4/3/09 PRELIMINARY DRAFT FOR DISCUSSION PURPOSES ONLY

A PROPOSED FRAMEWORK FOR CLEAN ENERGY SCENARIO~~INTEGRATED RESOURCE~~ PLANNING

April 28, 2009~~Revised May 22, 1992~~

Hawaiian Electric Company, Inc.
Division of Consumer Advocacy, Department of Commerce and Consumer Affairs
~~PUBLIC UTILITIES COMMISSION~~
~~STATE OF HAWAII~~

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April 28, 2009~~March 9, 1992~~

~~1.~~I. Definitions

Unless otherwise clear from the context, as used in this framework:

"Action Plan" means a program implementation schedule representing a strategy or timetable based on the scenarios analyzed for achieving the utility's clean energy objectives ~~scenario plan~~ over the first five-year period of the 20-year planning horizon. The five-year period of the Action Plan is updated with the utility's evaluation report by dropping the preceding year from the schedule and including a new year.

~~"Capital investment costs" means costs associated with capital improvements, including planning, the acquisition and development of land, the design and construction of new facilities, the making of renovations or additions to existing facilities, the construction of built-in equipment, and consultant and staff services in planning, design, and construction. Capital investment costs for a program are the sum of the program's capital improvement project costs.~~

"Clean Energy Investment Zones" means areas shown on the Locational Value Map where there is a high value to incremental investment in distributed generation, demand response, energy efficiency, or CHP.

"Clean energy objectives" means moving Hawaii towards achieving a sustainable, clean, flexible, and economically vibrant energy future.

"Clean Energy Scenario Planning" or "CESP" means the process governed by this framework which is a mandatory guide for the utilities.

~~"Costs" means the full and life cycle costs of a resource option.~~

~~"Cost categories" means the major types of costs and includes research and development costs, investment costs, and operating and maintenance costs.~~

~~"Cost elements" means the major subdivisions of a cost category. For the category "investment costs," it includes capital investment costs, initial equipment and furnishing costs, and initial education and training costs. For the categories "research and development costs" and "operating and maintenance costs," it includes labor costs, fuel costs, materials and supplies costs, and other current expenses.~~

"Demand-side management" or "DSM" ~~programs"~~ means programs designed to influence utility customer uses of energy to produce desired changes in demand. It includes conservation, energy~~load management, and~~ efficiency, demand response, and renewable substitution ~~resource programs~~.

~~"Design costs" means the costs related to the preparation of architectural drawings for capital improvements, from schematics to final construction drawings.~~

"Distributed Generation" or "DG" means small-scale electric generating technologies installed at, or in close proximity to, the end-user's location.

"Energy Agreement" means the October 2008 Energy Agreement Among the State of Hawaii, Division of Consumer Advocacy of the Department of Commerce and Consumer Affairs, and the Hawaiian Electric Companies.

~~"Effectiveness measure" means the criterion for measuring the degree to which the objective sought is attained.~~

~~"External benefits" means external economies; benefits to or positive impacts on the activities of entities outside the utility and its ratepayers. External benefits include environmental, cultural, and general economic benefits.~~

~~"External costs" means external diseconomies; costs to or negative impacts on the activities of entities outside the utility and its ratepayers. External costs include environmental, cultural, and general economic costs.~~

"Feed-in-Tariff" or "FIT" means a set of standardized, published purchased power rates, including terms and conditions, which the utility will pay for each type of renewable energy resource based on project size fed to the grid.

~~"Full cost" means the total cost of a program, system, or capability, including research and development costs, capital investment costs, and operating and maintenance costs.~~

"Hawaii Revised Statutes" or "HRS" means current laws governing the State of Hawaii.

"Hawaii Clean Energy Initiative" or "HCEI" means the Memorandum of Understanding between the Governor of the State of Hawaii and the U.S. Department of Energy signed in January 2008, having the goal to decrease energy demand and accelerate use of renewable, indigenous energy resources in Hawaii in residential, building, industrial, utility, and transportation end-use sectors, so that efficiency and renewable energy resources will be sufficient to meet 70% of Hawaii's energy demand by 2030.

~~"Investment costs" means the one-time costs beyond the development phase to introduce a new system, program, or capability into use. It includes capital investment costs, initial equipment acquisition costs, and initial education and training costs.~~

~~"Life-cycle costs" means the total cost impact over the life of the program. Life-cycle costs include research and development cost, investment cost (the one-time cost of instituting the program), and operating and maintenance (O&M) cost.~~

"Locational Value Map" or "LVM" means geographic areas of distribution system growth within the next 3-5 years where distributed resources and energy efficiency could be beneficial within the existing transmission and distribution system limits.

"Net Energy Metering" or "NEM" means measuring the difference between the electricity supplied through the electric grid and the electricity generated by an eligible customer-generator and fed back to the electric grid over a monthly billing period as defined in HRS ch. 269, part VI, section 269-101.

~~"Objective" means a statement of the end result, product, or condition desired, for the accomplishment of which a course of action is taken.~~

~~"Operating and maintenance costs" or "O&M costs" means recurring costs of operating, supporting, and maintaining authorized programs, including costs for labor, fuel, materials and supplies, and other current expenses.~~

~~"Participant impact" means the impact on participants in a demand-side management program in terms of the costs borne and the direct, economic benefits received by the participants.~~

"Program" means ~~a combination of~~ resources and/or activities ~~designed to achieve an objective or objectives~~ in the CESP scenarios and/or CESP Action Plan.

~~"Program size" means the magnitude of a program, such as the number of persons serviced by the program, the amount of a commodity, the time delays, the volume of service in relation to population or area, etc.~~

~~"Program size indicator" means a measure to indicate the magnitude of a program.~~

"Public Benefit Fee Administrator" or "PBF Administrator" means the third-party administrator of energy efficiency demand-side management programs as defined in HRS ch. 269, part VII, section 269-122.

~~"Ratepayer impact" means the impact on ratepayers in terms of the utility rates that ratepayers must pay.~~

"Renewable Energy Infrastructure Program" or "REIP" means a mechanism designed to timely recover costs incurred by the electric utility for the development of and investment in renewable energy infrastructure projects in order to facilitate third-party development of renewable energy resources and maintain current renewable energy resources. The REIP includes the Clean Energy Infrastructure Surcharge included in the Energy Agreement.

