into a [PBF] that may be established by the public utilities commission."¹³⁴ Act 162 further provides that:

If the public utilities commission establishes a [PBF], the surcharge shall be known as the public benefits fee. Moneys in the fund shall be ratepayer funds that shall be used to support energy-efficiency and demand-side management programs and services, subject to the review and approval of the public utilities commission.¹³⁵

The EPA states that in the case where a third-party administrator, efficiency utility, or hybrid market structure is involved, a PBF may be an attractive vehicle for funding DSM programs.¹³⁶ Under the Non-Utility Market Structure, cost recovery of utility-incurred DSM costs shall be through a PBF surcharge ("PBF Cost Recovery Mechanism"). Those entities that are not operating under the Non-Utility Market Structure will not be subject to the PBF Cost Recovery Mechanism.

4.

Decoupling Mechanism

RMI "argues in this docket that a decoupling mechanism should be established to remove the existing incentive for utilities to increase sales volume between rate cases and ensure that diligent implementation of [E]nergy [E]fficiency programs

¹³⁴ See HRS § 269-121(a).

¹³⁵ See HRS § 269-121(b).

¹³⁶ See EPA Report at 28.

will not diminish the utility companies' opportunity to earn a fair rate of return."¹³⁷

DoD, the Consumer Advocate, and HREA oppose decoupling.¹³⁸ DoD opposes decoupling because (1) decoupling diminishes the utility's motivation to accommodate customer needs by "shift[ing] the risk of changes in economic conditions, variations in weather patterns, and all other factors that affect sales away from the electric utility to the customer," such that "reduced sales [do] not impact the utility's bottom line," and (2) decoupling experience in the past has been "limited and unfavorable."¹³⁹ DoD states that if the objective of decoupling is to "give the utility additional motivation to pursue DSM," then the "preferable alternative [is to] utiliz[e] a third party to administer and implement the DSM measures, thereby creating direct competition between [E]nergy [E]fficiency programs delivered through the third party and the efficient production and delivery of electricity on the part of the utility."¹⁴⁰

The HECO Companies and the Consumer Advocate recommend that the commission defer the decision on decoupling. The HECO Companies state that it is not practical for an

¹³⁷RMI Opening Brief at 10. Revenue decoupling refers to separating the recovery of fixed costs from the amount of electricity sales. The underlying assumption in revenue decoupling is that if the recovery of fixed costs is no longer tied to sales, then the inherent utility conflict between selling more electricity to increase revenue and reducing sales through Energy Efficiency is eliminated.

¹³⁸See DoD Opening Brief at 9-10; Consumer Advocate Reply Brief at 31; HREA Reply Brief at 6.

¹³⁹DoD Opening Brief at 9-10.

¹⁴⁰DoD Opening Brief at 9.

examination of decoupling to occur within the current scope of the Energy Efficiency docket and recommend that "the consideration and implementation of a specific decoupling mechanism should be considered by the [c]ommission in a future general rate proceeding."¹⁴¹ Similarly, the Consumer Advocate recommends that decoupling "be considered in a separate docketed matter, given the complexity of the mechanism that must be considered."¹⁴²

The complexities involved in a decoupling mechanism proposal require comprehensive examination that is not feasible or necessary in this docket. Accordingly, the commission defers the issue of decoupling for possible further consideration in a future proceeding.

D.

Issue 4: Types of Costs

Pursuant to the IRP Framework:

The utility is entitled to recover its integrated resource planning and implementation costs that are reasonably incurred, including the costs of planning and implementing pilot and full-scale demand-side management programs.¹⁴³

According to the HECO Companies, the costs for DSM programs include the costs of (1) customer incentives (i.e., rebates),

¹⁴¹The HECO Companies' Opening Brief at 221. Nonetheless, the HECO Companies state that they are open to reviewing some decoupling considerations in another forum, and/or in a collaborative working group. See id.

¹⁴²Consumer Advocate Reply Brief at 31.

¹⁴³IRP Framework, section III.F.1., at 16.

(2) direct labor, and (3) outside services.¹⁴⁴ For Energy Efficiency DSM programs, the HECO Companies state:

For each existing and proposed DSM program, services are and will be delivered directly by HECO personnel and supported by third-party service providers under contract with HECO. All DSM programs are and will be managed by HECO personnel. Third-party services are rendered for services such as maintaining the computer software that tracks program performance, evaluation, legal, third-party engineering reviews, preliminary energy assessments, feasibility studies, design assistance, advertising, training, temporary help, equipment installation, solar inspections, and paging services.¹⁴⁵

For Load Management programs, outside services include implementation, tracking, evaluation, advertising, and administrative/miscellaneous costs.¹⁴⁶

None of the Parties or Participants recommend revising or amending the IRP Framework to specify the types of utility-incurred costs that are appropriate for recovery. Rather, the Parties and Participants appear to be satisfied with utility recovery of commission-approved expenditures.¹⁴⁷ In addition, RMI states that "[i]f ratepayer funded DSM is implemented by a

¹⁴⁴See The HECO Companies' Opening Brief at 48.

¹⁴⁵The HECO Companies' Opening Brief at 48.

¹⁴⁶See The HECO Companies' Opening Brief at 48.

¹⁴⁷See, e.g., HREA Opening Brief at 12 (supporting the recovery of commission-approved costs, including costs associated with coordination with a PBF administrator within the IRP); RMI Opening Brief at 3 (stating that "utilities and any third[-]party administrators should be entitled to recover the reasonable and approved expenditures for DSM programs"). RMI adds that "[t]he utility should not be allowed to recover costs for programs or portions of programs that do not further approved DSM [E]nergy [E]fficiency goals, [IRP] goals or other goals specifically identified by the commission for DSM programs." RMI Opening Brief at 9.

non-utility entity, the utility should be entitled to recover any actual costs of billing and necessary administration of funds as approved by the commission."¹⁴⁸

As the commission finds no reason to change the types of utility-incurred costs that are appropriate for recovery, the utilities shall continue to be entitled to recover their reasonably-incurred DSM implementation costs, in accordance with the IRP Framework. Upon commencement of the Non-Utility Market Structure, the types of costs that are recoverable by the PBF Administrator shall be addressed and reviewed in a new docket, see discussion section III.J.2., infra.

E.

Issue 5: Incentive Mechanisms

1.

The HECO Companies' DSM Utility Incentive Mechanism

By Order No. 22921, issued on October 4, 2006 ("Order No. 22921"), the commission discontinued HECO's recovery of lost margins and shareholder incentives. However, the IRP Framework provides that "under appropriate circumstances, the commission may provide the utility with incentives to encourage participation in and promotion of full-scale [DSM] programs."¹⁴⁹

The HECO Companies, RMI, and HSEA recommend that the utilities be compensated for successfully implementing Energy

¹⁴⁸RMI Opening Brief at 9.

¹⁴⁹IRP Framework, section III.F.3.a., at 18.

Efficiency DSM programs.¹⁵⁰ The HECO Companies state that there are two primary reasons why providing utility incentives is "beneficial and in the public interest."¹⁵¹ First, "[c]ompensation mechanisms put [E]nergy [E]fficiency DSM options on a more level playing field with supply-side options."¹⁵² The HECO Companies explain:

Expenditures for DSM programs are unique. Other utility expenditures are made in support of energy sales. In contrast, when a utility promotes effective [E]nergy [E]fficiency DSM programs, energy sales are reduced from the levels that otherwise would have occurred. The reduced levels of energy use result in reduced costs to supply the energy, but also result in a larger reduction in revenue. This larger revenue loss includes a loss of the contribution to the fixed costs of the utility. Without an adjustment mechanism, the utility is financially worse off when it implements DSM programs.¹⁵³

Second, "[i]ncentive regulation is more effective and requires use of less regulatory 'resources' than 'command-and-control' regulation."¹⁵⁴ The HECO Companies claim that "[t]he 'command and control' approach, by itself, has proven to be less effective

¹⁵⁰See The HECO Companies' Opening Brief at 177 (stating that "[u]tilities can and should be compensated for successfully delivering [E]nergy [E]fficiency DSM programs to their customers"); RMI Opening Brief at 3 (stating that "the utility and third[-]party administrator should be rewarded for reaching a threshold level of performance"); HSEA Opening Brief at 5 (recommending that "the [c]ommission allow reasonable and prudent performance based incentives to either utility or third[-]party administrators to implement and manage DSM programs in Hawaii"); see also HSEA Reply Brief at 10.

¹⁵¹The HECO Companies' Opening Brief at 177.

¹⁵²The HECO Companies' Opening Brief at 178.

¹⁵³The HECO Companies' Opening Brief at 180.

¹⁵⁴The HECO Companies' Opening Brief at 178.

than an incentive approach."¹⁵⁵ Thus, the HECO Companies state that "[c]ompensating utilities for implementing DSM programs provides a viable mechanism that can be used to align the interests of utility shareholders and society."¹⁵⁶

The Consumer Advocate and DoD oppose utility incentives.¹⁵⁷ The Consumer Advocate states that "[t]here simply is no compelling need to provide utilities with incentives to encourage the utilities to pursue the implementation of [E]nergy [E]fficiency programs at this time."¹⁵⁸ However, the

¹⁵⁵The HECO Companies' Opening Brief at 181-82.

¹⁵⁶The HECO Companies' Opening Brief at 181.

¹⁵⁷See Consumer Advocate Opening Brief at 39; DoD Opening Brief at 4-7 (opposing recovery of lost margins or shareholders incentives in any form).

¹⁵⁸Consumer Advocate Opening Brief at 39; see also id. at 10. The Consumer Advocate explains that (1) the concept of implementing Energy Efficiency measures is no longer a novel approach to meeting energy demand, and "utilities now recognize the benefits that are derived from the implementation of [E]nergy [E]fficiency measures," (2) "with the limited land available to site additional generation, and the competing demands/interest for that land, the value/benefit derived from the aggressive implementation of [E]nergy [E]fficiency and DSM measures is realized," (3) "the [c]ommission's IRP Framework requires the utilities to consider [E]nergy [E]fficiency and DSM measures as a means of meeting customer demands," (4) HRS § 269-92 "requires utilities to achieve a defined percentage of sales through the installation of renewable energy, which includes [E]nergy [E]fficiency measures," (5) "[the HECO Companies'] shareholders are not entitled to a return on the funds expended for [E]nergy [E]fficiency measures that is similar to the return allowed on funds used for plant investment" because "DSM programs do not have the same risks as traditional supply-side resources," (6) "the impacts of [E]nergy [E]fficiency programs will not cause the utility's investment and earnings potential to stagnate because "[t]here is a continuing need to replace aged facilities, which will allow the utility to increase its depreciated rate base, and maintain or increase the utility's earnings potential," (7) "third-party administration of [E]nergy [E]fficiency and DSM programs in Hawaii [will] eliminate[] the need to provide lost margin recovery and shareholder incentives to affected

Consumer Advocate is not opposed to "having some type of reward/penalty structure that links [the] level of DSM program cost recovery to the achievement of established DSM goals and verified savings."¹⁵⁹

It is clear that DSM utility incentives should be established to motivate the utilities to aggressively pursue DSM options, and more closely align the interests of utility shareholders with that of ratepayers. Therefore, DSM utility incentives are appropriate to encourage the implementation of DSM programs.

a.

Performance-Based Shared Savings Mechanism

The IRP Framework provides that:

The incentives may take any form approved by the commission. Among the possible forms are:

- (1) Granting the utility a percentage share of the gross or net benefits attributable to demand-side management programs (shared savings).
- (2) Granting the utility a percentage of certain specific expenditures it makes in [DSM] programs (mark-up).

utilities," and (8) in the IRP Framework, "there was clearly no intent to allow for the provision of an incentive in perpetuity." Id. at 39-42.

¹⁵⁹Consumer Advocate Opening Brief at 42; see also Consumer Advocate Reply Brief at 29-30 (stating that "performance based reward/penalty compensation is appropriate for exemplary or non-performance of the established DSM or [E]nergy [E]fficiency goals").

- (3) Allowing the utility to earn a greater than normal return on equity for ratebased [DSM] expenditures (rate base bonus).
- (4) Adjusting the utility's overall return on equity in response to quantitative or qualitative evaluation of [DSM] program performance (e.g., adjusting the return upward for achieving a certain level of kilowatt [{"kW"}] or kilowatt-hour [{"kWh"}] savings) (ROE adjustment).¹⁶⁰

HECO's proposal, discussed in section III.H., infra, is a shared savings mechanism. Although not all of the Parties and Participants agree that DSM incentives are appropriate, or that HECO's shared savings proposal is acceptable, none of the Parties or Participants recommend the mark-up, rate base bonus, or ROE adjustment mechanisms described above in the IRP Framework.

Indeed, RMI states that "a performance[-]based shared saving mechanism is an effective method to control utility DSM expenditures to the 'most effective minimum.'" ¹⁶¹ RMI explains that "[a] shared savings mechanism rewards the utility financially for increasing program penetration and minimizing program costs."¹⁶² In addition, RMI states that "implementing a shared savings mechanism based on ex post evaluation of utility performance would allow the [c]ommission to permit substantial flexibility in program implementation without sacrificing accountability."¹⁶³

¹⁶⁰IRP Framework, section III.F.3.a.

¹⁶¹RMI Opening Brief at 13.

¹⁶²RMI Opening Brief at 13-14.

¹⁶³RMI Opening Brief at 14.

Similarly, DoD states that to the extent any incentive is found appropriate, the HECO Companies "should not be rewarded just for implementing programs and spending ratepayer's money, but should be rewarded if [they] implement[] programs in such a way that the performance of the programs exceed[s] reasonable expectations."¹⁶⁴ DoD states that "a realistic expectation of the amount of savings should be established" and that "[a]ctual performance should be compared to expected performance to determine whether [the HECO Companies] achieved, surpassed, or fell short of expectations."¹⁶⁵

Given the above, the commission expects that the shared savings mechanism will best ensure that program costs are properly managed. Therefore, the commission will implement a shared savings mechanism.

b.

DSM Utility Incentives Limited to the
Authorized Rate of Return for Supply-Side Investments

The commission next examines whether DSM utility incentives should be limited to the authorized rate of return for supply-side investments, as proposed by HSEA and RMI. HSEA states that "it is sound regulatory policy to provide positive incentives so that utility managers continue to give the demand-side of the equation as much attention as the

¹⁶⁴DOD Opening Brief at 6.

¹⁶⁵DoD Opening Brief at 7.

supply-side."¹⁶⁶ HSEA supports "reasonable performance[-]based incentives that align utility behavior with the basic Framework goal of ensuring that demand-side programs are always as attractive to the utility as supply-side investments."¹⁶⁷ HSEA states that "[s]uch incentives must, however, reflect both participant and ratepayer expectations that the utility is committed to providing a suite of very effective and aggressive DSM programs at a fair cost to the ratepayer."¹⁶⁸ HSEA states that "under no circumstances would it be prudent or reasonable for total utility compensation for administering DSM programs to exceed the rate of return allowed for rate-based supply side assets of equivalent MW magnitude."¹⁶⁹ Similarly, RMI states that incentives should be "no greater than the utility shareholder earnings on ratebased supply side costs that the portfolio of DSM programs displaces."¹⁷⁰

The commission agrees with RMI and HSEA, and finds that DSM utility incentives should be limited to the authorized rate of return for supply-side investments.

¹⁶⁶HSEA Opening Brief at 17.

¹⁶⁷HSEA Opening Brief at 16.

¹⁶⁸HSEA Opening Brief at 16.

¹⁶⁹HSEA Opening Brief at 6; HSEA Reply Brief at 10; see also HSEA Opening Brief at 17-18.

¹⁷⁰RMI Opening Brief at 3.

C.

DSM Utility Incentives as Positive Incentives

Next, the commission examines whether DSM utility incentives should be symmetrical, i.e., both positive and negative. DoD recommends that "[t]o the extent shareholders have the possibility of being rewarded for [the HECO Companies'] performance that exceeds the expected level, they should similarly be subject to some reduction in compensation, i.e., a penalty, if the performance is below expectations."¹⁷¹ DoD states that "[t]his mechanism will not result in an over-recovery or under-recovery of costs, but will enhance or reduce the utility's return on equity."¹⁷²

The commission finds that negative incentives would have the same effect as an under-recovery of costs. Therefore, DSM utility incentives shall be positive only, and there will be no negative incentives for under-performance.

2.

KIUC's DSM Utility Incentive Mechanism

Next, the commission examines whether DSM utility incentive mechanisms are appropriate for KIUC. KIUC states that it does not require DSM incentive mechanisms to aggressively pursue Energy Efficiency DSM programs.¹⁷³ KIUC explains that it "is motivated simply because it is the expectation and in the

¹⁷¹DoD Opening Brief at 7; see also DoD Reply Brief at 4.

¹⁷²DOD Opening Brief at 7.

¹⁷³See KIUC Opening Brief at 21.

best interest of its membership."¹⁷⁴ The commission agrees, and excludes KIUC from DSM utility incentives and mechanisms, unless otherwise ordered by the commission.

3.