"Renewable Energy Zones" or "REZ" means identification of areas that contain significant renewable energy potential.

"Renewable Portfolio Standards" or "RPS" means the current law governing the State of Hawaii as defined in HRS ch. 269, part V.

~~"Research and development costs" means costs associated with the development of a new system, program, or capability to the point where it is ready for introduction into operational use. It includes the costs of prototypes and the testing of the prototypes. It includes the costs of research, planning, and testing and evaluation.~~

"RFP" means a written request for proposal issued by the electric utility to solicit bids from interested third-parties, and where applicable from the utility or its affiliate, to supply a future generation resource of a block of generation resources to the utility pursuant to the competitive bidding process. [Framework for Competitive Bidding DEFINITIONS]

"Scenarios" means a range of possible futures reflecting possible energy-related policy choices and risks facing the utility and its customers.

~~"Societal cost" means the total direct and indirect costs to society as a whole. Society includes the utility and, in a demand-side management program, the participants.~~

~~"Societal cost-benefit assessment" means an assessment of the costs and benefits to society as a whole.~~

"Supply-side programs" means programs designed to supply power. It includes renewable energy.

"Total resource cost" means the total cost composed of ~~a demand-side management program, including both~~ the utility costs and the costs by participants in the demand-side management programs~~costs~~.

"Utility costs" means the costs ~~cost~~ to the utility (including ratepayers), excluding costs incurred by participants in a demand-side management program.

~~"Utility cost-benefit assessment" means an assessment of the costs and benefits to the utility.~~

~~2.~~ I. Introduction

~~a.~~A. Goal of Clean Energy Scenario~~Integrated Resource~~ Planning

The goal of Clean Energy Scenario Planning ("CESP") is to develop CESP scenarios that will provide high level guidance on a long term (10-20 years) direction, which will then be utilized to develop ~~and an~~ CESP Action Plan for near term initiatives (5 years), balancing how the utility will meet clean energy objectives, customers' expected energy needs, and protecting system reliability at reasonable costs under various scenarios. [Energy Agreement Initiative No. 32, first bullet on page 36]~~The goal of integrated resource planning is the identification of the resources or the mix of resources for meeting near and~~

~~long term consumer energy needs in an efficient and reliable manner at the lowest reasonable cost.~~

~~b.~~B. Governing Principles (Statements of Policy)

1. The development of ~~integrated resource plans is~~ the CESP scenarios and the CESP Action Plan are the responsibility of each utility.

2. ~~Integrated resource plans~~CESP scenarios and the CESP Action Plan shall comport with state and county environmental, health, and safety laws and formally adopted state and county plans.

3. ~~Integrated resource plans~~CESP scenarios and the CESP Action Plan shall be developed upon consideration and analyses of the costs, effectiveness, and benefits, and risks of ~~all~~ appropriate, available, and feasible supply-side and demand-side options as guidance for Hawaii's clean energy future based on the HCEI Energy Agreement.

4. ~~Integrated resource plans~~CESP scenarios and the CESP Action Plan shall give consideration to the plans' impacts upon the utility's consumers, the environment, culture, community lifestyles, the State's economy, and society.

5. ~~Integrated resource plans~~CESP scenarios and the CESP Action Plan shall take into consideration the need to preserve a stable electric grid and financially sound electric utility as vital components of our renewable energy future. [Energy Agreement, sixth paragraph, page 1]~~utility's financial integrity, size, and physical capability.~~

6. Clean energy scenario~~Integrated resource~~ planning shall be an open public process. Opportunities shall be provided for participation by the public and governmental agencies in the development and in Commission~~commission~~ review of the CESP scenarios and CESP Action Plan.~~integrated resource plans.~~

7. The utility is entitled to recover all appropriate and reasonable clean energy scenario~~integrated resource~~ planning and implementation costs. ~~In addition, existing disincentives should be removed and, as appropriate, incentives should be established to encourage and reward aggressive utility pursuit of demand-side management programs. Incentive mechanisms should be structured so that investments in suitable and effective demand-side management programs are at least as attractive to the utility as investments in supply-side options.~~

8. The clean energy scenario planning process shall be focused on planning scenario analyses that provides flexibility across a wide range of potential futures and uncertainties for achieving Hawaii's clean energy future based on the HCEI Energy Agreement. [Energy Agreement Initiative 33, subpart l, page 40]

~~c.~~C. Utility's Responsibility

~~i.~~1. Each utility is responsible for developing a reasonable number of CESP scenarios~~plan or plans~~ for meeting the energy needs of its customers to reflect a range of possible energy-related policy choices and risks facing the State, its utilities, and citizens. [Energy Agreement Initiative No. 33, subpart a, page 38]~~.~~ The CESP scenarios will be evaluated to help formulate the CESP Action Plan, covering a 5-year implementation period.

~~ii.~~2. The utility shall prepare and submit to the ~~c~~Commission for ~~c~~Commission approval at the time or times specified in this framework the utility's CESP Action Plan.~~integrated resource plan and program implementation schedule.~~

~~iii.~~3. The utility shall execute the ~~c~~Commission approved CESP Action ~~p~~Plan in accordance with the CESP Framework~~program implementation schedule~~. As part of this execution, the utility shall file for Commission review and approval individual applications for programs or elements of the CESP Action Plan that requires specific Commission approval.

~~iv.~~4. In its development of the CESP scenarios and CESP Action Plan, the utility shall comply with State initiatives and Commission proceedings that consider such issues, but not limited to: 1) Competitive Bidding for future generation; 2) State Renewable Energy Portfolio Standards; 3) Energy Efficiency; 4) Renewable Energy Infrastructure Programs; 5) Distributed Generation; 6) Net Energy Metering; 7) Feed-in Tariffs; 8) Advanced Metering Infrastructure ("AMI"); 9) Energy Efficiency Portfolio Standards ("EEPS"); and 10) Greenhouse Gas "(GHG") initiatives.~~The utility shall annually examine and evaluate its achievements in attaining its objectives.~~

~~d.~~D. Commission's Responsibility [REVISED]

~~i.~~1. The Commission's~~commission's~~ responsibility, in general, is to determine whether the utility's CESP scenarios and CESP Action ~~p~~Plan represents a reasonable course for meeting the energy needs of the utility's customers,~~ and~~ is in the public interest,~~ and~~ is consistent with this Clean Energy Scenario Planning Framework, and provides strategic guidance for future utility planning to achieve Hawaii's clean energy future based on the HCEI Energy Agreement.~~the goals and objectives of integrated resource planning.~~

~~ii.~~2. The Commission will review and approve in whole or in part the utility's CESP as a reasonable course for meeting the energy needs of the utility's customers, is in the public interest, and is consistent with this Clean Energy Scenario Planning Framework. The Commission will review the utility's CESP and issue an order approving or denying the CESP Action Plan within six (6) months of the filing. If the Commission does not issue a decision within the six month period, the CESP Action Plan is automatically deemed "approved". [Energy Agreement Initiative No. 33, subpart p, page 41.] Approval should elevate the status of the preferred resources

identified in the CESP Action Plan to give them a presumption of need in any subsequent siting proceeding. [Energy Agreement Initiative No. 33, subpart o, page 41] If the Commission rejects all or parts of the CESP filed, there should be an explanation for non-approval and the implications of that non-approval on the utility's asset investment and strategic choices for the upcoming three-year period. [Energy Agreement Initiative No. 33, subpart p, page 41.]~~Specifically, the commission will review the utility's integrated resource plan, its program implementation schedule, and its evaluations, and generally monitor the utility's implementation of its plan. Upon review, .the commission may approve, reject, approve in part and reject in part, or require modifications of the utility's integrated resource plan and program implementation schedule.~~

~~iii.~~3. The Commission acknowledges that the purpose of the CESP is to provide strategic guidance for future utility planning to achieve Hawaii's clean energy future, and that its review and any approval given to the CESP will apply only to high level planning issues. Thus, the utility will file for Commission review and approval individual applications for programs or elements of the CESP Action Plan that requires specific Commission approval. The utility may file such applications before the Commission issues a final decision approving the CESP Action Plan and the Commission may review these individual applications for programs in parallel with the review of the CESP Action Plan.~~The parties shall cooperate in expediting commission hearings on the utility's integrated resource plan and program implementation schedule. To the extent possible, the commission will hear the utility's application for approval of its integrated resource plan within six months of the plan's filing, and the commission will render its decision shortly thereafter.~~

~~c.~~E. Consumer Advocate's Responsibility

~~i.~~1. The Executive Director~~director~~ of the Department of Commerce~~commerce~~ and Consumer Affairs, Division of Consumer Advocacy~~consumer affairs~~, as the Consumer Advocate~~consumer advocate and through the division of consumer advocacy~~, has the statutory responsibility to represent, protect, and advance the interest of consumers of utility services. The Consumer Advocate~~consumer advocate~~, therefore, has the duty to ensure that the utility's CESP scenarios and CESP Action ~~p~~Plan~~integrated resource plan~~ promotes the interest of utility consumers.

~~ii.~~2. The ~~c~~Consumer ~~a~~Advocate shall be a party to each utility's clean energy scenario~~integrated resource~~ planning docket and a member of any and all advisory committees~~groups~~ established by the utility in the development of its CESP scenarios and CESP Action Plan.~~integrated resource plan.~~ The Consumer Advocate~~consumer advocate~~ shall also participate in all public hearings and other sessions held in furtherance of the utility's efforts in clean energy scenario~~integrated resource~~ planning.

F. PBF Administrator's Responsibility [NEW]

1. The PBF Administrator's responsibility, in general, is to administer all energy efficiency programs in accordance with Public Benefits Fee HRS ch. 269, part VII and Docket No. 2007-0323.

2. The PBF Administrator shall be a party to each utility's clean energy scenario planning docket and a member of any and all advisory committees established by the utility in the development of its CESP scenarios and CESP Action Plan. The PBF Administrator shall also participate in all public hearings and other sessions held in furtherance of the utility's efforts in clean energy scenario planning.

~~3.~~III. The Planning Context

~~a.~~A. Major Steps

There are three~~four~~ major steps in the clean energy scenario ~~integrated resource~~ planning process: planning, programming, and implementation~~, and evaluation~~.

~~i.~~1. Planning is that process in which the utility's needs are identified; ~~the utility objectives are formulated; measures by which effectiveness in attaining objectives are specified; the alternatives by which the objectives may be attained are identified; the full cost, effectiveness, and benefit implications of each alternative are determined;~~ the assumptions, costs, risks, and uncertainties are clarified; Locational Value Maps are developed; and resource ~~the cost, effectiveness, and benefit tradeoffs of the alternatives are made; the resource options are chosen;~~ and program choices are subjected to scenario~~sensitivity~~ analyses to reflect a range of the possible energy-related policy choices and risks facing the utility systems and citizens. The product of this process is the utility's CESP scenarios.~~integrated resource plan.~~ The planning horizon for the utility CESP ~~integrated resource plans~~ is 20 years. Unless otherwise ordered by the Commission~~commission~~, the 20-year period begins January 1 following the completion of the ~~plan~~ CESP.

~~ii.~~2. Programming is that process by which the utility's CESP scenarios are evaluated and programs or elements from one or more scenarios ~~long-range resource program plans~~ are scheduled for implementation over a five-year period. In this process, a determination is made as to the order in which the selected program options are to be implemented; the phases or steps in which each program is to be implemented; the expected target group and the annual size of the target group or annual level of penetration of demand-side management programs; the expected annual supply-side capacity additions and the identification of the resource procurement method; transmission and distribution system additions~~; the expected annual levels of effectiveness in achieving integrated resource planning objectives~~; and the annual expenditures~~, by cost categories and cost elements,~~ required to be made by the utility to support implementation of the programs. The result of this process is a program implementation schedule or CESP ~~a~~Action ~~p~~Plan. The CESP Action Plan~~schedule~~ represents ~~a~~an implementation strategy or timetable for program implementation.

~~iii.~~3. Implementation is that process by which the resource program options to be implemented are acquired and instituted in accordance with the utility's CESP Action Plan~~program implementation schedule~~.