TGC's DSM Utility Incentive Mechanism

Similarly, the commission examines whether DSM utility incentive mechanisms are appropriate for TGC. TGC states that "if [TGC] implements DSM programs[,] the proper incentives need to be in place to overcome any institutional barriers and to encourage successful implementation of DSM programs[,] similar to the incentives that were in place when the electric utilities first initiated their DSM programs."¹⁷⁵ The commission finds that at this time, it would not be prudent or beneficial to predict whether DSM utility incentives, and the mechanism for such incentives, would be appropriate for TGC. Thus, consistent with the IRP Framework, if and when TGC submits specific DSM programs for approval, the issue of utility incentives can be addressed at that time.¹⁷⁶

¹⁷⁴KIUC Opening Brief at 21.

¹⁷⁵TGC Opening Brief at 17.

¹⁷⁶The IRP Framework provides that "[t]he commission will determine whether the utility will be provided with incentives and the form of such incentives, if any, when specific [DSM] programs are submitted for approval. The utility may propose incentive forms for a particular program, based on the particular attributes of the program and the results to be attained." IRP Framework, section III.F.3.b., at 19.

F.

Issue 6: Achievement of Goals and
Cost-Effectiveness of Proposed Energy Efficiency Programs

HECO proposes the following Energy Efficiency programs:

- (1) Commercial and Industrial Energy Efficiency ("CIEE") Program;
- (2) Commercial and Industrial New Construction ("CINC") Program;
- (3) Commercial and Industrial Customized Rebate ("CICR") Program;
- (4) Residential Efficient Water Heating ("REWH") Program;
- (5) Residential New Construction ("RNC") Program; (6) Residential Low Income ("RLI") Program; and (7) Energy\$olutions for the Home ("ESH") Program.

HECO also requests approval for its RCEA Program. With respect to the RCEA Program, HECO requests that "if the additional funds HECO proposed to spend for informational advertising in HECO's 2005 test year rate case are not considered in [the Rate Case Docket], the [c]ommission approve the recovery of costs related to the RCEA Program in [this docket]."¹⁷⁷

1.

Energy Efficiency Programs

a.

Description of CIEE Program

The CIEE Program offers prescriptive incentives for achieving varying degrees of efficiency for T-8 fluorescent and high efficiency metal halide lighting, occupancy sensors, and

¹⁷⁷The HECO Companies' Opening Brief at 132.

delamping with reflectors.¹⁷⁸ For air conditioning technologies, split system, package, and chiller units that exceed the minimum Model Energy Code standards by 10 percent are offered incentives.¹⁷⁹ Other measures, such as premium efficiency motors and high efficiency high pressure sodium high intensity discharge ("high efficiency HPS HID") lighting, are also eligible technologies.¹⁸⁰ In addition to incentives, other aspects of the CIEE Program include marketing, customer and vendor support, design assistance, and customer education.¹⁸¹ HECO represents that the CIEE Program has resulted in a net reduction of 13.0 MW of demand and 98,781 MWh of energy between its inception in mid-1996 and 2005.¹⁸²

HECO customers that are metered under commercial utility tariffs G, J, H, PP, PS, PT, and U are eligible for the CIEE Program. Those customers may participate by purchasing an energy efficient motor, efficient new lamps, or other qualifying equipment, then applying for a rebate up to six months after the time of purchase.¹⁸³ To determine whether customers are eligible for CIEE Program incentives, HECO uses a modified version of the

¹⁷⁸ See The HECO Companies' Opening Brief at 67.

¹⁷⁹ See The HECO Companies' Opening Brief at 67.

¹⁸⁰ See The HECO Companies' Opening Brief at 67; see also HECO-1107, filed on November 12, 2004, in Docket No. 04-0113, at 1.

¹⁸¹ See The HECO Companies' Opening Brief at 68.

¹⁸² See The HECO Companies' Opening Brief at 80.

¹⁸³ See The HECO Companies' Opening Brief at 69.

commission-approved 50% Exclusion Rule ("Modified 50% Exclusion Rule"), discussed in section III.F.5., infra.¹⁸⁴

HECO proposes to add several new technologies to the CIEE Program: window air conditioners, compact fluorescent lamps ("CFLs"), "Super T8" high efficiency lighting, delamping without reflectors, T-5 high efficiency lighting, light emitting diode exit high efficiency lighting, light emitting crystal, induction high efficiency lighting, high efficiency HPS HID with pulse start, high efficiency metal halide with pulse start, and window tinting.¹⁸⁵

HECO proposes to increase incentives for lighting and air conditioning systems to 25 percent of the incremental costs, and to increase the maximum single customer rebate limit from \$250,000 to \$350,000.¹⁸⁶ In addition, HECO proposes to incorporate a vendor incentive that will allow incentives to be paid to vendors that successfully persuade a customer to install qualifying equipment.¹⁸⁷

Finally, HECO intends to increase its customer awareness efforts for medium and small businesses by promoting energy efficient motors, high efficiency industrial lighting systems, and high efficiency industrial process cooling.¹⁸⁸

¹⁸⁴See The HECO Companies' Opening Brief at 70-73.

¹⁸⁵See The HECO Companies' Opening Brief at 77; HECO-1107, filed on November 12, 2004, in Docket No. 04-0113, at 1.

¹⁸⁶See The HECO Companies' Opening Brief at 40 and 77-78.

¹⁸⁷See The HECO Companies' Opening Brief at 78.

¹⁸⁸See The HECO Companies' Opening Brief at 77.

b.

Description of CINC Program

The CINC Program offers a combination of prescriptive¹⁸⁹ and customized incentives and design assistance to maximize opportunities for saving energy in new commercial and industrial buildings and in major renovations of commercial and industrial facilities.¹⁹⁰ The CINC Program captures elements of both the CIEE and CICR Programs "in order to help motivate a customer into making the investment in an energy efficient measure during design and construction."¹⁹¹ The CINC Program offers design assistance funding to assist in early design consultation and review to present energy efficient options to the building owners or developers.¹⁹² HECO states that the CINC Program has resulted in a net reduction of 6.4 MW of demand and 43,416 MWh of energy between its inception in mid-1996 and 2005.¹⁹³

¹⁸⁹The prescriptive measures include high efficiency cooling (i.e., chillers and package and split system air conditioners—both air and water cooled), high efficiency lighting (i.e., T8), high efficiency HPS HID lamps, high efficiency metal halide, occupancy sensors, and premium efficient motors. See HECO-1107, filed on November 12, 2004, in Docket No. 04-0113, at 2.

¹⁹⁰See The HECO Companies' Opening Brief at 82.

¹⁹¹The HECO Companies' Opening Brief at 81. HECO believes that "[c]ustomer education that especially targets the architect and engineering professional design community is the key to the success of the CINC Program." Id.

¹⁹²See The HECO Companies' Opening Brief at 81. HECO believes that the "relationships with architects, planners, engineers, and developers are essential to identify projects and keep [HECO] apprised of their status during the design process." Id.

¹⁹³See The HECO Companies' Opening Brief at 87.

All HECO customers that are metered under commercial utility tariffs G, J, H, PP, PS, PT, and U are eligible for the CINC Program. Generally, HECO will approach new construction customers to open a program application, or the customers will open an application on their own.¹⁹⁴ HECO applies its Modified 50% Exclusion Rule¹⁹⁵ to this program.¹⁹⁶

HECO seeks to enhance the existing CINC Program primarily by "increasing the incentives paid for the design features."¹⁹⁷ HECO claims that "[s]everal of the new construction technologies that are covered under the customized approach have been evaluated, resulting in predictable energy savings results."¹⁹⁸ Specifically, HECO seeks to offer prescriptive customer incentives for window air conditioners, CFLs (i.e., pin mount, type A mount, dimmable type A, and cold cathode), super T8, T5 (i.e., low ceiling and high bay), induction, delamping with and without reflectors, high efficiency HPS HID with pulse start, high efficiency metal halide with pulse start, and window tinting.¹⁹⁹

¹⁹⁴See The HECO Companies' Opening Brief at 83.

¹⁹⁵For a description of HECO's Modified 50% Exclusion Rules, see infra section III.F.5.

¹⁹⁶See The HECO Companies' Opening Brief at 83.

¹⁹⁷The HECO Companies' Opening Brief at 84.

¹⁹⁸The HECO Companies' Opening Brief at 84.

¹⁹⁹See HECO-1107, filed on November 12, 2004, in Docket No. 04-0113, at 2.

HECO proposes to reduce the existing two-year payback period to one year.²⁰⁰ HECO asserts that "the two-year payback did not provide enough of an incentive for customers" and that "[t]here were some measures with payback periods between one and two years that should have been installed by the customer[,] but for some reason were not."²⁰¹ As such, HECO suggests reducing the payback period to one year "in recognition of the utility's need to incent customers to install those measures."²⁰²

HECO also proposes to revise its existing policy of paying demand incentives on customized measures that reduce demand during HECO's priority peak (i.e., 5:00 p.m. to 9:00 p.m.) to paying demand incentives for any customer demand reduction.²⁰³ HECO asserts that this revision "reflects the added value of capacity reductions during afternoon peaks and allows the customer and HECO to pre-determine most demand incentive payments."²⁰⁴

In addition, HECO proposes to include a building commissioning process.²⁰⁵ HECO, DBEDT, and other parties will

²⁰⁰See The HECO Companies' Opening Brief at 88. A "payback period" is the length of time required to recover the cost of an investment.

²⁰¹The HECO Companies' Opening Brief at 88.

²⁰²The HECO Companies' Opening Brief at 88.

²⁰³See The HECO Companies' Opening Brief at 84.

²⁰⁴The HECO Companies' Opening Brief at 84-85.

²⁰⁵HECO explains that building commissioning is a process by which experts inspect a building's mechanical system (typically HVAC) to ensure that all of the specified energy components and systems were properly installed and operate as designed. HECO represents that "[b]uilding commissioning has emerged

work to conduct training for the engineering community on how to conduct a formal building commission and will provide incentives for trained engineers to conduct commissioning for new construction projects.²⁰⁶

Finally, HECO proposes to increase the maximum single customer rebate limit from \$250,000, established in the mid-1990s, to \$350,000.²⁰⁷ HECO asserts that this increase is appropriate based on actual inflation and the likelihood of large projects in the future.²⁰⁸

c.

Description of CICR Program

The CICR Program addresses the large number of DSM measures that are available, but do not lend themselves to a prescriptive incentive program design.²⁰⁹ HECO believes that the key feature of the CICR Program is its flexibility to offer incentives (i.e., rebates) for most energy efficient technologies.²¹⁰ HECO designs the DSM customer incentives to "overcome market barriers, including financial barriers and other risks" and "sets its customer incentives at levels which appear nationwide as a significant construction element that identifies and rectifies potential problems in buildings that might otherwise compromise the energy savings measures built into a building." The HECO Companies' Opening Brief at 85.

²⁰⁶ See The HECO Companies' Opening Brief at 85.

²⁰⁷ See The HECO Companies' Opening Brief at 40.

²⁰⁸ See The HECO Companies' Opening Brief at 40.

²⁰⁹ See The HECO Companies' Opening Brief at 89.

²¹⁰ See The HECO Companies' Opening Brief at 89.

to be necessary to motivate customers to adopt particular DSM measures."²¹¹ HECO states that the CICR Program's \$0.05 per kWh and \$125.00 per kW incentive levels "have resulted in excellent customer response."²¹² HECO states that the CICR Program has resulted in a net reduction of 8.8 MW of demand and 69,324 MWh of energy between its inception in mid-1996 and 2005.²¹³

Commercial customers under a G, H, J, PP, PS, PT, or U schedule are eligible to participate in the CICR Program. Customers must apply for participation prior to the installation of any qualifying measure.²¹⁴ Typically, the CICR Program applications require monitoring prior to the installation of the energy efficient measure, and monitoring after the measure has been installed and is operational.²¹⁵ Currently, each project must have a payback period greater than two years and pass the Total Resource Cost test²¹⁶ to qualify for the program.²¹⁷ HECO applies its Modified 50% Exclusion Rule to this program.²¹⁸

HECO proposes to enhance the existing CICR Program by:
(1) reducing the existing two-year payback period to one year, as

²¹¹The HECO Companies' Opening Brief at 91.

²¹²The HECO Companies' Opening Brief at 91.

²¹³See The HECO Companies' Opening Brief at 96.

²¹⁴See The HECO Companies' Opening Brief at 91.

²¹⁵See The HECO Companies' Opening Brief at 89.

²¹⁶For a discussion of the Total Resource Cost test, see section III.F.4., infra.

²¹⁷See The HECO Companies' Opening Brief at 89.

²¹⁸See The HECO Companies' Opening Brief at 91.

there are many potential projects in Oahu facilities that are cost effective with less than a two-year payback period that have not been implemented by their owners, and (2) implementing a building commissioning process that will allow funding for customers that elect to have their buildings commissioned to ensure that the specified energy system and components were properly installed and operate as designed.²¹⁹ In addition, as with the CINC Program and for the same reasons, HECO proposes to revise its existing policy of paying demand incentives on measures that reduce demand during HECO's priority peak (i.e., 5:00 p.m. to 9:00 p.m.) to paying demand incentives for any customer demand reduction,²²⁰ and to change the maximum single customer rebate limit from \$250,000 to \$350,000.²²¹

d.

Description of REWH Program

The REWH Program promotes the sale, installation, and use of energy-efficient water heaters in the existing residential market.²²² Specifically, financial incentives are offered for the installation of solar, heat pump, and high efficiency electric water heaters.²²³ Currently, the incentives are offered in

²¹⁹See The HECO Companies' Opening Brief at 93-94.

²²⁰See The HECO Companies' Opening Brief at 89-90.

²²¹See The HECO Companies' Opening Brief at 40.

²²²See The HECO Companies' Opening Brief at 98.

²²³The REWH Program's existing customer incentive is \$750 for solar water heating, varies depending on the size of the water heater for high efficiency water heaters, and is \$175 for

conjunction with available State and federal tax credits.²²⁴ HECO states that the REWH Program has resulted in a net reduction of 10.5 MW of demand and 46,315 MWh of energy between its inception in mid-1996 and 2005.²²⁵

All existing residential customers that have individual electric water heaters, including customers served on non-residential utility rates (master metered accounts) with electric resistance water heaters, are eligible to participate in HECO's REWH Program.²²⁶ Residential building owners whose properties utilize individual electric water heaters are also eligible to participate.²²⁷ However, housing covered under federal, state, city, or county laws requiring the installation of heat pump or solar water heaters are not eligible to receive incentives for those technologies, as they would not provide an additional reduction in HECO's peak load.²²⁸

To participate in the solar water-heating component of the program, customers may call a participating solar contractor or HECO's office to receive a program application.²²⁹ When the customer purchases the solar water-heating system, the participating contractor will complete the application and give retrofits and \$300 for new construction heat pump water heaters. See The HECO Companies' Opening Brief at 98-99 and 101.

²²⁴See The HECO Companies' Opening Brief at 98.

²²⁵See The HECO Companies' Opening Brief at 104.

²²⁶See The HECO Companies' Opening Brief at 99.

²²⁷See The HECO Companies' Opening Brief at 99.

²²⁸See The HECO Companies' Opening Brief at 99.

²²⁹See The HECO Companies' Opening Brief at 100.

the customer an instant rebate.²³⁰ To participate in the energy efficient standard water heating program, the customer can mail in a copy of their invoice along with an incentive coupon.²³¹ The incentive coupon is available at most retail outlets selling water heaters and from many plumbers.²³²

HECO seeks to enhance the existing REWH Program by increasing the incentives for solar water heating from \$750 to \$1,000²³³ and increasing marketing efforts.²³⁴ The higher incentive will be consistent with the solar water heating incentives at HELCO and MECO.²³⁵ HECO states that the higher incentive (1) is designed to take advantage of, and reinforce the window of opportunity presented by, the new 30% federal tax credit effective at the beginning of 2006, which has a sunset date of December 31, 2007; (2) is consistent with legislative intent, as evidenced by Act 240, Session Laws of Hawaii (2006), which increases the cap for the state tax credit for solar water heating from \$1,750 to \$2,250; and (3) illustrates the recent trend towards higher costs for solar water heating systems.²³⁶

²³⁰See The HECO Companies' Opening Brief at 100.

²³¹See The HECO Companies' Opening Brief at 100.

²³²See The HECO Companies' Opening Brief at 100.

²³³See The HECO Companies' Opening Brief at 103. Similarly, HSEA recommends "a rebate level of no less than \$1,000 for the solar water heating component of the program." HSEA Reply Brief at 24.

²³⁴See The HECO Companies' Opening Brief at 103.

²³⁵See The HECO Companies' Opening Brief at 98-99.

²³⁶See The HECO Companies' Opening Brief at 99.

HECO also intends to ensure that an individual customer will be able to benefit from both the 25 percent rebate under the HECO program and the benefits conferred under the Pay-As-You-Save Program.²³⁷

e.

Description of RNC Program

The RNC Program encourages homebuilders to reduce electricity consumption in newly constructed homes by installing and using solar water heaters, heat pumps, high efficiency electric water heaters, and high efficiency electric water heaters coupled with load control devices.²³⁸ Developers are offered an incentive to install an 80 gallon or larger high efficiency water heater with a load control device, which shuts off the water heater during HECO's peak period of 5:00 p.m. to 9:00 p.m. each weeknight.²³⁹ HECO states that the larger tank size: (1) "is required to ensure that there is sufficient domestic hot water to meet customer needs" and (2) "makes it less expensive for the customer to select the solar water heating option at a later time, since the tank is also large enough to serve as a storage tank for a solar water heating system."²⁴⁰ HECO offers the customer a monthly bill credit of \$5 for complying with program requirements and allowing HECO to keep the

²³⁷ See The HECO Companies' Opening Brief at 101.