~~iv. Evaluation is that process by which the results of the resource program options are measured in light of the utility's objectives. In this process the actual costs, effectiveness, and benefits of the resource options and the attainment of the utility's objectives are measured against those that were projected in the planning and programming stages of the planning cycle.~~

~~b.~~B. The Planning Cycle

~~i.~~1. Each utility shall conduct ~~a of~~ its initial CESP ~~integrated resource plan and implementation schedule and submit them~~ for submittal to the Commission~~commission approval~~ by the following dates:

~~1. Kauai Electric Division of Citizens Utilities Company: May 1, 1993.~~

~~2. Gasco, Inc.: May 1, 1993.~~

~~3.~~a. Hawaiian Electric Company, Inc.: 18 months after issuance of D&O for this framework.~~July 1, 1993.~~

~~4.~~b. Hawaii Electric Light Company, Inc.: 18 months after issuance of D&O for this framework~~September 1, 1993~~.

~~5.~~c. Maui Electric Company, Limited: 18 months after issuance of D&O for this framework~~November 1, 1993~~.

d. Kauai Island Utility Cooperative: ~~??????~~To be determined.

The utilities shall conduct their clean energy scenario planning in coordination with each other or in parallel since the clean energy scenario plan for one island utility may affect the choices and actions of another island utility. [Energy Agreement Initiative No. 32, third bullet on page 36]

~~ii.~~2. Each utility shall conduct a major review of its CESP~~integrated resource plan~~ every three years. [Consistent with Energy Agreement Initiative No. 32, second bullet on page 36] In such a review, a new 20-year time horizon shall be adopted, the planning process repeated, and the utility's resource programs re-analyzed fully. A~~The first~~ major review~~, following the submission of each utility's initial integrated resource plan to the commission in 1993,~~ shall be conducted by each utility, resulting in the submission to the Commission of new CESP scenarios~~Plans~~ and CESP Action Plan in the same month every three years from the filing of the initial CESP.~~commence in 1995 so as to result in the submission to the commission of a new (second) integrated resource plan and implementation schedule in 1996 as follows:~~

~~1.Hawaiian Electric Company, Inc.: January 1, 1996.~~

~~2.Kauai Electric Division of Citizens Utilities Company: April 1, 1996.~~

~~3.Gasco, Inc.: April 1, 1996.~~

~~4.Hawaii Electric Light Company, Inc.: June 1, 1996.~~

~~5.Maui Electric Company, Limited: October 1, 1996.~~

~~Thereafter, each utility shall conduct a major review, resulting in the submission to the commission of a new integrated resource plan and implementation schedule on the same day every three years.~~

~~c.~~C. The Docket

1. Each planning cycle for a utility will commence with the issuance of an order by the Commission~~commission~~ opening a docket for clean energy scenario~~integrated resource~~ planning.

2. The docket will be maintained throughout the planning cycle for the filing of documents, the resolution of procedural disputes, and other purposes related to the utility's CESP scenarios and CESP Action Plan~~integrated resource plan~~.

3. Within 30 days after the opening of the docket, the utility shall prepare, in consultation with the Consumer Advocate~~consumer advocate~~, and file with the Commission~~commission~~ a schedule that it intends to follow in the development of its CESP scenarios and CESP Action Plan.~~integrated resource plan.~~ The schedule may be amended upon the formation of an advisory committee~~group~~ or committees~~groups~~ and thereafter as appropriate.

4. The utility shall complete its CESP scenarios~~integrated resource plan~~ and CESP Action Plan~~program implementation schedule~~ within one year of the commencement of the planning cycle.

~~d.~~D. Submissions to the Commission [REVISED]

1. The utility shall submit its CESP, which will include the CESP scenarios and CESP Action Plan~~integrated resource plan~~ as follows.

   a. The utility shall include in its CESP~~integrated resource plan~~ a ~~full and~~ detailed description of:

      (i) ~~(1i)~~ The factors and assumptions underlying the development of each scenario, which includes but is not limited to: (a) the generation and

transmission needs identified; (2b) the proposed procurement method for generation resources identified in the plans; (c) the forecasts made; (3d) the assumptions underlying the forecasts; (4) the objectives to be attained by the plan; (5) the measures by which achievement of the objectives is to be assessed; (6) the resource options or mix of options included in the plan; (7e) the assumptions and the basis of the assumptions underlying the plans; (8f) the risks and uncertainties associated with the plans; (9g) the total resource cost of the plans; revenue requirements on a present value basis and on an annual basis; (10h) the expected impact of the plans on demand; (11) the expected achievement of objectives; and (12i) theestimates of potential impact of the plans on customer rates, consumer and bills., and consumer energy use; (13) the plan's external costs and benefits; and (14) the relative sensitivity of the plan to changes in assumptions and

(ii) Locational Value Maps identifying geographic areas of distribution system growth.

b.(iii) Renewable Energy Zones identifying potential areas of renewable energy development.

c.b. A reasonable number of CESP scenarios shall be analyzed and developed to reflect a range of possible energy-related policy choices and risks facing the utility systems and citizens. These scenarios may feature different policy backdrops, such as major increases or decreases in oil prices, policy changes such as federal or international carbon regulation or the adoption of plug-in hybrid electric vehicles/electric vehicles, as well as different resource policies such as higher levels of energy efficiency, demand response, and renewable substitution (e.g., solar water heating and seawater-cooled air conditioning). [Energy Agreement Initiative No. 33, subpart a, page 38] In addition, these scenarios may feature different economic and financial backdrops, such as ranges of future State economic health and ranges of future financial marketother conditions. The CESP scenarios will guide the utility to develop its CESP Action Plan. The items enumerated should, where appropriate, be described for the plan as a whole and for each of the resources or mix of resources included in the plan.

d.The utility shall file with the integrated resource plan a full and detailed description of the analysis or analyses upon which the plan is based. The utility shall fully describe, among other things, (1) the data (and the source of the data) upon which needs were identified and forecasts made; (2) the methodologies used in forecasting; (3) the various objectives and measures of assessing attainment of objectives that were considered, but rejected, and the reasons for rejecting any objective or measure; (4) the resource options that were identified, but screened out and not considered and the reasons for the rejection of any resource option; (5) the assumptions and the basis of the assumptions, the risks and uncertainties, the costs, effectiveness, and benefits (including external costs and benefits), and

~~the impacts on demand, rates, consumer bills, and consumer energy uses associated with each resource option or mix of options that was considered; (6) the comparisons and the cost, effectiveness, and benefit tradeoffs and optimization made of the options and mixes of options; (7) the models used in the comparisons, tradeoffs, and optimization; (8) the criteria used in any ranking of options and mixes of options; and (9) the sensitivity analyses conducted for the options and mixes of options.~~

~~e.The utility shall also file with the integrated resource plan a description of all alternate plans that the utility developed, the ranking it accorded the various plans, the criteria used in such ranking, and a full and detailed explanation of the analysis upon which it decided its preferred integrated resource plan.~~

~~f.~~c. The submissions should be simple and clearly written and, to the extent possible, in non-technical language. Charts, graphs, and other visual devices may be utilized to aid in understanding its plan and the analyses made by the utility. The utility shall provide an executive summary of the plan and of the analyses and appropriately index its submissions.

2. The utility shall submit its ~~program implementation schedule~~ CESP Action Plan as follows. [REVISED]

a. The CESP Action Plan will be developed based on the CESP scenarios analyzed. The CESP Action Plan may contain elements or programs from one or more of the CESP scenarios. The evaluation of which elements to be included in the CESP Action Plan should be based on factors including but not limited to: (i) achieving state clean energy objectives; (ii) timing flexibility; and (iii) preserving a stable electric grid for the state's renewable energy future.

~~c.~~b. Information pertaining to energy efficiency demand-side management programs shall be provided to the utility from the PBF Administrator. The ~~utility~~PBF Administrator shall include ~~in the schedule by year: the programs or phases of programs to be implemented in the year; the expected level of achievement of objectives; the expected size of the target group or level of penetration of any demand-side management program; the expected supply-side capacity addition;~~ its projection of the energy and demand savings resulting from its energy efficiency programs and the expenditures~~, by cost categories and cost elements,~~ required to be made ~~by the utility~~ to support the implementation of the energy efficiency programs. ~~each program or phase of a program.~~

c. The utility shall include its projection of the energy and demand savings resulting from its demand response programs and any pilot DSM programs and the expenditures required to be made to support the implementation of these programs.

d. The utility shall include the expected supply-side capacity additions, the proposed procurement method for the supply-side additions, and the cost required to be made by the utility to support the implementation of the supply-side resource options.

e. The utility shall include the expected transmission and distribution system additions and the estimated cost required to be made by the utility to support the implementation of the transmission and distribution additions.

f. The utility shall file with its CESP Action Plan a full description of the analysis upon which the schedule is based.

~~d.The utility shall file with its program implementation schedule a full and detailed description of the analysis upon which the schedule is based. The utility shall fully describe, among other things:~~

~~1.The steps required to realize and implement the supply-side and demand-side resource programs included in the schedule.~~

~~2.How the target groups were selected and how program penetration for demand-side management programs and the expected levels of effectiveness in achieving integrated resource planning objectives were derived.~~

~~3.The expected annual effects of program implementation on the utility and its system, the ratepayers, the environment, public health and safety, cultural interests, the state economy, and society in general.~~

~~e.~~g. The ~~program implementation schedule~~ CESP Action Plan shall also be accompanied by the utility's ~~proposals on~~ estimated costs and proposals for cost recovery,~~cost and revenue loss recovery and incentives,~~ as appropriate.

h. The CESP Action Plan shall include any effort related to the implementation of the Framework for Competitive Bidding, including, but not limited to, the development of the request for proposal, parallel planning, and contingency planning.

3. The utility shall submit an~~its annual~~ evaluation report as follows. [REVISED]

a. The utility shall submit a minimum of one evaluation report between CESP cycles, preferably in the middle of the three years. ~~[Deviates from Energy Agreement Initiative No. 33, third paragraph on page 37]~~

~~a.~~b. The utility shall include in its ~~annual~~ evaluation, an assessment of the continuing validity of the forecasts and assumptions upon which its CESP Action Plan was fashioned, and update these assumptions as appropriate.

Information pertaining to energy efficiency demand-side management programs shall be provided to the utility from the PBF Administrator~~integrated resource plan and its program implementation schedule were fashioned~~.

~~b.~~c. The utility and the PBF Administrator shall also include for each demand response and energy efficiency program respectively included in the CESP Action Plan ~~program or phase of program included in the program implementation schedule~~ for the immediately preceding year a comparison of:

~~1.~~(1) The expenditures anticipated to be made and the expenditures actually made~~, by cost categories and cost elements~~.

~~2.~~(2) The 1eve1 of achievement of energy and demand impacts~~objectives~~ anticipated and the level actually attained.

~~3. The target group size or level of penetration anticipated for each demand-side management program and the size or level actually realized.~~

~~4. The effects of program implementation anticipated and the effects actually experienced.~~

~~c.~~d. The utility and the PBF Administrator shall provide an assessment of all substantial differences between original estimates and actual experience and of what the actual experience portends for the future. The PBF Administrator shall provide relevant information to the utility for incorporation into its evaluation report.

~~d.~~e. Together with its ~~annual~~ evaluation, the utility shall submit a revised CESP Action Plan~~program implementation plan~~ that drops the immediately preceding year(s) from the schedule of the CESP Action Plan and include~~s~~ a corresponding new year(s). The CESP Action~~program implementation~~ ~~p~~Plan must always reflect a five-year time span.

4. The utility may at any time, as a result of its ~~annual~~ evaluation or change in conditions, circumstances, or assumptions, revise or amend its CESP Action Plan, including LVMs and REZ.~~integrated resource plan or its program implementation schedule.~~ All revisions and amendments must conform to the appropriate requirements of this part D.

5. The utility may, at any time, request a waiver from the Commission from any or all of the provisions of the CESP Framework. A utility seeking such a waiver shall have the burden of showing, to the Commission's satisfaction, that compliance with the CESP Framework, or any of its provisions, is impossible, impractical, inappropriate or economically infeasible. Any waiver that a utility may seek should be sought at the earliest feasible and possible moment, at least not later than the moment it

becomes apparent that the utility does not intend to comply with a particular CESP Framework requirement.

6. Notwithstanding the above, the Commission, upon a showing or submission that a utility has an ownership structure in which there is no substantial difference in economic interests between its owners and its customers[1], may waive or exempt that utility from any or all of the provisions of the CESP Framework.