²³⁸ See The HECO Companies' Opening Brief at 107-08.

²³⁹ See The HECO Companies' Opening Brief at 110.

²⁴⁰ The HECO Companies' Opening Brief at 110.

water heater off during the peak period by using the load switch.²⁴¹ HECO states that the RNC Program has resulted in a net reduction of 5.9 MW of demand and 15,974 MWh of energy between its inception in mid-1996 and 2005.²⁴²

Homebuilders, including customers who are building their own homes, are eligible to participate in the RNC Program.²⁴³ This includes any primary domestic residence, whether it is owner-occupied, rental, or employment housing, as long as the premises will be occupied year-round.²⁴⁴ However, housing covered under federal, state, city, or county laws requiring the installation of heat pump or solar water heaters are not eligible to receive incentives for these technologies, as they would not provide an additional reduction in HECO's peak load.²⁴⁵

HECO proposes to offer financial incentives for bundled measures contained on the "Hawaii BuiltGreen" checklist through a partnership with the Building Industry Association of Hawaii.²⁴⁶ The Hawaii BuiltGreen Program is designed to encourage new home developers to design their new products with built-in energy saving measures.²⁴⁷ HECO proposes to offer four levels of energy

²⁴¹See The HECO Companies' Opening Brief at 110.

²⁴²See The HECO Companies' Opening Brief at 114.

²⁴³See The HECO Companies' Opening Brief at 111.

²⁴⁴See The HECO Companies' Opening Brief at 111.

²⁴⁵See The HECO Companies' Opening Brief at 111.

²⁴⁶See The HECO Companies' Opening Brief at 108.

²⁴⁷See The HECO Companies' Opening Brief at 108.

saving measures: Bronze, Silver, Gold, and Gold Plus.²⁴⁸ HECO states that its enhanced RNC Program will "make developers who build entire developments along zero net energy principles eligible for incentives for all of the homes within the development, including military housing."²⁴⁹

As with the REWH Program, HECO proposes to increase the customer incentive level for solar water heating systems from \$750 to \$1,000.²⁵⁰ Additionally, CFLs will not be offered as a separate measure, but will be included in the bundling of measures in the Hawaii BuiltGreen homes.²⁵¹

f.

Description of RLI Program

The RLI Program will enable qualified low income customers to receive CFLs and high efficiency water heating measures at no cost to them.²⁵² The RLI Program measures will

²⁴⁸See The HECO Companies' Opening Brief at 108. Each level builds upon the previous level, making it easier for the developer to select a higher level of savings to implement. In the Bronze level, the developer needs to select a central air conditioning system with a Seasonal Energy Efficiency Ratio ("SEER") of 13 or better, Energy Star® ceiling fans, and CFLs. The Silver level includes the same requirements as the Bronze level and adds Energy Star® clothes washers, Energy Star® refrigerators, wall and ceiling insulation, and skylights. The Gold level includes the same requirements of the Silver level and adds Energy Star® windows. The Gold Plus level includes the same requirements of the Gold level, but natural ventilation must replace air conditioning. See id. at 108-09.

²⁴⁹The HECO Companies' Opening Brief at 109.

²⁵⁰See The HECO Companies' Opening Brief at 98.

²⁵¹See The HECO Companies' Opening Brief at 98, 111.

²⁵²See The HECO Companies' Opening Brief at 117.

include CFLs, water heater blankets, low-flow showerheads, faucet aerators, and pipe insulation.²⁵³

All customers that fall within 150 percent of federal poverty guidelines will be eligible for the RLI Program.²⁵⁴ HECO states that at present, "the federal guideline for poverty is an annual household income level of \$15,000 per year. As a proxy, HECO defines customer eligibility at the \$25,000 per year level."²⁵⁵ In addition, low income customers will be eligible to participate in HECO's other residential DSM programs (i.e., the REWH and ESH Programs).²⁵⁶ Moreover, low interest rehabilitation loans for eligible Section 8 housing will be explored with eligible customers to encourage their participation in the other residential programs.²⁵⁷

HECO proposes that the RLI Program be implemented by currently existing Community Action Program ("CAP") agencies that typically deal with low-income customers.²⁵⁸ The CAP agencies would be under contract to HECO to develop marketing and promotional materials, recruit and qualify customers, and certify the installations.²⁵⁹ HECO also proposes that the CAP agencies

²⁵³ See The HECO Companies' Opening Brief at 118.

²⁵⁴ See The HECO Companies' Opening Brief at 118.

²⁵⁵ The HECO Companies' Opening Brief at 118.

²⁵⁶ See The HECO Companies' Opening Brief at 118.

²⁵⁷ See The HECO Companies' Opening Brief at 118.

²⁵⁸ See The HECO Companies' Opening Brief at 117.

²⁵⁹ See The HECO Companies' Opening Brief at 117.

directly install CFLs.²⁶⁰ HECO would provide training on the Energy Efficiency measures, as well as for the marketing and outreach strategies.²⁶¹

Finally, HECO proposes that the RLI Program be evaluated through impact and process evaluations.²⁶² The impact evaluation will measure the actual energy use and load shape savings achieved for the program, taking into account various market factors such as free-ridership and program spillover.²⁶³ The process evaluation will assess the program delivery effectiveness and customer perceptions of the program.²⁶⁴ HECO asserts that both the impact and process evaluations are data intensive and must be initiated after the program has been in operation for one or more years.²⁶⁵ HECO suggests a five-year evaluation period.²⁶⁶

g.

Description of ESH Program

The ESH Program will encourage customers to reduce their electricity consumption by adopting a variety of energy efficient end-uses in the home, including Energy Star® lighting,

²⁶⁰See The HECO Companies' Opening Brief at 120.

²⁶¹See The HECO Companies' Opening Brief at 117.

²⁶²See The HECO Companies' Opening Brief at 119.

²⁶³See The HECO Companies' Opening Brief at 119.

²⁶⁴See The HECO Companies' Opening Brief at 119.

²⁶⁵See The HECO Companies' Opening Brief at 119.

²⁶⁶See The HECO Companies' Opening Brief at 119.

cooling, and other appliances.²⁶⁷ HECO intends this program to work in parallel with the EPA's Energy Star® Program to "maximize the benefits of that national initiative."²⁶⁸ HECO will structure this program in a prescriptive format, where customers may choose one or more [E]nergy [E]fficiency measures from a list of approved measures.²⁶⁹ HECO states that "[a] market transformation initiative will be pursued for select equipment categories[,] including CFLs and high efficiency air conditioning."²⁷⁰

All existing HECO residential customers, including customers served on non-residential utility rates (i.e., master metered accounts) are eligible to participate in the ESH Program.²⁷¹ Residential building owners, including owners of apartment complexes and employee housing units, are eligible to participate.²⁷²

HECO intends to promote the CFL component of the ESH Program.²⁷³ Each customer will be eligible to receive up to

²⁶⁷On April 26, 2006, the commission issued Interim Decision and Order No. 22420 in this docket. Interim Decision and Order No. 22420 granted HECO, among other things, approval of an Interim ESH Program. The Interim ESH Program offers residential customers rebates on CFLs. HECO asserts that the Interim ESH Program is a subcomponent of the ESH Program. See The HECO Companies' Opening Brief at 29-31.

²⁶⁸The HECO Companies' Opening Brief at 121.

²⁶⁹See The HECO Companies' Opening Brief at 120.

²⁷⁰The HECO Companies' Opening Brief at 121.

²⁷¹See The HECO Companies' Opening Brief at 125.

²⁷²See The HECO Companies' Opening Brief at 125.

²⁷³See The HECO Companies' Opening Brief at 121.

three CFLs.²⁷⁴ However, HECO has not determined what the precise mechanism for delivery will be.²⁷⁵

HECO will focus on room air conditioners and central air conditioners for the air conditioning component of the ESH Program.²⁷⁶ HECO proposes to offer incentives that will cover 25 percent of the cost difference between the standard equipment and the high efficiency equipment that meets or exceeds recommended efficiency levels.²⁷⁷

For the high efficiency appliance component, HECO will offer incentives to encourage customers to purchase Energy Star® certified high efficiency appliances, which include refrigerators, clothes washers, and dishwashers.²⁷⁸ HECO proposes to offer incentives that will cover 25 percent of the cost difference between the standard equipment and the Energy Star® certified appliances.²⁷⁹ HECO will also be providing incentives

²⁷⁴See The HECO Companies' Opening Brief at 121.

²⁷⁵See The HECO Companies' Opening Brief at 121.

²⁷⁶See The HECO Companies' Opening Brief at 122.

²⁷⁷See The HECO Companies' Opening Brief at 122-23.

²⁷⁸HECO states that it will "offer incentives to encourage customers to purchase high efficiency appliances that are Energy Star[®] certified," which include "refrigerators, clothes washers, and electric clothes dryers." The HECO Companies' Opening Brief at 123. However, the commission notes that in Revised Exhibit 8 at 1, HECO states that Energy Star® appliances were assumed to be one of three possibilities: clothes washer, refrigerator, or dishwasher.

²⁷⁹See The HECO Companies' Opening Brief at 123-24.

for customers to install ceiling fans and for customers who elect to have their air conditioning equipment serviced.²⁸⁰

According to HECO, the levels of the customer incentives for the various energy efficient measures are "designed to balance the benefit of the savings to the cost of promoting the technology."²⁸¹ They take into account the level of savings of each particular measure and the duration of the savings, multiplied by the avoided costs.²⁸²

HECO states that its evaluation of the ESH Program will consist of impact and process evaluations.²⁸³ The impact evaluation will measure the actual energy use and load shape savings achieved for the program, taking into account market factors such as free-ridership and program spillover.²⁸⁴ The process evaluation will assess the program delivery effectiveness and customer perceptions of the program.²⁸⁵ HECO asserts that both the impact and process evaluations are data intensive and must be initiated after the program has been in operation for one or more years.²⁸⁶ HECO suggests a five-year evaluation period.²⁸⁷

²⁸⁰See The HECO Companies' Opening Brief at 124.

²⁸¹The HECO Companies' Opening Brief at 124.

²⁸²See The HECO Companies' Opening Brief at 124.

²⁸³See The HECO Companies' Opening Brief at 126.

²⁸⁴See The HECO Companies' Opening Brief at 126.

²⁸⁵See The HECO Companies' Opening Brief at 126.

²⁸⁶See The HECO Companies' Opening Brief at 126.

²⁸⁷See The HECO Companies' Opening Brief at 126.

h.

Description of the RCEA Program

HECO states that "[t]he primary objective of the RCEA Program is to determine if an aggressive customer communications program can change levels of residential customer awareness of energy options, encourage customers to adopt energy efficient appliances and behavior, and result in significant energy savings and peak load reduction."²⁸⁸

HECO's RCEA Program will consist of three tasks.²⁸⁹ The first task will be additional market research and a survey to determine the current level of energy awareness by residential customers.²⁹⁰ The second task will be the implementation of a multi-faceted communications program.²⁹¹ The third task will be a final survey of residential customers to test their then current level of energy awareness.²⁹² HECO anticipates that the final survey will be similar, if not identical, to the initial survey.²⁹³

²⁸⁸Revised Application, filed on October 7, 2004, in Docket No. 03-0142, at 3-4, and HECO T-11, filed on November 12, 2004, in Docket No. 04-0113, at 57.

²⁸⁹See Revised Application, filed on October 7, 2004, in Docket No. 03-0142, at 3-4.

²⁹⁰See Revised Application, filed on October 7, 2004, in Docket No. 03-0142, at 3-4.

²⁹¹See Revised Application, filed on October 7, 2004, in Docket No. 03-0142, at 3-4.

²⁹²See Revised Application, filed on October 7, 2004, in Docket No. 03-0142, at 3-4.

²⁹³See Revised Application, filed on October 7, 2004, in Docket No. 03-0142, at 3-4.

HECO believes that "there is a relationship between customer awareness of practical steps to implement [E]nergy [E]fficiency and the actual reduction in energy use and peak demand."²⁹⁴ However, HECO "is not sure how effective any particular media message is in accomplishing actual reductions" and asserts that the pilot program has been designed to collect that information.²⁹⁵ HECO states that "without this information[,] there is no basis for developing an expected level of achievement for this program at this time."²⁹⁶

According to HECO, it will track the energy profiles of 70 residential customers who participated in the company's recent Class Load Study or who are participating in the Schedule TOU-R Residential Time-of-Use Service Pilot Program to determine whether the media message has an impact on customer energy usage.²⁹⁷ HECO believes that this sample of customers should enable the company to determine whether residential customers are changing their patterns of electricity use in response to media messages.²⁹⁸

²⁹⁴Revised Application, filed on October 7, 2004, in Docket No. 03-0142, at 4-5.

²⁹⁵Revised Application, filed on October 7, 2004, in Docket No. 03-0142, at 4-5.

²⁹⁶Revised Application, filed on October 7, 2004, in Docket No. 03-0142, at 4-5; HECO T-11, filed on November 12, 2004, in Docket No. 04-0113, at 58.

²⁹⁷See Revised Application, filed on October 7, 2004, in Docket No. 03-0142, at 5.

²⁹⁸See Revised Application, filed on October 7, 2004, in Docket No. 03-0142, at 5.

HECO is not claiming energy and peak demand savings as a result of this program.²⁹⁹ One of the key objectives during the conduct of this program will be to measure the reduction in energy use and peak demand resulting from this type of communications and public outreach campaign targeted at the residential sector. HECO is not aware of historical studies from which savings impact estimates can be made.³⁰⁰

2.

Analysis of Energy Efficiency DSM
Programs and RCEA Program on Portfolio Basis

The commission next examines whether HECO's Proposed Energy Efficiency DSM Programs should be evaluated on an individual program basis or on a portfolio basis. HSEA states that "the focus in these proceedings should be on the cost-effectiveness and equity of the entire portfolio of DSM programs."³⁰¹ In addition, RMI expresses concern that HECO's estimates of the cost-effectiveness of each individual program are not correct or defensible.³⁰²

²⁹⁹See HECO T-11, filed on November 12, 2004, in Docket No. 04-0113, at 58.

³⁰⁰See HECO T-11, filed on November 12, 2004, in Docket No. 04-0113, at 58.

³⁰¹HSEA states, for example, that the benefits and program equity provided by the REWH and RNC Programs to Schedule "R" customers outweigh their "conventionally defined" costs (i.e., Schedule "R" ratepayers have few options other than solar water heating to save significant amounts of energy and money, while providing other "important system benefits"). See HSEA Reply Brief at 19-20.

³⁰²RMI Opening Brief at 26.

With respect to the RCEA Program, HECO states that: (1) it "is not claiming energy and peak demand reductions from the RCEA Program," and (2) "since there are no claimed savings for this program, there were only costs represented and thus no [benefit-to-cost] ratios are represented for this program."³⁰³ The commission also notes HECO's statement that "[t]he RCEA Program costs are not included in [the] total DSM program costs because HECO requested the [c]ommission's approval in the rate case to include additional informational advertising costs in base rates as a replacement for the RCEA Program."³⁰⁴ Thus, the benefit-to-cost ratios for the RCEA Program, from any perspective, are not in the docket record.

Given the above, the commission will evaluate HECO's Proposed Energy Efficiency DSM Programs by focusing on the cost-effectiveness and equity of the entire portfolio of DSM programs ("Energy Efficiency Portfolio"). The commission considers the Energy Efficiency Portfolio to include the CIEE, CINC, CICR, REWH, RNC, RLI, ESH, and RCEA Programs. However, for purposes of the cost-effectiveness analysis, the commission will not include the RCEA Program as part of the Energy Efficiency Portfolio.

³⁰³HECO T-11, filed on November 12, 2004, in Docket No. 04-0113, at 58 and 60.

³⁰⁴The HECO Companies' FSOP at 53.

3.

Energy Efficiency Portfolio and Energy Efficiency Goals

As discussed in section III.A.8., supra, the commission set HECO's Energy Efficiency goals based on HECO's representations of the peak demand and energy savings that the Energy Efficiency Portfolio could and would achieve. Therefore, the commission fully expects HECO's proposed programs to meet the Energy Efficiency goals.

4.

Cost-Effectiveness of Energy Efficiency Portfolio

The IRP Framework requires that the cost-effectiveness of DSM programs be analyzed from varying perspectives: the utility cost ("UC") perspective, the rate impact measure ("RIM") perspective, the participant impact ("PI") perspective, the societal cost ("SC") perspective, and the total resource cost ("TRC") perspective.³⁰⁵ The UC perspective considers "the cost to the utility (including ratepayers), excluding costs incurred by participants in a [DSM] program."³⁰⁶ The RIM perspective considers "the impact on ratepayers in terms of the utility rates that ratepayers must pay."³⁰⁷ The PI perspective considers "the impact on participants in a [DSM] program in terms of the costs borne and the direct, economic benefits received by the

³⁰⁵ See IRP Framework, section IV, part H, at 22.