7. The CESP~~integrated resource plan and~~ Action Plan~~program implementation schedule~~ approved by the Commission~~commission~~ shall ~~govern~~ provide guidance for all utility expenditures for capital projects, purchased power, and demand response programs, and the PBF Administrator's expenditure for energy efficiency programs. ~~side management programs.~~ Notwithstanding approval of the CESP Action Plan: ~~an integrated resource plan:~~ (a) an expenditure for any capital project in excess of $2,500,000 shall be submitted to the Commission~~commission~~ for review as provided in paragraph 2.3. g. 2 of General Order No.7 (as amended); and (b) no obligation under any purchased power contract shall be undertaken and no expenditure for any specific demand-side management program included in the CESP Action Plan~~an integrated resource plan or a program implementation schedule~~ shall be made without prior Commission~~commission~~ approval. Projects and programs do not have to be included in the approved CESP Action Plan to be consistent with the ~~plans~~CESP. Specific capital expenditures projects may not be identified or discussed in the CESP process because they are generally described as generic projects. All power purchases from qualifying facilities and independent power producers shall be subject to statute and Commission~~commission~~ rules and also may not be identified or specifically discussed in the CESP because proposals may be received at unforeseen times. Other types of projects, such as distribution projects, generally will not be analyzed in the CESP process but the distribution planning process is coordinated with the CESP.

~~5.~~8. The CESP scenarios and CESP Action Plan resulting from this planning framework is not fixed and unchanging. The CESP scenarios and CESP Action Plan shall be flexible enough to account for changes in planning assumptions and forecasts. This will allow for major decisions regarding the implementation of program options (both supply-side and demand-side resources) to be made incrementally, based on the best available information at the time decisions must be made. The CESP scenario analyses shall identify what information is critical to the decision making process, and also identify when the strategic decisions need to be made.

~~c.~~E. Public Participation

To encourage~~maximize~~ public participation in each utility's clean energy scenario~~integrated resource~~ planning process, opportunities for such participation shall be provided through advisory committees~~groups~~ to the utility, public hearings, and interventions in formal proceedings before the Commission~~commission~~.

[1] Such as a member-owned cooperative.

1. Advisory Committees~~groups~~

   a. The utility shall organize in each county in which the utility provides service or conducts utility business a group or groups of representatives of public and private entities to provide input to~~advise~~ the utility and the PBF Administrator in the development of its CESP. ~~integrated resource plan.~~ A separate advisory committee~~group~~ may be formed for each stage of the planning process, as appropriate. The utility shall chair each advisory committee~~group~~.

   b. The public and private entities includable in an advisory committee~~group~~ are those that represent interests that are affected by the utility's CESP scenarios ~~integrated resource plan~~ and that can provide significant perspective or useful expertise in the development of the ~~plan~~ scenarios. These entities include state and county agencies and environmental, cultural, business, and community interest groups. An advisory committee~~group~~ should be representative of as broad a spectrum of interests as possible, subject to the limitation that the interests represented should not be so numerous as to make deliberations as a group unwieldy and to allow for the timely completion and filing of a CESP.

   c. The utility shall hold meetings with the advisory committee during key phases of the process with a minimum quarterly participation to the extent meaningful and practical. [From HECO/HELCO/MECO IRP-3 Stipulations and HELCO/MECO Orders approving IRP-3] The PBF Administrator shall attend meetings to support their forecast of energy efficiency programs.

   ~~c.~~d. The utility shall consider the input of each advisory committee~~group~~; but the utility is not bound to follow the advice of any advisory committee~~group~~.

   ~~d.~~e. All data reasonably necessary for an advisory committee~~group~~ to participate in the utility's clean energy scenario~~integrated resource~~ planning process shall be provided by the utility, subject to the need to protect the confidentiality of customer-specific and proprietary information.

   ~~e.~~f. The use by the advisory committees~~groups~~ of the collaborative process is encouraged to arrive at a consensus on issues.

   ~~f.~~g. All reasonable out-of-pocket costs incurred by participants in advisory committees~~groups~~ (other than governmental agencies) shall be paid for by the utility, subject to recovery as part of the utility's cost of clean energy scenario~~integrated resource~~ planning.

2. Public hearings

   a. The utility is encouraged to conduct public meetings ~~hearings~~ or provide public forums at the various, discrete phases of the planning process for the purpose of

securing the input of those members of the public who are not represented by entities constituting advisory committeesgroups.

b. Upon the filing of requests for approval of a CESP Action Plan,an integrated resource plan or projects, the Commissioncommission may, and it shall where required by statute, conduct public hearings for the purpose of securing public input on the utility's proposal. The Commissioncommission may also conduct such informal public meetings as it deems advisable.

3. Intervention

a. Upon the filing of its CESPintegrated resource plan, the utility shall cause to be published in a newspaper of general circulation in the State a notice informing the general public that the utility has filed its proposed CESP Action Plan integrated resource plan with the Commissioncommission for the Commission's commission's approval.

b. To encourage public awareness of the filing of a proposed utility plan the CESP, a copy of the proposed plan CESP Action Plan and the supporting analysis shall be available for public review at the Commission'scommission's office and at the office of the Commission'scommission's representative in the county serviced by the utility. The utilities shall provide copies of these documents online on its website. 'In the case of Maui Electric Company, Limited, the utility shall also make a copy of its proposed plan and the supporting analysis available at a public library on each of the islands of Molokai and Lanai. In the case of Hawaii Electric Light company, Inc., the utility shall also make a copy of its proposed plan and the supporting analysis available at a public library in Kona. Each utility shall note the availability of the documents for public review at these locations in its published notice. The utility shall make copies of the executive summary of the plan and the analysis available to the general public at no cost, except the cost of duplication.

c. Applications to intervene or to participate without intervention in any proceeding in which a utility seeks Commissioncommission approval of its CESP Action Plan integrated resource plan are subject to the rules prescribed in Hawaii Administrative Rules, Chapter 6-61 (Rules of ; in part IV of the commission's General Order No. 1 (Practice and Procedure before the Public Utilities Commission); except that such applications may be filed with the Commissioncommission not later than 20 days after the publication by the utility of a notice informing the general public of the filing of the utility's application for Commissioncommission approval of its CESP Action Planintegrated resource plan, notwithstanding the opening of the docket before such publication.

d. A person's status as an intervenor or participant shall continue through the life of the docket, unless the person voluntarily withdraws or is dismissed as an intervenor or participant by the Commission~~commission~~ for cause.

4. Intervenor funding

a. Upon the issuance of the Commission's~~commission's~~ final order on a utility's ~~integrated resource plan~~CESP Action Plan or any amendment to the ~~plan~~ CESP Action Plan, the Commission~~commission~~ may grant an intervenor or participant (other than a governmental agency, a for-profit entity, and an association of for-profit entities) recovery of all or part of the intervenor's or participant's direct out-of-pocket costs reasonably and necessarily incurred in intervention or participation. Any recovery and the amount of such recovery are in the sole discretion of the Commission~~commission~~. All intervenors and participants (who plan to seek intervenor funding) must file a budget with the Commission within 30 days after intervention is granted, setting forth:

(1) the estimated cost of intervention or participation;

(2) the level of funding expected to be funded from other sources; and

(3) the net amount expected to be recovered from utility ratepayers.

b. To be eligible for such recovery:

~~1.~~(1) The intervenor or participant must show a need for financial assistance;

~~2.~~(2) The intervenor or participant must demonstrate that it has made reasonable efforts to secure funding elsewhere, without success;

~~3.~~(3) The intervenor or participant must maintain accurate and meaningful books of account on the expenditures incurred; and

~~4.~~(4) The Commission~~commission~~ must find that the intervenor or participant made a substantial contribution in assisting the Commission~~commission~~ in arriving at its decision.

c. The intervenor's or participant's books of account are subject to audit, and the Commission~~commission~~ may impose other requirements in any specific case.

d. Such allowance may be made only upon the application of the intervenor or participant within 20 days after the issuance of the Commission's~~commission's~~ final order, together with justification and documented proof of the costs incurred.

e. The costs of intervenor funding shall be paid for by the utility, subject to recovery as part of its costs of clean energy scenario~~integrated resource~~ planning.

~~f.~~F. Cost Recovery and Incentives [REVISED]

~~A.~~1. The utility is entitled to recover its clean energy scenario~~integrated resource~~ planning and implementation costs that are reasonably incurred, including the costs of planning and implementing pilot and full-scale utility demand-side management programs.

a. The cost recovery may be had through the following mechanisms:

~~a.~~(1) Base rate recovery--the inclusion of costs in the utility's base rate during each rate case. The utility shall record costs associated with the clean energy scenario planning in separate accounts to allow review of the actual costs incurred to the forecasted costs presented in 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.~~

~~b. 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.~~

~~c.~~(2) 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~~commission~~.

~~d.~~(3) 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~~commission~~.

b. The Commission~~commission~~ will determine the appropriate mechanism for the recovery of costs associated with demand-side management programs when specific demand-side management programs are submitted for Commission~~commission~~ approval. Cost recovery for other CESP~~integrated resource~~ programs generally will be addressed in each utility's rate case.

~~B.Under appropriate circumstances, the utility may recover the net loss in revenues sustained by the utility as a result of successful implementation of full-scale demand-side management programs sponsored or instituted by the utility.~~

~~a.The net revenue loss is the revenue lost less the variable fuel and operating expenses saved by the utility as a result of not having to generate the unsold energy.~~

~~b.The commission will determine whether the utility will be permitted to recover the net revenues lost as a result of successful implementation of a full-scale demand-side management program and the form of the recovery mechanism. The determination will be made when an application is filed for approval of the demand-side management program.~~

~~C.~~2. Under appropriate circumstances, the ~~commission~~Commission may provide the PBF Administrator~~utility~~ with incentives to encourage participation in and promotion of full-scale energy efficiency~~demand-side management~~ programs.

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

~~a.~~(1) Granting the PBF Administrator~~utility~~ a percentage share of the gross or net benefits attributable to energy efficiency~~demand-side management~~ programs (shared savings).

~~b.~~(2) Granting the PBF Administrator~~utility~~ a percentage of certain specific expenditures it makes in energy efficiency~~demand-side management~~ programs (mark-up).

~~c.Allowing the utility to earn a greater than normal return on equity for ratebased demand-side management expenditures (rate base bonus).~~

~~d.Adjusting the utility's overall return on equity in. response to quantitative or qualitative evaluation of demand-side management program performance (e.g., adjusting the return upward for achieving a certain level of kilowatt or kilowatt-hour savings) (ROE adjustment).~~

b. The Commission~~commission~~ will determine whether the PBF Administrator~~utility~~ will be provided with incentives and the form of such incentives, if any, when specific energy efficiency~~demand-side management~~ programs are submitted for approval. The PBF Administrator~~utility~~ may propose incentive forms for a particular program, based on the particular attributes of the program and the results to be attained.

c. The Commission~~The commission~~ may terminate any and all incentives whenever circumstances or conditions warrant such termination.

~~4.~~IV. Planning Considerations

~~a.~~A. Energy and Demand Forecasts [NEW and REVISED]

~~—~~1. The utility shall develop ~~a range of~~ forecasts of the amount of energy consumers will need and the expected annual peak demand over the planning horizon. It shall develop load forecasts for a reasonable number of ~~multiple~~ scenarios that are developed as necessary or appropriate in the development of its ~~integrated resource plan~~ CESP scenarios. The utility may retain expert consultants to assist in the development of an economic outlook and for other specialized and technical needs related to this purpose. ~~Among the scenarios are the base case scenario (a scenario based on the most likely assumptions), a high-growth scenario, and a low-growth scenario.~~

~~•Each forecast shall identify the significant demand and use determinants; describe the data, the sources of the data, the assumptions (including assumptions about fuel prices, energy prices, economic conditions, demographics, population growth, technological improvements, and end-use), and the analysis upon which the forecast is based; indicate the relative sensitivity of the forecast result to changes in assumptions and varying conditions; and describe the procedures, methodologies, and models used in the forecast, together with the rationale underlying the use of such procedures, methodologies, and models.~~

~~•Among the data to be considered are historical data on energy sales, peak demand, system load factor, system peaks, and such other data of sufficient duration to provide a reasonable basis for the utility's estimates of future demand.~~

~~•As feasible and appropriate, the forecast shall be by the system as a whole and by customer classes.~~

~~—~~2. The utilities may initiate various research programs to obtain detailed energy usage information about Hawaii energy customers so this information can be used to develop energy efficiency program designs and forecasts for future energy planning efforts. ~~The utility shall use all reasonable methodologies in forecasting, including, as practicable and economically feasible, the disaggregated end-use methodology.~~

3. To the extent practical, the utility should provide load by geographic location on its system.

~~b.~~B. ~~Objectives~~Fuel Forecasts [NEW]