³⁰⁶ IRP Framework, section I, at 3 (defining "Utility cost").

³⁰⁷ IRP Framework, section I, at 3 (defining "Ratepayer impact").

participation."³⁰⁸ The SC perspective considers the "total direct and indirect costs to society as a whole. Society includes the utility and, in a [DSM] program, the participants."³⁰⁹ The TRC perspective considers the "total cost of a [DSM] program, including both the utility and participants' costs."³¹⁰

HECO states that "the DSM programs should have positive net benefits according to both the UC and TRC perspectives to be considered 'cost effective.'"³¹¹ HECO further believes that "the non-quantifiable benefits of DSM programs identified in the IRP process should also be considered," such that "while the results of all the tests should be examined, programs should not necessarily have to pass all of the cost-effectiveness tests in order to be implemented."³¹² In evaluating whether the

³⁰⁸IRP Framework, section I, at 2 (defining "Participant impact").

³⁰⁹IRP Framework, section I, at 3 (defining "Societal cost").

³¹⁰IRP Framework, section I, at 3 (defining "Total resource cost").

³¹¹HECO states that the UC benefit-to-cost ratio is equal to the ratio of the total discounted benefits (i.e., the net present value of the avoided supply costs of energy and demand) to the total discounted program costs (i.e., the net present value of the program costs incurred by the utility, including the incentives paid to customers). HECO further states that the TRC benefit-to-cost ratio is equal to the ratio of the total discounted benefits to the total discounted utility and participant costs (i.e., the net present value of the costs incurred by the utility and participants, taking into account tax credits received by participants). HECO asserts that in the TRC test, the incentives paid to customers are "transfer" costs (i.e., the incentives increase the utility's cost, but decrease the participant's cost). See The HECO Companies' Opening Brief at 54.

³¹²The HECO Companies' Reply Brief at 36-37. In general, HECO evaluates the cost-effectiveness of a DSM program or portfolio of programs based on benefit-to-cost ratios of the Participant, UC,

Energy Efficiency Portfolio will be implemented in a cost effective manner, the commission will look at the benefit-to-cost ratios from the various perspectives, giving the most weight to the TRC perspective's benefit-to-cost ratios.³¹³ Additionally, the commission will consider any non-quantifiable benefits brought to light.

During the course of these proceedings, HECO filed numerous benefit-to-cost analyses. The latest filings are as follows:

- (1) On August 24, 2006, HECO filed Exhibit 10, which was subsequently re-characterized by RMI and submitted by RMI as RMI Exhibit B in the Panel Hearings on August 29, 2006.³¹⁴ RMI Exhibit B shows TRC, UC, RIM, and PI test benefit-to-cost ratios of 1.22, 2.42, 0.44, and 3.07, respectively.³¹⁵
- (2) On November 3, 2006, HECO filed Exhibit A, which responded to the Consumer Advocate's concerns regarding HECO's benefit-to-cost ratio for the Participant test. The results for the

TRC, and RIM tests. HECO asserts that for purposes of its DSM programs, the cost-effectiveness tests follow the California Standard Practice Manual: Economic Analysis of Demand-side Programs and Projects. See id. at 36.

³¹³See In re Kauai Electric Division of Citizens Utilities Co., Docket No. 94-0337, Decision and Order No. 15733, filed on August 5, 1997, at 17 (stating that "the TRC test is the primary basis for determining the preferred integrated resource plan").

³¹⁴See Tr. Vol. II at 387 (Freedman). RMI explains that RMI Exhibit B is a printout made from an electronic spreadsheet of Exhibit 10, page 1 that was provided by HECO. RMI states that the difference between the two is that in Exhibit B, RMI adds a line in each cost-effectiveness test results section that subtotals the benefits, costs, and ratios for the Energy Efficiency programs only, and leaves out the separate total for the entire portfolio of DSM programs, which includes the RDLIC and CIDLC programs. See id.

³¹⁵See RMI Hearing Exhibit B.

TRC, UC, RIM, and PI test benefit-to-cost ratios were 1.22, 2.42, 0.44, and 3.92, respectively.³¹⁶

- (3) On November 3, 2006, HECO filed Exhibit B, which is an alternative calculation of avoided capacity costs in which the avoided capacity costs were limited to the value of a proxy combustion turbine.³¹⁷ The results for the TRC, UC, RIM, and PI test benefit-to-cost ratios were 1.24, 2.47, 0.45, and 3.92, respectively.³¹⁸

HECO explains that: (1) the benefits include the net present value of the generating capacity and energy costs avoided by the DSM programs, while the costs are direct program or participant costs, and (2) the standard cost-effectiveness tests do not include non-quantifiable benefits such as customer equity, environmental and cultural benefits, and the contribution to

³¹⁶See HECO Exhibit A at 1, filed on November 3, 2006 (revising The HECO Companies' Opening Brief, pages 61 and 62). The Consumer Advocate argues that HECO's November 3, 2006 filing is untimely. See Consumer Advocate Reply Brief at 26. In particular, the Consumer Advocate states that HECO uses "the late-filed exhibits to suggest a result that would produce substantially more compensation than the Company is requesting. Clearly, the Company seeks to have its proposed incentives evaluated by the [c]ommission in this context." See *id.* at 27 (citation omitted). To address the Consumer Advocate's concern regarding HECO's November 3, 2006 filing, the commission will evaluate whether HECO's proposed incentives are reasonable in the context of HECO's original filing. However, for purposes of goal-setting and evaluating cost-effectiveness, the commission will utilize HECO's revised numbers to the extent that these numbers inform the commission.

³¹⁷In this calculation, the difference between the avoided capacity costs for the coal unit and the proxy combustion turbine is added to the avoided energy costs, so that total avoided costs remain the same.

³¹⁸See HECO Exhibit B at 1, filed on November 3, 2006 (providing an alternative calculation and supporting explanation of The HECO Companies' Opening Brief, pages 57-60).

the Renewable Portfolio Standards.³¹⁹ HECO asserts that the DSM program benefit-to-cost ratios indicate that, with few exceptions, the proposed programs are cost-effective.³²⁰ HECO explains that Energy Efficiency programs typically fail to pass the RIM test because those programs reduce energy sales and the fixed costs of the utility will then have to be spread over fewer kWh, increasing the per kWh price of electricity.³²¹ In addition, HECO notes that it did not provide SC perspective ratios because social costs are "difficult to quantify" and the quantification is generally "contentious."³²²

There were several concerns identified with HECO's cost-effectiveness analysis. The EPA and its consultants believe that "some of the savings assumptions may need to be slightly adjusted depending on new manufacturing standards, particularly for [Heating, Ventilating, and Air Conditioning ("HVAC")] systems that are subject to changing federal

³¹⁹See The HECO Companies' Reply Brief at 35-36. HECO observes that there are different economic effects of the DSM programs on participants and non-participants. HECO believes that those differences occur because participants receive DSM program rebates for their financial investment in eligible energy conservation measures, and benefit from lower energy bills that result from energy savings. HECO notes that program costs are recovered from participants and non-participants and both receive the long-term energy and capacity deferral benefits that result from the DSM programs. HECO states that it "recognizes that the difference in economic effects exists and has intentionally developed a wide-ranging array of DSM measures under its existing and proposed DSM programs . . . in order to provide the large majority of customers with opportunities to participate." Id. at 37.

³²⁰See The HECO Companies' Opening Brief at 56.

³²¹See The HECO Companies' Opening Brief at 54-55.

³²²The HECO Companies' Reply Brief at 36 n.34.

standards."³²³ The Consumer Advocate states that HECO's PI benefit-to-cost ratios were lower than they should be.³²⁴ Thus, the Consumer Advocate recommends that HECO file accurate cost-effectiveness results for all four of the tests "as soon as possible."³²⁵ In addition, the Consumer Advocate states that although HECO's use of calculations based on the proxy combustion turbine eliminates some of the problems noted when the calculations were based on a coal plant, the energy cost of a combustion turbine may differ significantly from HECO's system energy costs, and some "fairly significant swings in avoided cost still exist."³²⁶ RMI states that "HECO's analyses are not sufficient to accurately determine the cost effectiveness of each of its DSM programs due to problems with allocation of gross portfolio lifetime benefits to the individual programs."³²⁷ RMI identifies the following faults: (1) "failure to account for the negative stream of avoided capacity cost impacts in the end-effects period of the differential revenue requirement analysis," (2) "a mismatch of portfolio kWh and kW program impacts used to determine unit energy and capacity avoided costs . . . and the impacts used to calculate gross impacts," and

³²³EPA Report at 2-3.

³²⁴See Consumer Advocate Opening Brief at 55.

³²⁵Consumer Advocate Opening Brief at 54-55; see also Consumer Advocate Reply Brief at 33.

³²⁶Consumer Advocate Reply Brief at 36.

³²⁷RMI Opening Brief at 26 n.12.

(3) "remaining inconsistencies in the application of program impacts on the sales and system levels."³²⁸

Nonetheless, the Consumer Advocate essentially recommends deferring the determination of cost-effectiveness,³²⁹ and the EPA, RMI, HSEA, and HREA support a finding that some or all of HECO's proposed programs are cost-effective. The EPA states that it and its consultants believe that the "proposed programs are generally well designed and are cost-effective."³³⁰ RMI states that "[d]espite several shortcomings, there is a preponderance of evidence that HECO's proposed portfolio of [E]nergy [E]fficiency programs is cost effective and that the portfolio of programs will prove to be consistent with HECO's IRP objectives."³³¹ HREA believes that "there is good support for the [c]ommission to approve the seven proposed HECO DSM programs with certain conditions, e.g., conditioned upon HECO's expediting measures in the short-term to reduce projected capacity

³²⁸RMI Reply Brief at 5-6.

³²⁹The Consumer Advocate states:

While the Consumer Advocate recommends implementing the proposed DSM programs with the exception of the RCEA [P]rogram, it is not possible to determine whether the seven (7) proposed DSM programs represent the lowest reasonable cost option for meeting HECO's customer's energy needs. Rather than litigate the reasonableness of the proposed programs in the instant proceeding, the process employed by HECO to select the programs should be discussed for development of HECO's 4th IRP.

Consumer Advocate Opening Brief at 10.

³³⁰EPA Report at 18.

³³¹RMI Opening Brief at 25 (footnote omitted).

shortfalls."³³² HSEA states that "[t]he overall portfolio of DSM programs is already conventionally cost effective; even more so in light of oil prices in a trading range of roughly \$60-75 [per barrel of] oil."³³³

The commission also notes HECO's representations that (1) the "capacity deferral from the [Energy Efficiency Portfolio] represents 19.6 megawatts (net system level) in the first year, growing to 85.9 megawatts by the fifth year of the [Energy Efficiency Portfolio]" and (2) "[t]he programs include components designed to transform the market for [E]nergy [E]fficiency products and services[,] such that over the long term the market will supply these products and services without the need for utility participation."³³⁴

Here, there is sufficient evidence to conclude that, for the purpose of this docket, the Energy Efficiency Portfolio, consisting of the CIEE, CINC, CICR, REWH, RNC, RLI, and ESH programs, appears to be cost-effective as a whole. Indeed, the commission observes that, with the exception of the RIM test, the Energy Efficiency Portfolio's benefit-to-cost ratios for the TRC, UC, and PI tests in all scenarios were above one. In addition, the commission finds that the Energy Efficiency Portfolio offers a broad selection of DSM measures that enables customers a broad opportunity to participate. The DSM measures range from very specific, common end uses (i.e., lighting, HVAC, water heating,

³³²HREA Reply Brief at 13.

³³³HSEA Reply Brief at 23.

³³⁴The HECO Companies' Reply Brief at 20-21.

electric appliances, etc.) to the very broad end uses (i.e., customized projects). This Energy Efficiency Portfolio, in addition to offering DSM programs that the commercial and industrial customers may participate in (i.e., the CIEE, the CINC, and the CICR Programs), also expands the number of DSM programs that residential customers may participate in (e.g., the RNC and ESH programs). Moreover, the Energy Efficiency Portfolio will now give low income residential customers the opportunity to participate in DSM (i.e., the RLI Program). Accordingly, the commission finds that the Energy Efficiency Portfolio appears to be cost-effective as a whole.

5.

Approval of the Modified 50% Exclusion Rule

By Decision and Order No. 14638, filed on April 22, 1996, in Docket Nos. 94-0010, 94-0011, and 94-0012 ("Decision and Order No. 14638"), the commission approved HECO's 50% Exclusion Rule. The 50% Exclusion Rule dictates that customers who provide over 50 percent of their electrical requirements by self- or co-generation, or who take service from a supplier other than HECO be excluded from participating in HECO's DSM programs. Additionally, customers that receive incentives and subsequently install self- or co-generation to serve more than 50 percent of their electrical requirements, or elect to take service from a supplier other than HECO, are then required to return prorated portions of the incentives.

HECO proposes to modify the 50% Exclusion Rule to make DSM incentives available to customers who, at the time the measures are installed, are purchasing more than 50 percent of their electrical energy requirements from HECO (i.e., the aforementioned "Modified 50% Exclusion Rule"). Thus, if the customer, following investments in Energy Efficiency, installs self- or co-generation at some future date, HECO will not require that customer to refund the customer incentive. However, if HECO knows that a customer has a binding contract to install self- or co-generation at the time the DSM measures are installed, then the Modified 50% Exclusion Rule will apply.³³⁵ The Modified 50% Exclusion Rule will apply retroactively as follows:

- (1) Customers who receive incentives for DSM measures prior to the installation of self- or co-generation will not be required to refund the paid-out incentives, ensuring that the treatment of customers who have installed or will install self- or co-generation in the future are treated similarly. Incentive refunds made by customers, if any, resulting from the existing policy will be credited back to customers.
- (2) Customers who did not receive DSM incentives because of a stated intention to self- or co-generate more than 50 percent of their electricity consumption at some time in the future, and who have not installed self- or co-generation, may apply for DSM incentives.
- (3) Customers who did not receive DSM incentives because of a stated intention to self- or co-generate more than 50 percent of their electricity consumption at some time in the future, and who did install self- or co-generation that is more than

³³⁵ See The HECO Companies' Opening Brief at 71.

50 percent of their electrical needs[,]
shall not receive DSM incentives.
HECO believes that in this case there is
no uncertainty that the customer does,
in fact, self- or co-generate more than
50 percent of its electrical needs.³³⁶

HECO asserts that the Modified 50% Exclusion Rule addresses three issues that surfaced with respect to program implementation: (1) treatment of utility versus non-utility CHP,³³⁷ (2) establishment of the base level of consumption,³³⁸ and (3) self-generated renewable energy.³³⁹ HECO asserts that the modifications:

³³⁶The HECO Companies' Opening Brief at 72-73.

³³⁷HECO, in Docket No. 03-0366, requested approval of a utility CHP Program in which a customer could purchase electricity and thermal energy from a utility owned and operated CHP unit located in close proximity to the customer's facility. Since a customer participating in HECO's CHP Program would continue to purchase a portion of its electricity from the utility, a customer with a utility CHP unit would be treated differently from a customer with a third-party CHP unit under the existing DSM customer incentive policy. Thus, HECO avers that it proposed to modify the DSM customer incentive policy to treat utility CHP and third-party CHP similarly. See The HECO Companies' Opening Brief at 71.

³³⁸HECO asserts that a problem occurred when a customer was considering the installation of DSM measures now with the possibility of installing self-generation at some future point in time. HECO explains that because the customer was considering self-generation, under the prior DSM customer incentive rules HECO could not assure the customer that the DSM customer incentive would not be partly refundable. HECO believes that this uncertainty had the potential to result in the DSM measures not being installed, even if the customer eventually decided against self-generation. See The HECO Companies' Opening Brief at 72.

³³⁹See The HECO Companies' Opening Brief at 71. HECO states that the Modified 50% Exclusion Rule addresses self-generated renewable energy as follows: the 50 percent exclusion does not apply to customers who use renewable energy (i.e., solar, biomass, or wind) to meet the majority of their load requirements. For this purpose, the thermal energy of CHP units is not included because the Modified 50% Exclusion Rule is based

- (1) reflect changes in the energy market that have occurred since the inception of HECO's DSM programs,
- (2) help increase the effectiveness of HECO's existing DSM programs,
- (3) eliminate the uncertainty created by the existing retroactive incentive refund provision, and
- (4) remove any disincentive for renewable energy[,] which might exist due to the exclusion clause in the existing DSM programs.³⁴⁰

HECO further asserts that the modifications "remove a significant disincentive to self- and co-generation by not requiring retroactive DSM incentive refunds and provide for similar treatment of utility and non-utility CHP."³⁴¹

Based on HECO's above representations, the commission approves HECO's request to apply the Modified 50% Exclusion Rule to the applicable DSM programs.

G.

Issue 7: Cost Recovery for DSM Programs

1.

Appropriate Cost Level for
Utility-Incurred Costs to Be Included in Base Rates

As indicated in section III.C.2., supra, under the Utility Market Structure, labor costs shall be recovered through

on the electrical energy provided by alternative energy sources, and HECO believes that it should not have to analyze all energy sources (electrical and non-electrical) in order to process DSM applications. See id. at 72.

³⁴⁰The HECO Companies' Opening Brief at 73.

³⁴¹The HECO Companies' Opening Brief at 73.

base rates and all other DSM-related utility-incurred costs shall be recovered through a surcharge. With respect to the appropriate cost level for utility-incurred costs to be included in base rates (i.e., labor costs),³⁴² such decisions are more appropriately considered in the applicable rate case dockets. Therefore, the commission does not opine in this docket on the appropriate cost level for labor costs to be included in base rates.

2.

Transition Mechanism for Cost
Recovery Until the Next General Rate Cases

Next, the commission considers the transition mechanism for cost recovery until the HECO Companies' next general rate cases. Again, as indicated in section III.C.2., supra, under the Utility Market Structure, labor costs shall be recovered through base rates and all other DSM-related utility-incurred costs shall be recovered through a surcharge. Under the Non-Utility Market Structure, cost recovery will be through the PBF surcharge. The commission is cognizant that a transition mechanism may be necessary to properly provide cost recovery to the utilities, while protecting the interests of ratepayers. For example, it may be necessary to collect the Utility Market Structure surcharge and the Non-Utility Market Structure PBF surcharge at

³⁴²RMI, for example, asserts that labor expenses should be limited to "DSM related positions that, as of the date of the beginning of the rate case test year, have already been established and filled for a period of time sufficient to demonstrate that the positions are necessary and ongoing in nature." RMI Opening Brief at 9 (underlining omitted); RMI Reply Brief at 8.

the same time during the period when the Utility Market Structure remains in operation and the Non-Utility market Structure is being established. As the precise timing of the transition from the Utility Market Structure to Non-Utility Market Structure, and the dates of the relevant general rate cases, are unknown to the commission at this time, it would be more appropriate to defer decisions regarding the cost recovery transition mechanism to a later date when there are fewer unknown variables. Therefore, the commission does not opine in this docket on the appropriate transition mechanism for cost recovery, if any, between the Utility Market Structure and the Non-Utility Market Structure.

H.

Issue 8: Proposed DSM Utility Incentive

Next, the commission considers whether HECO's proposed DSM utility incentive is reasonable. HECO proposes a DSM utility incentive based on 5% of the net system benefits, with net system benefits equal to the net present value of the energy savings and load reductions acquired, less program costs.³⁴³ Under HECO's proposal, the utility would receive no incentive compensation if it achieves less than 80% of the Energy Efficiency goals, incentives would be capped at \$4 million before tax per year, and

³⁴³See The HECO Companies' Reply Brief at 75-76.

the incentives would be paid on a prospective basis, trued-up in the following year for actual achievements.³⁴⁴

As discussed in section III.E.1., supra, DSM utility incentives are appropriate to encourage the HECO Companies' implementation of DSM programs. Thus, the commission will utilize a shared savings mechanism, limited to the authorized rate of return for supply-side investments, as discussed in sections III.E.1.a. and b., supra. In addition, we agree with the EPA in concept that the incentive should offer a moderate share of savings proposed combined with a performance target:

- Where incentives are based on net DSM benefits, the incentive is calculated based on every unit of TRC achieved (not just above the target)[.]
- Utilities have a minimum performance level that they must exceed before they are eligible for an incentive award. This level is typically set at some level below the utility's DSM target[.]
- The metric for minimum performance level is often different than the metric upon which the incentive payment is based. For example, the minimum performance level may be based on energy savings, whereas the incentive payment level may be based on net DSM benefits.³⁴⁵

Accordingly, the commission establishes the following DSM Utility Incentive Mechanism for HECO. The DSM Utility Incentive Mechanism will be calculated based on net system

³⁴⁴See The HECO Companies' Reply Brief at 75-76. RMI supports HECO's incentive proposal, but recommends that incentives be further limited to no more than the utility earnings opportunities foregone by implementing DSM programs in lieu of supply-side rate based investments. See RMI Opening Brief at 3, 16; RMI Reply Brief at 10.

³⁴⁵EPA Report at 32.

benefits (less program costs), limited to no more than the utility earnings opportunities foregone by implementing DSM programs in lieu of supply-side rate based investments, capped at \$4 million, subject to the following performance requirements and incentive schedule. As indicated in section III.E.1.c., supra, the commission is not requiring negative incentives. In order to encourage high achievement, HECO must meet or exceed the megawatt-hour and megawatt Energy Efficiency goals for both the commercial and industrial sector, and the residential sector, established in section III.A., supra, for HECO to be eligible for a DSM utility incentive. If HECO fails to meet one or more of its four Energy Efficiency goals, see supra section III.A.8., HECO will not be eligible to receive a DSM utility incentive. Upon a determination that HECO is eligible for a DSM utility incentive, the next step will be to calculate the percentage by which HECO's actual performance meets or exceeds each of its Energy Efficiency goals. Then, these four percentages will be averaged to determine HECO's "Averaged Actual Performance Above Goals." Finally, HECO will be awarded a DSM utility incentive in accordance with the following DSM Utility Incentive Schedule:

DSM UTILITY INCENTIVE SCHEDULE	
Averaged Actual Performance Above Goals	DSM Utility Incentive (% of Net System Benefits)
Meets goal:	1% of net system benefits
Exceeds goal by 2.50%:	2% of net system benefits
Exceeds goal by 5.00%:	3% of net system benefits
Exceeds goal by 7.50%:	4% of net system benefits
Exceeds goal by 10.00% (or more):	5% of net system benefits

Except in describing the Energy Efficiency goals and actual performance in terms of megawatt-hours (with no decimal places), and megawatts (with three decimal places), no rounding will occur at any point in the determination of the appropriate percentage of net system benefits to apply as the DSM utility incentive.

In order to illustrate HECO's DSM Utility Incentive Mechanism, the commission provides the following example. Assume that HECO's 2007 actual total gross commercial and industrial energy savings is 100,893 megawatt-hours, HECO's 2007 actual total gross residential energy savings is 50,553 megawatt-hours, HECO's 2007 actual total gross commercial and industrial demand savings is 13.416 megawatts, and HECO's 2007 actual total gross residential energy savings is 14.016 megawatts:

Example of DSM Utility Incentive Mechanism

Energy Efficiency Energy Savings (MWh)	2007 Goal (MWh)	2007 Actual Performance (MWh)	Energy Efficiency Goal Met?	Actual Performance Above 2007 Goal (%)
Commercial and Industrial				
CIEE	46,757	65,104		
CINC	19,540	19,323		
CICR	25,252	16,466		
Total Gross Energy Savings	91,549	100,893	Yes	10.21%
Residential				
ESH	30,745	25,323		
REWH	7,533	8,501		
RNC	7,008	9,213		
RLI	5,267	7,516		
Total Gross Energy Savings	50,553	50,553	Yes	0.00%
Energy Efficiency Energy Savings (MW)	2007 Goal (MW)	2007 Actual Performance (MW)	Energy Efficiency Goal Met?	Actual Performance Above 2007 Goal (%)
Commercial and Industrial				
CIEE	6.878	6.873		
CINC	2.864	2.922		
CICR	3.299	3.621		
Total Gross Demand Savings	13.041	13.416	Yes	2.88%
Residential				
ESH	8.164	9.115		
REWH	1.728	1.357		
RNC	2.262	3.335		
RLI	1.182	0.209		
Total Gross Demand Savings	13.336	14.016	Yes	5.10%
AVERAGED ACTUAL PERFORMANCE ABOVE GOALS				4.55%
DSM UTILITY INCENTIVE (% OF NET SYSTEM BENEFITS)				2.00%

As demonstrated by the foregoing chart, HECO would have met or exceeded all of its Energy Efficiency goals, and would therefore be eligible to receive utility incentives. Using the commission's estimates for HECO's gross Energy Efficiency goals, described in discussion section III.A.9., supra, in this example, HECO exceeds its commercial and industrial Energy Efficiency megawatt-hour goal by 10.21%, meets its residential Energy Efficiency megawatt-hour goal, exceeds its commercial and industrial Energy Efficiency megawatt goal by 2.88%, and exceeds its residential Energy Efficiency megawatt goal by 5.10%. Thus, HECO's Averaged Actual Performance Above Goals would be 4.55% $((10.21\% + 0.00\% + 2.88\% + 5.10\%) \div 4 = 4.55\%)$. Finally, using the DSM Utility Incentive Schedule, HECO would be entitled to receive 2.00% of net system benefits (less program costs), which would be limited to no more than the utility earnings opportunities foregone by implementing DSM programs in lieu of supply-side rate based investments, and capped at \$4 million before taxes. In light of the asymmetrical structure of the incentives (i.e., that HECO may obtain positive incentives, but will not be subject to negative incentives), and the requests granted in section III.I., infra, the Commission finds that the above schedule is fair and appropriate.

I.

Issue 9: Approval of DSM Programs

The Energy Efficiency programs are described in section III.F., supra. HECO requests commission approval of the

Energy Efficiency DSM Programs (i.e., CIEE, CINC, CICR, REWH, RNC, RLI, and ESH programs) in this docket.³⁴⁶ In addition, HECO requests that if HECO's proposal for additional informational advertising funds in the Rate Case Docket are not considered, that the commission approve the RCEA Program in this docket.³⁴⁷

1.

Approval of the Proposed Energy Efficiency DSM Programs

HECO's recommendation for commission approval of its Energy Efficiency DSM Programs (i.e., CIEE, CINC, CICR, REWH, RNC, RLI, and ESH programs) is based on its assertions that the programs:

- (1) are an essential component of HECO's preferred plan developed through its IRP-3 process,
- (2) are necessary in order to provide HECO with additional megawatts of peak demand savings in order to help address its current reserve capacity situation,
- (3) provide opportunities for customers to better manage their energy consumption and their monthly bills,
- (4) reduce fossil fuel use,
- (5) incrementally develop the technology delivery infrastructure, thereby promoting transformation of some sectors of technology services,
- (6) inject capital into the economy, improving economic development within Hawaii, and
- (7) are cost-effective as a portfolio of DSM resources, meaning that the system

³⁴⁶See The HECO Companies' Reply Brief at 15.

³⁴⁷See section III.F., supra.

benefits derived from these [E]nergy [E]fficiency programs are greater than the costs of the programs.³⁴⁸

The Consumer Advocate, RMI, HREA, HSEA, and LoL are in agreement that the CIEE, CINC, CICR, REWH, RNC, RLI, and ESH programs should be approved by the commission.³⁴⁹ Most of the Parties urge the commission to approve HECO's Energy Efficiency DSM programs due to HECO's asserted reserve capacity shortfall situation.³⁵⁰ The Consumer Advocate explains, "[t]he seven (7) proposed DSM programs should be authorized for implementation because of HECO's critical need for an adequate generating reserve margin and the importance of such margin to HECO's ability to reliably serve its customers."³⁵¹ In addition, the Consumer Advocate notes that "each of HECO's proposed DSM programs is similar in design to programs that have been and

³⁴⁸The HECO Companies' FSOP at 80-81.

³⁴⁹See Consumer Advocate Opening Brief at 69 (recommending that all of HECO's proposed DSM programs, with the exception of the RCEA Program, should be approved by the commission for implementation); RMI Opening Brief at 22 (underlining and bolding omitted) (stating that "HECO should be given permission to proceed with its proposed programs but explicitly subject to ongoing review by the [c]ommission"); HSEA Reply Brief at 8, 19 (supporting the expedited approval of HECO's proposed DSM programs); HREA Reply Brief at 13 (supporting "extensions of HECO's seven programs on an interim, expedited basis," and stating that "[c]ontinuation of these programs would then be contingent upon the administrative responsibilities that HECO would retain in the long-run"); LoL Opening Brief (unnumbered) at 5 (recommending short run approval of all of the programs).

³⁵⁰See Consumer Advocate Opening Brief at 59 (citing "HECO's urgent reserve capacity needs"); HSEA Reply Brief at 8, 19 (citing HECO's "severe reserve capacity shortfall, and the persistence of this problem until at least 2009"); HREA Reply Brief at 13 (citing HECO's "projected capacity shortfalls").

³⁵¹Consumer Advocate Opening Brief at 10.

are being implemented at other utilities throughout the country."³⁵²

As stated previously, the commission finds that there is sufficient evidence to conclude that, for the purposes of this docket, the Energy Efficiency Portfolio (excluding the RCEA Program) should achieve Energy Efficiency goals and should be implemented in a cost-effective manner.

The commission also finds that the Energy Efficiency DSM programs are necessary to provide HECO with additional megawatts of peak demand savings to help address its current reserve capacity shortfall. The commission's finding is based on HECO's most recent Adequacy of Supply ("AOS") report dated March 6, 2006, which asserts the following:

- HECO projects reserve capacity shortfalls³⁵³ between 170 to 200 MW in the 2006-2009 period, which is larger than the 50 to 70 MW shortfalls projected in the 2005 AOS report.
- HECO performed a sensitivity analysis using better-than-expected equivalent forced outage rates, and reserve capacity shortfalls between 120 to 160 MW resulted.
- HECO performed a sensitivity analysis using lower-than-expected peak loads, and reserve capacity shortfalls between 110 to 140 MW resulted.

³⁵²Consumer Advocate Opening Brief at 69.

³⁵³HECO defines "reserve capacity shortfall" as "the amount of additional firm generating capacity or equivalent reductions in load from [L]oad [M]anagement and [E]nergy [E]fficiency [DSM] programs and/or [CHP] installations needed to restore the generating system reliability above HECO's reliability guideline." Hawaiian Electric Company, Inc., Adequacy of Supply, dated March 6, 2006, at 2.

- HECO performed a sensitivity analysis using lower-than-expected DSM, and reserve capacity shortfalls between 180 and 240 MW resulted.
- The magnitude of the reserve capacity shortfalls are large, about the size of the largest generating unit on Oahu, and indicate that the likelihood for continued calls for public conservation and/or generation related outages will increase.³⁵⁴

HECO concluded in its March 6, 2006 AOS report that, among other things, "[u]ntil sufficient generating capacity can be added to the system, HECO will experience a higher risk of generation-related customer outages, and more frequent, longer duration reserve capacity shortfalls."³⁵⁵

Based on the foregoing, there is sufficient evidence to approve all of HECO's Proposed Energy Efficiency DSM Programs (i.e., the CIEE, CINC, CICR, REWH, RNC, RLI, and ESH programs) subject to the modifications to the CINC and CICR Programs described below. In approving HECO's Proposed Energy Efficiency DSM Programs, the commission expressly states that it is not approving any particular program cost, and reserves such decisions for the existing cost recovery process.

³⁵⁴Hawaiian Electric Company, Inc., Adequacy of Supply, dated March 6, 2006, at 9-10.

³⁵⁵Hawaiian Electric Company, Inc., Adequacy of Supply, dated March 6, 2006, at 38.

a.

Proposed Modifications to the CIEE Program

RMI recommends two modifications for the CIEE Program. First, RMI suggests that the utility be allowed to use its capital to put in the entire measure (e.g., the efficient technology itself, such as the HVAC, chiller, or lighting) and earn a return on capital by leasing the equipment to the customer ("RMI Financing Proposal").³⁵⁶ RMI believes that this, in essence, is "a variation on financing, with lower incentive cost."³⁵⁷ In response, HECO states that "this arrangement, however, would essentially create 'regulatory assets,' whereby the utility's customers would own equipment, the underlying debt for which would be kept on the utility's books."³⁵⁸ HECO further states that "[t]he creation of regulatory assets [in this manner] should generally be avoided."³⁵⁹ The commission agrees with HECO, and determines that it will not implement RMI's Financing Proposal.

Second, RMI suggests that the threshold of eligibility be changed so that "the customers must purchase at least as much power from HECO as they are seeking in rebates, rather than the 50 [percent] threshold, to accommodate the advent of [CHP] or other [distributed generation]" ("RMI's Threshold Proposal").³⁶⁰

³⁵⁶ See RMI FSOP at 40.

³⁵⁷ RMI FSOP at 40.

³⁵⁸ The HECO Companies' Reply Brief at 30-31.

³⁵⁹ The HECO Companies' Reply Brief at 31.

³⁶⁰ RMI FSOP at 40-41.

RMI explains that "[i]f a customer were to deploy CHP, whether from the utility or a third party, it could reduce its load to the level that would make it ineligible for the CIEE or CINC [P]rogram, which is not in the public interest."³⁶¹ As there is insufficient information to consider RMI's Threshold Proposal at this time, the commission will not implement RMI's Threshold Proposal and it will allow HECO to continue implementing its Modified 50% Exclusion Rule.

b.

Proposed Modifications to the CINC and CICR Programs

The commission next addresses two of the recommended modifications to the CINC and CICR programs.³⁶² As stated in section III.F., supra, HECO proposes to reduce the payback period under both the CINC and CICR programs from two years to one year ("HECO's Payback Period Proposal").³⁶³ HECO believes that under

³⁶¹RMI FSOP at 40-41.

³⁶²RMI recommends that the CICR Program "be modified to clarify that if building design and other efficiency measures result in the downsizing or elimination of HVAC requirements, this whole system approach to efficiency will receive credit for the demand reduction." RMI FSOP at 41-42. Neither HECO nor any of the other Parties comment or respond to this recommendation. Likewise, the commission will not address RMI's recommendation at this time.

³⁶³The Consumer Advocate recommends that in the absence of any analytically supported minimum, the minimum payback period be set at 1.5 years to be consistent with the payback period of the CINC Program. See Consumer Advocate Opening Brief at 63. However, HECO explains that the Consumer Advocate is "in error in believing that HECO's proposed CINC [P]rogram has a 1.5-year payback threshold for the non-prescriptive measures installed under that program." The HECO Companies' Reply Brief at 28. It appears that the Consumer Advocate may have been referring to information provided in HECO's Tailored Energy Efficiency Plan

its existing two-year payback rule, there were some measures with payback periods between one and two years that should have been installed by customers, but for some reason were not.³⁶⁴ HECO proposes to reduce the payback period "in recognition of the utility's need to incent customers to install those measures."³⁶⁵ HECO believes that setting the threshold for the payback period at one year is reasonable and should be approved in this docket.³⁶⁶ In light of HECO's reserve capacity shortfall, and based on HECO's experience that it was unable to penetrate the market as expected with a two-year payback period, the commission approves HECO's Payback Period Proposal.

HECO also proposes to revise its existing policy of paying demand incentives on measures that reduce demand during HECO's priority peak (i.e., 5:00 p.m. to 9:00 p.m.) by paying demand incentives for any customer demand reduction ("HECO's Demand Incentives Proposal").³⁶⁷ HECO explains that "shortfalls in reserve capacity can occur anytime during the day depending on system load and unit outages. Thus, reliability is of concern at any time of the day."³⁶⁸ HECO also states that payment of demand incentives for any measures leading to demand reduction makes participation by customers in commercial and industrial about the Design 2000 Plus Program implemented by National Grid. See id.

³⁶⁴See The HECO Companies' Reply Brief at 28.

³⁶⁵The HECO Companies' Reply Brief at 28.

³⁶⁶See The HECO Companies' Reply Brief at 28.

³⁶⁷See The HECO Companies' Reply Brief at 28.

³⁶⁸The HECO Companies' Reply Brief at 28-29.

DSM programs more attractive, as the customer knows in advance of its investment what the financial impact of participating in the DSM program will be.³⁶⁹ HECO asserts that a market barrier to participation in the program will be created if customers do not know what the customer rebate is going to be prior to installing the measure.³⁷⁰ HECO believes that this modification overcomes this market barrier.³⁷¹

The Consumer Advocate states that HECO does not provide any analysis to evaluate the impact of this change and is concerned that if this proposed change is implemented, "[HECO] could invest more in [E]nergy [E]fficiency measure incentives while achieving little by way of incremental demand reduction."³⁷² The Consumer Advocate asserts that "[u]ntil [HECO] demonstrates that this problem will not occur, [it] recommends that the [c]ommission not approve this change"³⁷³

As there is insufficient evidence to justify approval of HECO's proposal to pay demand incentives for any demand

³⁶⁹HECO states that "the demand reduction coincident with the system peak is often only known with equal precision via data logging after the measure(s) are installed. Therefore, the customer has to install the measure before knowing what the customer rebate is going to be." The HECO Companies' Reply Brief at 29.

³⁷⁰See The HECO Companies' Reply Brief at 29-30. This appears, at least in part, to contradict HECO's assertion that the CICR rebates levels have resulted in "excellent customer response." The HECO Companies' Opening Brief at 141.

³⁷¹See The HECO Companies' Reply Brief at 29-30.

³⁷²Consumer Advocate Opening Brief at 64.

³⁷³Consumer Advocate Opening Brief at 64.

reduction under the CICR and CINC programs at this time, the commission declines to approve HECO's Demand Incentive Proposal.

c.

Proposed Modifications to the REWH and RNC Programs

HSEA makes several recommendations for the REWH and RNC programs, in addition to those recommended by HECO. First, HSEA supports a \$100 rebate level for the RNC tank and timer component of the program and the elimination of the \$5 monthly bill credit.³⁷⁴ HSEA asserts that the tank and timer and high efficiency electric heater options do not provide significant energy savings, increase kWh sales, and "adversely impacts . . . 'aging generation infrastructure' regardless of their capacity deferral benefits."³⁷⁵ HSEA also asserts that the Penguin Load Management timer used in the tank and timer component of the program "can be overridden by the homeowner for 30 minutes at a time" and believes that "[a]n industrious homeowner can have his 'locked out' water heater on almost continuously during the system peak if he so desires."³⁷⁶ HECO disagrees with HSEA's proposal, explaining that without the \$5 per month credit, customers will have no incentive to agree to have their water heaters turned off. HECO represents that the tank and timer locks are more successful than solar water heating systems at keeping water heaters off during peak periods, and

³⁷⁴See HSEA Reply Brief at 26.

³⁷⁵HSEA Reply Brief at 26-27.

³⁷⁶HSEA Reply Brief at 9 (bolding omitted).

that customer participation in the tank and timer component may actually facilitate, rather than undermine, conversions to solar water heating systems.³⁷⁷ Given, however, HECO's current reserve capacity shortfall, the commission does not find that implementing HSEA's proposals to set the rebate level for the tank and timer component of the program to \$100 and to eliminate the \$5 monthly bill credit, beneficial or prudent.

Second, HSEA recommends a "nominal" REWH rebate level of \$50 for the installation of high efficiency electric water heaters with capacities of 80 gallons, and the elimination of rebates for high efficiency water heaters with capacities of less than 80 gallons.³⁷⁸ HECO disagrees with HSEA's proposals, explaining that (1) high efficiency water heaters without the load control device contribute 161 kW of peak load reduction and 743 MWh of annual energy savings, and (2) solar water heating systems are not always compatible with new developments, and the array of energy-efficient water heating DSM measures provides developers with beneficial alternatives to standard-efficiency water heaters.³⁷⁹ Given, however, HECO's current reserve capacity

³⁷⁷ See The HECO Companies' Reply Brief at 32-33. HECO makes this statement because: (1) it observes that "HREA notes that, in 2005, 23.1 [percent] of [t]ank and [t]imer participants had converted to solar water heating systems," and (2) HECO estimates that customers in the natural market upgrade to solar water heating systems about 20 percent of the time. See *id.* at 33 (citation omitted). The commission observes that HSEA Reply Brief, Appendix 1 shows a 28.5 percent tank and timer to solar water heating conversion percentage rate for the year 2005 and a 23.1 percent tank and timer to solar water heating conversion percentage rate for the 1997 to 2005 time period.

³⁷⁸ See HSEA Reply Brief at 26-27.

³⁷⁹ See The HECO Companies' Reply Brief at 33-34.

shortfall, the commission does not find that implementing HSEA's proposals to set the rebate level at \$50 for the retrofit installation of high efficiency electric water heaters with capacities of 80 gallons and to eliminate the rebates for high efficiency water heaters with capacities less than 80 gallons, beneficial or prudent.

Third, HSEA recommends that the marketing and promotion of residential Load Management of electric water heaters be conducted in a manner that does not inhibit future solar water heating system sales.³⁸⁰ Specifically, HSEA recommends that HECO's Energy Scout materials (1) make clear that homeowner bills will not decrease due to program participation, and (2) include details about the benefits of other water heating options, including solar water heating, and indicate that this is a good time to purchase a solar water heater in light of unprecedented high oil prices and system savings.³⁸¹ Although the commission recognizes that HSEA's proposed language may be beneficial in HECO's marketing and promotional materials, the commission will not instruct HECO as to the specific statements required in such communications.

Fourth, HSEA recommends "the immediate establishment of a joint industry-utility working committee."³⁸² HSEA's proposal

³⁸⁰ See HSEA Opening Brief at 21.

³⁸¹ See HSEA Opening Brief at 21.

³⁸² HSEA envisions that the joint industry and utility working committee's brief will include consideration of the technical merits of the present RNC (and REWH) Program standards and specifications and approved products, the arbitration of contractor complaints or concerns relative to the standards and

to require the immediate establishment of a joint industry and utility working committee is beyond the scope of this docket and, therefore, will not be addressed in this proceeding.

Finally, RMI proposes that the RNC Program be "expanded to allow developers that build an entire development along zero net energy principles (100 [percent] solar water heat, Energy Star[®] appliances, and bundles of efficiency measures that reduce or eliminate HVAC) [to be eligible] for incentives for all homes within the development, including military housing."³⁸³ During the Panel Hearings, HECO stated that "[t]he RNC [P]rogram does, in fact, include a provision in there for the elimination of air conditioning."³⁸⁴ HECO asserted that it is called their Gold Plus category for developers. HECO also clarified that "in the case where a developer builds multiple houses [along those Gold Plus principles], he would get multiple

specifications and approved products, general issues relating to building codes and standards, and to provide technical input relative to any field testing of installed solar water heating systems. HSEA proposes that members of this committee will come from HSEA, the HECO Companies, and as many as two outside experts with subject matter competence. HSEA also states that committee decisions and rulings will be by consensus. See HSEA Reply Brief at 28.

³⁸³RMI FSOP at 42-43. As with the CICR Program, RMI also recommended that the RNC Program "be modified to clarify that if building design and other efficiency measures result in the downsizing or elimination of HVAC requirements, this whole system approach to efficiency will receive credit for the demand reduction." See id. at 42. Neither HECO nor any of the other Parties commented or responded to this recommendation. Likewise, the commission will not address RMI's recommendation at this time.

³⁸⁴Tr. Vol. II at 347 (Block).

rebates."³⁸⁵ As RMI's concerns regarding the RNC program were dispelled by the responses given by HECO during the Panel Hearings, the commission does not further address RMI's proposal.³⁸⁶

2.

Approval of the RCEA Program

By Decision and Order No. 21756, filed on April 20, 2005, in Docket No. 03-0142, the commission denied HECO's application for an RCEA Program, without prejudice. The commission stated that it "share[d] the same concerns expressed by the Consumer Advocate, among others, that HECO failed to adequately demonstrate that this proposed pilot program complies with the IRP Framework requirements and will be cost effective." In particular, the commission was troubled by "HECO's inability to determine the effectiveness of the proposed RCEA Pilot Program in accomplishing the program's objectives of achieving 'significant energy savings and peak load reduction.'" Specifically, the commission found that "HECO failed to clearly articulate, pursuant to section V.A.2. of the IRP Framework: (1) the expected level of achievement of the proposed pilot program; and (2) the measures by which the attainment of the objectives is to be assessed." As a result, the commission was unable to determine that the proposed pilot program would

³⁸⁵Tr. Vol. II at 347 (Block).

³⁸⁶RMI stated during the Panel Hearings on August 29, 2006, that it was "pleased" and "satisfied" with HECO's responses to its concerns. See Tr. Vol. II at 347-48 (Datta).

be cost-effective and accomplish the utility's objective. However, the commission noted that "[a]n educational program, such as the RCEA Pilot Program may be better suited as one component of a portfolio of DSM measures, which may be considered in other proceedings before the commission, if HECO so chooses."³⁸⁷

HECO states that upon receiving Decision and Order No. 21756, it "worked diligently to develop its awareness campaign proposal" and "provided details of the proposal as soon as they were available."³⁸⁸ However, as indicated above, HECO still has not quantified the expected energy or peak demand savings to the RCEA Program. Indeed, as noted by the Consumer Advocate, "HECO advances no arguments to address the important concerns raised by the Consumer Advocate."³⁸⁹

The Consumer Advocate states that "[t]he RCEA program should not be approved because HECO failed to provide quantifiable benefits to demonstrate the cost-effectiveness of the program, as is required for all DSM programs."³⁹⁰ The Consumer Advocate acknowledges HECO's reference to the focus groups in support of the expenditure, but reminds the commission that "education by itself is not sufficient to modify behavior." The Consumer Advocate, states that "nothing has changed since the filing of the application in Docket No. 03-0142 and the Decision

³⁸⁷Decision and Order No. 21756, filed on April 20, 2005, in Docket No. 03-0142, at 10-11.

³⁸⁸The HECO Companies' Opening Brief at 129.

³⁸⁹Consumer Advocate Reply Brief at 49.

³⁹⁰Consumer Advocate Opening Brief at 10.

and Order No. 21756 filed on April 21, 2005 denying HECO's request."³⁹¹ Therefore, the Consumer Advocate recommends that the commission not approve cost recovery for the RCEA Program.³⁹²

Although HECO failed to provide the appropriate cost-benefit information, the commission finds that its other decisions in this docket will adequately protect ratepayer's interests and ensure that the DSM programs in the aggregate, including the RCEA Program, are cost-effective.³⁹³ Namely, by continuing the current cost-recovery mechanism, and by establishing incentives based on a shared savings mechanism, the commission expects that HECO's interests will be properly aligned with ratepayers, such that HECO will be encouraged to spend ratepayer's money in a cost-effective manner. In addition, the commission expects that its determination to revise the market structure, and to allow the new third-party administrator to evaluate HECO's performance in awarding the administration of any DSM programs, will encourage HECO to responsibly administer the RCEA Program. Therefore, although the commission acknowledges the Consumer Advocate's concerns regarding the RCEA Program, the commission will approve the RCEA Program, subject to the following modifications and requirements: (1) HECO is not authorized to recover any expenses related to the RCEA Program

³⁹¹Consumer Advocate Reply Brief at 48-49.

³⁹²See Consumer Advocate Reply Brief at 49.

³⁹³RMI states that "[r]egarding the RCEA [P]rogram, marketing and consumer education are important components of increasing customer participation in demand[-]side measures RMI believes that the [c]ommission should not reject this type of program, and that some variant of this program should ultimately be included." RMI FSOP at 50.

that were incurred prior to the filed date of this Decision and Order; (2) HECO's expenditures for the RCEA Program shall be included for purposes of determining whether HECO met its Energy Efficiency goals for the residential sector, and in calculating net system benefits for the purposes of determining utility incentives, if any; (3) HECO must evaluate the program on an annual basis and report to the commission, with a copy to the Consumer Advocate within thirty days of completing said evaluation; and (4) HECO shall file a tariff for this program, as approved, pursuant to HRS § 269-16 within ninety (90) days of this Decision and Order.

3.

RMI's Proposed Programs

In addition to HECO's proposed Energy Efficiency DSM programs, RMI recommends two additional programs, the Affordable Housing Residential New Construction ("AHRNC") Program and the Pay-As-You-Save low income solar water heating and photovoltaic ("PAYS-SWH/PV") Program. With respect to the AHRNC Program, "HECO or a third[-]party administrator [would] create a program specifically for developers of affordable housing that contains the same provisions as the RNC [Program] but also explicitly provides for a revolving loan package to pay for the remaining incremental costs of new efficiency measures not covered by incentives."³⁹⁴ RMI envisions that "[the] incremental costs would then be paid back from the customer's

³⁹⁴RMI Opening Brief at 24.

bill savings over time."³⁹⁵ RMI asserts that "[i]n essence, this finances the efficiency measures for low-income customers, and eliminates the disincentive that affordable housing developers currently have to any measures that increase the price of the house, even if the measures are cost effective to the homeowner."³⁹⁶

RMI also recommends that the commission use this docket to implement Act 240, Session Laws of Hawaii ("Act 240").³⁹⁷ Under Act 240, the state's utilities are required to create a Pay-As-You-Save Pilot Program to allow a residential utility customer to purchase a solar water heating system with no up front costs, and by paying the cost of the system over time on the customer's electricity bill. RMI also recommends that the commission "extend the PAYS [P]rogram to include solar photovoltaic [systems]," in combination with its proposed AHRNC Program.³⁹⁸

HECO recommends rejecting RMI's proposed AHRNC and PAYS-SWH/PV programs.³⁹⁹ In general, HECO asserts that it opposes RMI's proposals, as RMI has failed to adequately describe the

³⁹⁵RMI Opening Brief at 24.

³⁹⁶RMI Opening Brief at 25.

³⁹⁷See RMI Opening Brief at 25. Although RMI referenced Act 96 in its discussion, it appears that RMI intended to reference Act 240. Accordingly, the commission will reference Act 240 as appropriate.

³⁹⁸RMI Opening Brief at 25.

³⁹⁹See The HECO Companies' Reply Brief at 32.

programs' design details.⁴⁰⁰ In particular, HECO "objects to RMI's proposed financing method" in RMI's proposed AHRNC Program because it "would essentially create 'regulatory assets,' whereby the utility's customers would own equipment, the underlying debt for which would be kept on the utility's books."⁴⁰¹ HECO explains that the "creation of regulatory assets should generally be avoided."⁴⁰² In addition, HECO states that "there has not been a market breakdown excluding low income customers from access to financing in these types of projects, such as might justify RMI's revolving loan proposal."⁴⁰³ HECO asserts that, based on its experience, these customers are able to successfully go to third parties for financing and get their projects installed.⁴⁰⁴ Further, HECO points out that "affordable housing is eligible under HECO's proposed RNC Program, which includes a Hawaii BuiltGreen whole house design concept."⁴⁰⁵

HECO opposes RMI's proposed PAYS-SWH/PV Program because "[t]he PAYS concept primarily targets retrofit installations of energy conservation measures ('ECM') rather than new

⁴⁰⁰See The HECO Companies' Reply Brief at 30, 32.

⁴⁰¹The HECO Companies' Reply Brief at 30-31.

⁴⁰²The HECO Companies' Reply Brief at 31. HECO states that it removed the utility financing options for the CIEE Program "in order to avoid associated regulatory requirements that increase the program cost to the utility." Id. In addition, HECO will also be removing the utility financing option for the CICR Program. See id.

⁴⁰³The HECO Companies' Reply Brief at 31 (emphasis omitted).

⁴⁰⁴See Tr. Vol. II at 286 (Hee).

⁴⁰⁵The HECO Companies' Reply Brief at 31.

construction."⁴⁰⁶ HECO states that "[i]n new construction, the first cost of ECMs is less of a barrier because new construction is typically financed through construction loans and subsequently through mortgage loans, which reduce the initial cost and spread costs over time."⁴⁰⁷ In addition, HECO states that "the legislature did not include [solar photovoltaic] in Act 240" and that "Act 240 very specifically applied PAYS to solar water heating only."⁴⁰⁸ HECO asserts that solar photovoltaic is beyond the scope of this proceeding, and that RMI's solar photovoltaic proposal is misplaced.⁴⁰⁹

The commission agrees with HECO that RMI did not provide enough detail about its proposed AHRNC and PAYS-SWH/PV programs, and that RMI's solar photovoltaic proposal is beyond the scope of this proceeding. Therefore, the commission will not require HECO to implement RMI's AHRNC and PAYS-SWH/PV programs in this docket.

⁴⁰⁶The HECO Companies' Reply Brief at 31.

⁴⁰⁷The HECO Companies' Reply Brief at 31.

⁴⁰⁸The HECO Companies' Reply Brief at 31-32. On October 24, 2006, the commission opened Docket No. 2006-0425 to examine the issues and requirements raised by, and contained in, Hawaii's Solar Water Heating Pay As You Save Program, Act 240, section 13. See Order No. 22974, filed on October 24, 2006, in Docket No. 2006-0425, at 1.

⁴⁰⁹See The HECO Companies' Reply Brief at 31-32.

Sea Water Air Conditioning

HREA alleges that HECO overlooked Seawater Air Conditioning ("SWAC") in its DSM Energy Efficiency programs.⁴¹⁰ HREA requests that the commission grant a prescriptive rebate of \$500 per ton displaced and a maximum per customer rebate of \$500,000 per customer ("Rebate Package")⁴¹¹ for the SWAC technology under HECO's CIEE Program.⁴¹²

⁴¹⁰See HREA Reply Brief at 13. SWAC systems operate by pumping cold seawater up from the bottom of the sea (i.e., a depth of 1,600 to 3,000 feet in Hawaii) and passing the seawater through a heat exchanger where it cools water that is circulated to buildings. Basic components include: (1) a seawater supply distribution system, including the supply pipe, pumps, and return pipe, (2) a fresh water circulation distribution network, including pumps (this network provides chilled water that circulates through each building), and (3) heat exchangers that transfer heat from the fresh water circulation distribution loop to the seawater. HREA asserts that these basic components are optimized for each specific location, climate, and building. See HREA's response to LOL-HREA-IR2. In some cases, the cold seawater is chilled to a lower temperature through the use of conventional electrically operated air conditioning compressors. See The HECO Companies' Opening Brief at 136-37. HSEA states that it "is persuaded by [HREA's] Hearing Exhibit 2 that [SWAC] represents a significant DSM resource" HSEA Statement of Position in Regard to the [HREA]'s Hearing Exhibit 2, filed on October 3, 2006, at 3.

⁴¹¹HREA states that the Rebate Package is appropriate because the Hearing Exhibit 2 rebate request satisfies the technical and policy-based requirements of the HECO rebate programs, which include that the rebate be cost-effective and that the rebate be administered through the appropriate HECO rebate program. See HREA Opening Brief at 23.

⁴¹²See HREA Reply Brief at 38.

a.

SWAC Within this Docket

As an initial matter, the commission considers whether HREA's SWAC proposal should be considered in this docket. The Consumer Advocate recommends that "action on the SWAC proposal should be deferred and considered in the development of HECO's fourth IRP, which is to be filed on or about the fourth quarter of 2008 and would include a five-year action plan for 2009 through 2014."⁴¹³ The Consumer Advocate asserts that given the lead times involved, a "SWAC project is unlikely to begin commercial operation in the next year or two. Thus, at a practical level, such a project would not have a bearing on HECO's DSM budget for some time to come."⁴¹⁴

In contrast, HREA asserts that the commission can and should set the rebate level at this time because HREA has provided extensive data, spreadsheets and information on its SWAC Proposal.⁴¹⁵ HREA asserts that it needs rebate authorization, not

⁴¹³Consumer Advocate Opening Brief at 66.

⁴¹⁴Consumer Advocate Opening Brief at 65. The Consumer Advocate asserts that ideally, such incentives would be consistent with the level of benefits to be provided as capacity and energy savings are realized. They would also reflect a utility's reliability position. In addition, the value of "external" benefits provided through capacity and energy savings also may play a role. The Consumer Advocates asserts that it is difficult to predict all these things in advance; thus, it is difficult for the commission to identify with certainty today a rebate level that might reasonably compensate a provider of capacity- and energy-savings at a future date when a given emergent demand-side technology is implemented. See id. at 65-66.

⁴¹⁵See HREA Reply Brief at 17.

rebate payment⁴¹⁶ "so that prospective customers will have an incentive to sign contracts for SWAC service in 2006-07, regardless of actual payment of the rebate in 2009."⁴¹⁷ HREA states that the Consumer Advocate's contention that it lacks sufficient information is not a sound basis for further delay,⁴¹⁸ and that it has "exhaustively responded to all of the Consumer Advocate's information requests."⁴¹⁹ HREA believes that the information proves the project is viable and cost-effective and otherwise directly responds to the Consumer Advocate's stated concerns.⁴²⁰

The commission finds that HREA's SWAC proposal has been sufficiently briefed by the Parties, such that it may be properly considered in this docket. In addition, HREA's representations that contracts for SWAC service could be signed as early as the present operates against deferral to HECO's IRP-4 process. For these reasons, the commission will consider HREA's SWAC proposal in this docket.

b.

SWAC Within the CICR Program

In reviewing HREA's SWAC proposal, the commission addresses whether SWAC should be considered under the

⁴¹⁶See HREA Reply Brief at 17.

⁴¹⁷HREA Reply Brief at 17.

⁴¹⁸See HREA Reply Brief at 17.

⁴¹⁹HREA Reply Brief at 17.

⁴²⁰See HREA Reply Brief at 17.

CIEE Program, as HREA recommends, or under the CICR Program, as HECO recommends. HREA states that SWAC should be considered under the CIEE Program because: (1) SWAC will replace cooling already targeted by the CIEE Program, (2) SWAC will improve the CIEE Program by providing relatively low marginal costs for kW and kWh savings and low implementation costs due to the involvement of private developers such as Honolulu Seawater Air Conditioning, and (3) the CIEE Program contains a high efficiency cooling component for potential customers of higher efficiency chillers in commercial and industrial settings and these same customers are potential SWAC customers.⁴²¹

In contrast, HECO states that SWAC, if shown to be cost effective, should be considered under the CICR Program. HECO explains that the "CICR Program was designed to encompass the installation of energy efficient equipment not specifically identified in any of the other prescriptive DSM programs," which "include[s] DSM measures that are not widely available in the market and where HECO does not have previous experience documenting the measure['s] savings."⁴²² These measures include the redesign of air conditioning systems and the installation of controls on various energy using systems."⁴²³ HECO also notes that the CICR Program typically requires pre-monitoring of a facility prior to the installation of the Energy Efficiency measure, and post-monitoring after the device has been installed

⁴²¹See HREA Reply Brief at 36-37.

⁴²²The HECO Companies' Opening Brief at 139.

⁴²³The HECO Companies' Opening Brief at 139.

and is operational.⁴²⁴ HECO further notes that the CICR Program has provisions that require an independent third party to review the proposed project if the rebate is projected to be greater than \$25,000.⁴²⁵ HREA states that SWAC should not be considered under the CICR Program because: (1) the CICR Program does not utilize a prescriptive rebate,⁴²⁶ (2) SWAC does not fit into the criteria for the CICR Program set forth by HECO,⁴²⁷ and (3) the non-prescriptive rebate offered through the CICR Program may itself constitute a market barrier, as it is not a fixed amount.⁴²⁸

The commission agrees with HECO that SWAC should be considered under HECO's CICR Program because the SWAC technology has never been specifically identified in any of HECO's prescriptive DSM programs and HECO has not had the opportunity to document the measure's savings. In addition, the CICR Program, unlike the CIEE Program, has provisions that require an independent third party to review the proposed project if the

⁴²⁴See The HECO Companies' Opening Brief at 139.

⁴²⁵See The HECO Companies' Opening Brief at 139.

⁴²⁶See HREA Reply Brief at 37.

⁴²⁷Specifically HREA asserts that (1) the Downtown SWAC project does not fit in the criteria for HECO's CICR Program, as it is not a custom, unique, building-specific measure that is not widely available, (2) the Downtown SWAC project, upon implantation, will serve a district encompassing several dozen buildings and, thus, will be "widely available," (3) there is no limited potential size of the market rendering the project unfit for a prescriptive rebate program, (4) the SWAC project is not a redesign of air conditioning systems, and (5) SWAC provides an alternate source of the chilled water that is currently used for cooling potential customers' buildings. See HREA Reply Brief at 37-38.

⁴²⁸See HREA Reply Brief at 27.

rebate is projected to be greater than \$25,000, which will help to confirm that the calculated impact results for the SWAC project are valid.

c.

SWAC Rebate Level

HREA states that an incentive is needed to pay for the significant costs to connect to the SWAC system as well as to overcome scores of other market barriers.⁴²⁹ HREA asserts that the "\$500 per ton [rebate level] will create an incentive for potential customers to adopt SWAC technology" and that "[a]nything less than \$500 per ton may fail to create the required incentive for some customers to move to renewable

⁴²⁹See HREA Opening Brief at 17-18. In addition to interconnection costs, HREA avers that market barriers include: (1) insufficient information to make informed choices, (2) new technologies (i.e., SWAC) competing with mature technologies (i.e., conventional air conditioning), (3) inadequate information about all of the customers' own cost components for conventional air conditioning, (4) inadequate information about comparative performance and costs, (5) uncertainty regarding future benefits from efficiency investments, (6) lack of experience with and knowledge about district energy systems, in general, and SWAC systems in particular, (7) perceptions about difficulties in permitting of SWAC projects (e.g., permitting time, costs, and project impacts), (8) uncertainties about future energy prices, availability and amount of potential utility rebates, and timing and availability of SWAC systems, (9) the desire or need to let others go first, (10) short-term approach to budgeting rather than life-cycle cost approach, (11) inconsistent application of budgeting procedures, (12) predominance of payback period as a decision-making tool, (13) preference for lower initial costs rather than lower life-cycle costs, (14) the lack of incentive to change for customers that can pass on increases in energy costs to tenants, (15) organizational inertia and resistance to change, (16) the perception that Energy Efficiency projects are more risky, and (17) resistance to long-term contracts. See *id.* at 18 n.15.

energy."⁴³⁰ HREA also asserts that "[r]ebates generally should be directly proportional to utility system benefits, and widespread use of SWAC on Oahu will provide system benefits far in excess of \$500 per ton."⁴³¹ HREA estimates that its proposed \$500 per ton rebate represents approximately 12 percent of the cost differential between conventional air conditioning and SWAC systems, and that HECO offers rebates in the order of 23 percent to 100 percent of the cost differentials for other technologies.⁴³²

The Consumer Advocate calculates that HREA's proposal for a \$500 per ton rebate for a 25,000 ton central SWAC system would cost consumers \$12.5 million, more than 60 percent of HECO's total proposed annual DSM budget.⁴³³ HREA avers that the Consumer Advocate's calculation is not a basis for delaying authorization of a rebate, and that the commission may consider requiring HECO to increase the CIEE Program budget as needed.⁴³⁴

HECO states that the appropriate rebate levels that SWAC should be eligible for are \$0.05 per kWh and \$125 per kW

⁴³⁰HREA Opening Brief at 17-18; see also HSEA Statement of Position in Regard to the [HREA]'s Hearing Exhibit 2, at 3, filed on October 3, 2006 (stating that "HSEA strongly supports HREA's requested rebate level of \$500/cooling ton with a \$500,000 rebate limit per qualifying customer"); but see id. at 3-4 (stating that "HSEA understands that the system interconnection charge will be approximately \$500/ton and that the requested rebate level is specifically designed to overcome this initial financial barrier to participation").

⁴³¹HREA Opening Brief at 18.

⁴³²See HREA Opening Brief at 18.

⁴³³See Consumer Advocate Opening Brief at 65 n.40.

⁴³⁴See HREA Reply Brief at 22.

offered under the CICR Program.⁴³⁵ Under these rebate levels, HECO states that preliminary analysis indicates that the rebate through the CICR Program would be between approximately \$150 per ton and \$230 per ton.⁴³⁶ HECO states that if HREA provides additional information indicating that the level of rebate is inadequate to move the market, HECO would conduct additional analysis to determine if a higher rebate may be warranted, and if so, would then seek commission approval for a higher rebate.⁴³⁷

HECO explains that in "DSM program design, one of the key considerations utilized to set customer rebate levels is to set them at levels that are necessary to motivate customers to adopt cost-effective DSM measures (i.e., move the market) and not necessarily on the basis of participant costs or on the basis of avoided capacity value."⁴³⁸ HECO states that: (1) the \$0.05 per kWh and \$125 per kW rebate levels in the CICR Program have resulted in excellent customer response, and (2) in five out of the last six years, HECO's CICR Program has exceeded its program budgets for customer rebates.⁴³⁹ Therefore, HECO considers the level of customer response in this case to be an indication that

⁴³⁵ See The HECO Companies' Opening Brief at 141.

⁴³⁶ See The HECO Companies' Opening Brief at 141. HECO states that it was not able to perform a complete analysis because HREA's response to its information requests was not sufficient enough to perform a precise analysis of the efficiency of the proposed SWAC plant. See id.

⁴³⁷ See The HECO Companies' Opening Brief at 141-42.

⁴³⁸ The HECO Companies' Opening Brief at 140-41.

⁴³⁹ See The HECO Companies' Opening Brief at 141.

the existing rebate levels are more than sufficient to support program participation and that there is no basis for selecting different rebate levels.⁴⁴⁰ HECO believes that "[r]atepayer funded DSM programs need to strike a balance between offering customer rebates to motivate customers to install energy efficient measures and/or adopt new technologies versus overpaying rebates and/or providing rebates to customers who would have installed the [E]nergy [E]fficiency measure even without a utility DSM program."⁴⁴¹

HREA states that HECO's \$150 to \$230 per ton rebate: (1) will not cover the \$300 per ton interconnection cost and is, therefore, insufficient, (2) is not sufficient enough to overcome the additional market barriers, in addition to the interconnection costs, to secure widespread adoption of SWAC, (3) is not directly proportional to utility system benefits, (4) is far below the rebate amount derived from HREA's calculations of per ton rebate amounts under the CIEE and CICR Programs,⁴⁴² and (5) is "at odds with HECO's demonstrated

⁴⁴⁰See The HECO Companies' Opening Brief at 141.

⁴⁴¹The HECO Companies' Opening Brief at 140-41.

⁴⁴²HREA calculates that the average incentive cost for all DSM programs during the 2009 to 2010 period, which is the timeframe that HREA expects the Downtown SWAC project to become fully operational, is \$0.135 per kWh and \$338 per kW. Applying this average incentive cost, the projected energy savings, and estimated capacity savings of 0.63 kW per ton yields a SWAC rebate amount under the CICR Program of \$631 per ton. HREA asserts that the 0.63 kW per ton is its calculated peak daytime demand reduction and that this figure accurately represents actual utility system benefits. Using a similar analysis, HREA estimates that under the CIEE Program, with an average incentive cost of \$0.107 per kWh and \$266 per kW yields a rebate amount of \$497 per ton. See HREA Opening Brief at 19-20.

commitment to providing higher rebate amounts to promote related [E]nergy [E]fficiency technologies."⁴⁴³ HREA refutes HECO's assertion that if HECO increases its CICR Program rebate level above the \$150 to \$230 per ton levels, ratepayers could end up paying more than necessary to customers who are already being sufficiently encouraged to install DSM measures under current rebate levels.⁴⁴⁴ HREA states "[t]his argument is not persuasive insofar as HECO's proposed rebate level fails to pay prospective customers the \$300 per ton interconnection costs, or enough to overcome other market barriers."⁴⁴⁵

The commission finds that there is insufficient evidence to: (1) establish that the existing CICR rebate level is inadequate to move the market, and (2) adequately justify raising the CICR rebate level. Therefore, HREA's request to require HECO to provide a rebate of \$500 per ton is denied.

d.

SWAC Maximum Per Customer Rebate

HREA believes that its request to set the maximum per customer rebate level at \$500,000 is reasonable because it "is sufficient to [incent] larger prospective customers with relatively high interconnection costs due to relatively high cooling demand of greater than 1,000 tons."⁴⁴⁶ HREA estimates

⁴⁴³HREA Opening Brief at 19-20.

⁴⁴⁴See HREA Reply Brief at 32.

⁴⁴⁵HREA Reply Brief at 32.

⁴⁴⁶HREA Opening Brief at 20.

that a relatively small percentage of customers will seek rebates totaling or near to \$500,000 and that HECO's \$350,000 maximum per customer rebate level is not sufficient to create the required incentive.⁴⁴⁷ HECO states that HREA "has failed to demonstrate why such a dramatic increase might be necessary" and, thus, "supports limiting the increase in the CICR Program's maximum per customer rebate level to \$350,000."⁴⁴⁸

As HREA has not demonstrated that a \$500,000 maximum per customer rebate level is reasonable, the commission rejects HREA's request to require HECO to provide a maximum per customer rebate level of \$500,000 in this docket.

J.

Further Proceedings

1.

New Docket to Review
Periodic Reports and DSM Program Modifications

The Consumer Advocate "proposes that the [c]ommission establish dockets to consider program evaluations and ensure regulatory oversight over [E]nergy [E]fficiency and DSM efforts."⁴⁴⁹ The Consumer Advocate recommends that in such dockets, the commission could initiate formal reviews of DSM evaluation reports, providing stakeholders and interested parties

⁴⁴⁷ See HREA Opening Brief at 20.

⁴⁴⁸ The HECO Companies' Reply Brief at 46.

⁴⁴⁹ Consumer Advocate Opening Brief at 70.

an opportunity to comment.⁴⁵⁰ The Consumer Advocate contends that this "could substantially enhance the level of [DSM programs] that are implemented" and "improve the results of the overall DSM effort."⁴⁵¹

Similarly, RMI recommends that "the cost[-] effectiveness of the programs should be actively reviewed based on the ongoing actual expenditures and accomplishments" and that the "review could be based on the annual reports that document actual expenditures and program impacts."⁴⁵² RMI proposes that the commission hire a qualified independent contractor to assist with the review if "the Consumer Advocate and/or the [c]ommission do not have sufficient resources to conduct a review of the cost[-]effectiveness of the programs based on the annual reports."⁴⁵³ Furthermore, RMI contends that: (1) "[t]he consistency of the programs with HECO's IRP and overall system planning objectives should be reviewed in the context of HECO IRP proceedings, and (2) [a]pproval of HECO's programs in the instant docket should be contingent upon later findings in the analyses, review[,] and approval of HECO's IRP."⁴⁵⁴

HECO proposes that an independent third-party evaluator, selected by the commission, be responsible for periodically conducting an evaluation of the utility and

⁴⁵⁰ See Consumer Advocate FSOP at 6-7 and Appendix C.

⁴⁵¹ Consumer Advocate FSOP at 6-7.

⁴⁵² RMI Opening Brief at 23.

⁴⁵³ RMI Opening Brief at 23.

⁴⁵⁴ RMI Opening Brief at 23.

non-utility DSM programs and program impacts (similar to the program impact evaluation currently conducted by a third party, KEMA, Inc.).⁴⁵⁵ The independent third party would be selected by the commission through an RFP process from lists provided by both the utility and non-utility administrators.⁴⁵⁶ Since under this proposal, the commission would be overseeing and paying for the evaluation, the costs incurred for the evaluation should not be included in calculating the shareholder incentive.⁴⁵⁷

In addition, HECO states that "if the [c]ommission decides that DSM program costs should continue to be recovered through the DSM surcharge, then HECO requests [c]ommission approval of DSM program budget flexibility provisions[.]"⁴⁵⁸ Specifically, HECO requests that it be allowed to do the following without prior commission approval:

- (1) Carry over funds not spent in prior years;
- (2) Move the customer incentive funds among [E]nergy [E]fficiency programs and among [L]oad [M]anagement programs to address new technologies and to adjust to changes in energy codes and other external events that might impact HECO's ability to meet the energy and demand goals of the programs;
- (3) Increase or decrease individual measure incentive levels to respond to changes in participation levels and markets;

⁴⁵⁵ See The HECO Companies' Opening Brief at 62.

⁴⁵⁶ See The HECO Companies' Opening Brief at 62.

⁴⁵⁷ See The HECO Companies' Opening Brief at 62.

⁴⁵⁸ The HECO Companies' Opening Brief at 66.

- (4) Add new measures, and establish corresponding incentive levels to address market opportunities; and
- (5) Increase the total program budget by 25% without [c]ommission approval.⁴⁵⁹

HECO explains that "[t]he intent of the flexibility HECO is requesting in the referenced provision is to allow HECO to be able to quickly respond to advances in energy conservation measures between rate proceedings."⁴⁶⁰ HECO states that "[f]lexibility in DSM program implementation is an essential management tool that will enable the utilities to meet the [E]nergy [E]fficiency goals."⁴⁶¹

Finally, the Consumer Advocate states that it "is not persuaded that HECO currently has identified an optimal DSM portfolio, and recommends that the commission "direct HECO to give serious consideration to the ideas raised by other parties and report back with its findings."⁴⁶² The Consumer Advocate suggests that HECO "submit a filing in compliance with this directive within nine months (at the latest) of the [c]ommission's [Decision and] Order in this proceeding," and "meet with interested stakeholders to discuss its conclusions at that time."⁴⁶³ The Consumer Advocate contends that if the commission is persuaded that amendments to HECO's DSM portfolio are warranted, the commission should "take action to ensure that

⁴⁵⁹The HECO Companies' Opening Brief at 66.

⁴⁶⁰The HECO Companies' Opening Brief at 66.

⁴⁶¹The HECO Companies' Opening Brief at 66.

⁴⁶²Consumer Advocate Reply Brief at 42-43.

⁴⁶³Consumer Advocate Reply Brief at 43.

such amendments are implemented within one year of its [Decision and] Order in this proceeding."⁴⁶⁴

In order to evaluate HECO's submissions, and prepare for the transition between the Utility Market Structure and the Non-Utility Market Structure, the commission will open a new docket to approve HECO's periodic reports, including HECO's DSM Annual Program Accomplishments and Surcharge ("A&S") Report and Monitoring and Evaluation ("M&E") Report. Copies of HECO's reports shall be filed in the new docket. The commission will not hire an independent contractor at this time, but will consider that option in the event that third-party review becomes necessary or appropriate. Finally, the commission rejects HECO's flexibility requests, but states that HECO may file requests for modifications to its DSM programs in the newly established docket.

2.

New Docket to Select PBF Administrator

Having determined that a non-utility third-party administrator is appropriate for design and implementation of Energy Efficiency programs for the investor-owned electric utilities, the commission recognizes that critical matters of implementation must still be identified and addressed. To this end, the commission will open another docket to select a PBF administrator and to refine the details of the new market structure. At this point in time, the commission describes below

⁴⁶⁴Consumer Advocate Reply Brief at 43.

a preliminary vision for the market structure involving a non-utility third-party administrator of Energy Efficiency programs.

Act 162 provides that the commission "may redirect all or a portion of the funds collected through the current demand-side management surcharge by Hawaii's electric utilities into a [PBF]."⁴⁶⁵ Pursuant to Act 162, the commission intends to establish the PBF to "be used to support energy-efficiency and [DSM] programs and services." Specifically, the commission intends that the PBF surcharge shall be used for DSM program administration under the Non-Utility Market Structure, and that until transition to the Non-Utility Market Structure is complete, the HECO Companies will continue to recover utility-incurred costs in the manner described in section III.C., supra.

Act 162 also provides that if the commission establishes a PBF, the commission "shall appoint a fund administrator to operate and manage any programs established under section 269-[121]."⁴⁶⁶ Thus, the commission plans to draft and issue a Request for Proposals ("RFP") to solicit bids for a PBF administrator.⁴⁶⁷ The RFP will, among other things, request

⁴⁶⁵See HRS § 269-121(a).

⁴⁶⁶See HRS § 269-122. The Consumer Advocate and HREA support the appointment of a PBF Administrator pursuant to Act 162. See Consumer Advocate Opening Brief at 25; HREA Opening Brief at 9.

⁴⁶⁷LoL recommends that the commission issue an RFP to select a third-party administrator. See LoL Opening Brief (unnumbered) at 4; LoL FSOP at 7, 12. However, HREA requests that the commission forego a competitive bidding process and proceed to appointing a PBF administrator as authorized by Act 162. See HREA Opening Brief at 11. However, the commission expects

that bidders propose new or improved DSM programs, consistent with the IRP Framework and other criteria. The commission, through the RFP, will identify goals and incentives for the PBF administrator, consistent with the commission's determinations in this Decision and Order and the IRP Framework. Additionally, the RFP will specify the standards against which the PBF administrator will be evaluated and its performance measured. Finally, the RFP will provide the scale and scope of commission oversight over the PBF administrator and the specific regulatory requirements that will apply to the PBF administrator. The commission anticipates that the term of the agreement will be a period of five (5) years, commencing January 2009.

Importantly, the PBF administrator will be required to actively participate in the IRP process. The PBF administrator, the HECO Companies and other stakeholders will determine the optimum mix of DSM and supply-side resources within the IRP process subject to commission approval. In determining this optimum mix, stakeholders will consider the PBF administrator's existing and planned Energy Efficiency programs in striving to meet RPS objectives, and set program goals and objectives accordingly.

Clearly, transitioning Energy Efficiency program administration to a non-utility third-party administrator will require a transition period and a significant amount of work and coordination. As stated above, it is currently intended that the

that the competitive bidding process will allow the commission to select a proposal that is determined to be, among other things, cost-effective for the State.

third-party administrator will begin operations in January 2009. Until then, HECO will continue to be responsible for overseeing its Energy Efficiency programs, consistent with this Decision and Order.

IV.

Orders

THE COMMISSION ORDERS:

1. The following DSM objectives are established as provided in this Decision and Order: (a) energy savings; (b) peak demand reductions (including overall demand reduction, targeted peak reduction, targeted geographical load reduction, and load shifting); (c) customer equity (providing all classes of customers the opportunity to participate in the programs); (d) cost-effectiveness (recognizing that this objective may sometimes be at odds with customer equity); and (e) market transformation.

2. For the HECO Companies, until their next IRP dockets, within each utility's service territory, there will be megawatt-hour and megawatt Energy Efficiency goals for the commercial and industrial sector, and separate megawatt-hour and megawatt Energy Efficiency goals for the residential sector, that are each calculated based on the aggregate of the savings to be achieved by each individual program, as represented to the commission in the applications for, or requests to modify, each individual program, gross of (including) free-riders. Any revisions to the Energy Efficiency goals, or any future

Energy Efficiency goals, should be established in the IRP process.

3. KIUC and TGC shall not be subject to Energy Efficiency goals at this time, and if Energy Efficiency goals are established for either of these utilities, they should be established through the IRP process, unless otherwise ordered by the commission.

4. All of the HECO Companies' Energy Efficiency DSM programs shall transition from the HECO Companies to the Non-Utility Market Structure, by January 2009, unless otherwise ordered by the commission. The HECO Companies' Load Management programs shall be excluded from the third-party administrator's area of responsibility.

5. At this time, KIUC and TGC shall continue under the Utility Market Structure, unless otherwise ordered by the commission.

6. Under the Utility Market Structure, the Existing Cost Recovery Mechanism shall continue to apply, such that labor costs shall be recovered through base rates and all other DSM-related utility-incurred costs shall be recovered through a surcharge. Notwithstanding the foregoing, the commission retains the authority to determine the appropriate mechanism for the recovery of costs associated with DSM programs when specific DSM programs are submitted for commission approval.

7. Under the Non-Utility Market Structure, cost recovery of utility-incurred DSM costs shall be through a PBF surcharge. Those entities that are not operating under the

Non-Utility Market Structure will not be subject to the PBF Cost Recovery Mechanism. The appropriate transition mechanism for cost recovery, if any, between the Utility Market Structure and the Non-Utility Market Structure, shall not be determined in this docket.

8. The issue of decoupling is deferred for possible further consideration in a future proceeding.

9. Utilities shall be entitled to recover their reasonably-incurred DSM implementation costs, in accordance with the IRP Framework. The appropriate cost level for utility-incurred costs to be included in base rates (i.e., labor costs) shall be more appropriately considered in the applicable rate case dockets, and shall not be determined in this docket. Upon commencement of the Non-Utility Market Structure, the types of costs that are recoverable by the PBF Administrator shall be addressed and reviewed at that time.

10. The HECO Companies' DSM Utility Incentive Mechanism will be calculated based on net system benefits (less program costs), limited to the authorized rate of return for supply-side investments, subject to the performance requirements and incentive schedule established by the commission. DSM utility incentives shall be positive only, such that there will be no negative incentives for under-performance.

11. HECO's proposed DSM utility incentive is approved, with the following modifications. HECO must meet or exceed the megawatt-hour and megawatt Energy Efficiency goals for both the commercial and industrial sector, and the residential sector,

established in section III.A.8., for HECO to be eligible for a DSM utility incentive. If HECO fails to meet one or more of its four Energy Efficiency goals, HECO will not be eligible to receive a DSM utility incentive. Upon a determination that HECO is eligible for a DSM utility incentive, the next step will be to calculate the percentage by which HECO's actual performance meets or exceeds each of its Energy Efficiency goals. Then, these four percentages will be averaged to determine HECO's Averaged Actual Performance Above Goals. Finally, HECO will be awarded a DSM utility incentive in accordance with the DSM Utility Incentive Schedule established in section III.H, limited to no more than the utility earnings opportunities foregone by implementing DSM programs in lieu of supply-side rate based investments, capped at \$4 million.

12. KIUC and TGC shall be excluded from DSM utility incentives and mechanisms, unless further ordered by the commission.

13. HECO's Proposed Energy Efficiency DSM Programs are approved with modifications, as described in section III.I. HECO's proposal to pay demand incentives for any demand reduction under the CICR and CINC programs is denied. The review of particular program costs shall be reserved for the existing cost recovery process. The commission retains the authority to make further modifications to the programs as necessary or appropriate if there are unsatisfactory benefit-to-cost ratios, an unreasonable level of free-riders, or other adverse results.

14. HECO's RCEA Program is approved, subject to the following modifications and requirements: (a) HECO is not authorized to recover any expenses related to the RCEA Program that were incurred prior to the filed date of this Decision and Order; (b) HECO's expenditures for the RCEA Program shall be included for purposes of determining whether HECO met its Energy Efficiency goals for the residential sector, and in calculating net system benefits for the purposes of determining utility incentives, if any; and (c) HECO must evaluate the program on an annual basis and report to the commission, with a copy to the Consumer Advocate and any other applicable party, within thirty days of completing said evaluation.

15. HECO shall file tariffs for its Proposed Energy Efficiency DSM Programs and RCEA Program, as approved, pursuant to HRS § 269-16, within ninety (90) days of this Decision and Order.⁴⁶⁸

16. RMI's request to implement its proposed AHRNC and PAYS-SWH/PV programs is denied.

17. HREA's SWAC Proposal, considered under HECO's CICR Program, shall have rebate levels consistent with the rebate levels for other customized Energy Efficiency measures in the CICR Program. HREA's request to require HECO to provide a rebate of \$500 per ton and a maximum per customer rebate level of \$500,000 is denied.

⁴⁶⁸HRS § 269-16, states, in relevant part, that "[a]ll rates, fares, charges, classifications, schedules, rules, and practices made, charged, or observed by any public utility . . . shall be just and reasonable and shall be filed with the public utilities commission."

18. A new docket shall be opened to approve HECO's periodic reports, including HECO's A&S Report and M&E Report. Copies of HECO's reports shall be filed in the new docket.

19. HECO's requests to (1) carry over funds not spent in prior years; (2) move the customer incentive funds among [E]nergy [E]fficiency programs and among [L]oad [M]anagement programs to address new technologies and to adjust to changes in energy codes and other external events that might impact HECO's ability to meet the energy and demand goals of the programs; (3) increase or decrease individual measure incentive levels to respond to changes in participation levels and markets; (4) add new measures, and establish corresponding incentive levels to address market opportunities; and (5) increase the total program budget by 25% without [c]ommission approval, are denied. However, HECO may file requests for modifications to its DSM programs in the newly established docket.

20. A new docket shall be opened to select a PBF administrator and to refine details of the new market structure. Until the new market structure is effective, the HECO Companies shall continue to be responsible for overseeing their Energy Efficiency programs, consistent with this Decision and Order. As the transition between the Utility Market Structure and the Non-Utility Market Structure is made, the HECO Companies are required to cooperate fully and promptly to ensure that the process is as smooth as possible for all entities involved or impacted, particularly ratepayers.

21. To the extent that this Decision and Order conflicts with Order Nos. 19019 and 19020, this Decision and Order shall control. In all other respects, Order Nos. 19019 and 19020, as amended, shall remain unchanged.

22. This docket is closed.

DONE at Honolulu, Hawaii FEB 13 2007.

PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

By Carlito P. Caliboso
Carlito P. Caliboso, Chairman

By John E. Cole
John E. Cole, Commissioner

APPROVED AS TO FORM:

Nichole K. Shimamoto
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Commission Counsel

05-0069.ah

CERTIFICATE OF SERVICE

I hereby certify that I have this date served a copy of the foregoing Decision and Order No. 23258 upon the following parties and participants, by causing a copy hereof to be mailed, postage prepaid, and properly addressed to each such party and participant.

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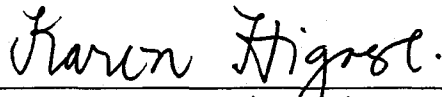
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