~~—~~1. The utility shall develop forecasts of the cost of fuel over the planning horizon. It shall develop fuel forecasts for a reasonable number of scenarios that are developed as necessary or appropriate in the development of its CESP scenarios. The utility may retain expert consultants to assist in the development of the fuel forecasts and for

other specialized and technical needs related to this purpose.~~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.~~

- ~~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.~~

- ~~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.~~

~~c.~~C. ~~Effectiveness Measures~~Demand-Side Management Forecasts [NEW]

1. Energy Efficiency – The PBF Administrator shall administer all energy efficiency programs in accordance with Public Benefits Fee HRS ch. 269, part VII and Docket No. 2007-0323. The utilities shall support and participate in the PBF Administrator's implementation of the energy efficiency programs.~~The utility shall specify the measures by which attainment of the objective or objectives is to be determined.~~

   a. The PBF Administrator, utilities, and stakeholders, such as the advisory committee, shall work together in a collaborative process to design effective, high-impact energy efficiency programs that will be implemented in the Action Plan.

   b. The PBF Administrator shall lead, in collaboration with the utility and the State, new studies and forecasts to determine the technical and economic potential for a broad variety of energy efficiency measures within Hawaii.

2. Demand Response – The utility shall be responsible for the administration of demand response and load management programs because of the need to monitor electrical system status while deciding when and to what degree to invoke the demand reductions available through demand response programs. Third-party demand response and load curtailment aggregators should be allowed to support and participate in the utilities' implementation of the demand response programs.~~Where direct, quantifiable measures are not available, the utility may utilize proxy measures.~~

   a. Program costs for existing load management and any new pilots and full-scale demand response programs shall be recovered through the appropriate cost recovery mechanism.

   b. The utility shall lead, in collaboration with the PBF Administrator and the State, new studies and forecasts to determine the technical and economic potential for a broad variety of demand response measures within Hawaii.

D. Distributed Generation Forecast [NEW]

1. The utility shall develop a forecast of the amount of distributed generation that could be installed by utility customers, third parties, or the utility over the planning horizon. The distributed generation resources considered in the forecast shall include, but not be limited to, the following:

   a. Biofueled and fossil fueled generating resources;

   b. Combined heat and power resources;

   c. Photovoltaic resources;

   d. Small wind and hydro resources; and

   e. Other small renewable energy resources as defined by HRS §269-91 of the State's RPS.

2. The distributed generation forecast shall include reexamination of the following:

   a. NEM limits in accordance with Docket No. 2006-0084; and

   b. FIT provisions in accordance with Docket No. 2008-0273.

~~d.~~E. Resource Options [REVISED]

~~—~~1. In the development of its ~~integrated resource~~ CESP scenarios, the utility shall consider ~~all feasible~~ supply-side and demand-side resource options appropriate to Hawaii and available within the years encompassed by the ~~integrated resource~~ clean energy scenario planning horizon to meet the stated ~~objectives~~ governing principles and planning context.

~~—~~2. The utility shall ~~include~~ consider among the options the supply-side and demand-side resources or mixes of options currently in use, promoted, planned, or programmed for implementation by the utility. Supply-side and demand-side resource options include those resources that are or may be supplied by persons other than the utility.

~~—~~3. The utility shall integrate the Competitive Bidding Framework, Docket No. 03-0372. The CESP scenarios and CESP Action Plan shall identify those resources for which the utility proposes to hold competitive bidding, and those resources for which the utility seeks a waiver from competitive bidding, and shall include an explanation of the facts supporting a waiver. [Framework for Competitive Bidding section II.C.4.a]~~The utility shall initially identify all possible supply-side and demand-side resource options. The utility may, upon review, screen out those options that are clearly infeasible. An option may be deemed infeasible where the option's life cycle costs clearly outweigh its benefits) or effectiveness under both societal cost-benefit~~

~~and utility cost-benefit assessments. The utility, with the advice of the advisory groups, may establish such other criteria for screening out clearly infeasible options.~~

a. The CESP scenarios and CESP Action Plan shall specify the proposed scope of the RFP for any specific generation resource or block of generation resources that the CESP states will be subject to competitive bidding, including but not limited to the size, timing, and operational characteristics of the generation resource of block of generation resources. [Framework for Competitive Bidding section II.B.1]

b. The utility is unable to predict what type of resource and associated costs will be selected as an outcome of implementing the competitive bidding framework. For the purposes of developing the CESP scenarios, the utility may use generic resource data (i.e., biofueled combustion turbine, wind, PV) available for determining the size, timing, and operational characteristics of future resources. The utility shall provide all resource data used in the development of the CESP scenarios.

~~e.Data Collection~~

~~1.For each feasible resource option, the utility shall determine its life-cycle costs and benefits and its potential level of achievement of objectives. The utility shall identify the option's total costs and benefits--the costs to the utility and its ratepayers and the indirect, including external (spillover), costs and benefits. External costs and benefits include the cost and benefit impact on the environment, people's lifestyle and culture, and the State's economy.~~

~~2.To the extent helpful in analysis, the utility shall distinguish between fixed costs and variable costs and between sunk costs and incremental costs; and the utility shall identify any opportunity costs.~~

~~3.~~4. The costs and benefits shall, to the extent possible and feasible, be (a) quantified and (b) expressed in dollar terms. When it is neither possible nor feasible to quantify any cost or benefit, such cost or benefit shall be qualitatively measured. The methodology used in quantifying or in qualitatively stating costs and benefits shall be detailed.

F. Locational Value Maps [NEW - Energy Agreement Initiative No. 33, subpart i, page 39]

1. The utility shall identify general geographic areas of distribution system growth within the next 3-5 years where distributed resources and energy efficiency could be beneficial within the existing transmission and distribution system limits.

2. The utility shall identify general geographic areas rather than individual circuits to maximize benefits and incorporate back-up system needs.

3. The information from the Locational Value Maps shall be provided to parties such as the PBF Administrator so that energy efficiency DSM can be focused into geographic areas that would most benefit from energy efficiency DSM programs.

4. The utility should use the Locational Value Map to identify Clean Energy Investment Zones. The utility should publicize the existence of these zones in conjunction with the utility's education efforts following the completion of the CESP. [NEW – Energy Agreement Initiative No. 33, subpart j, page 40]

G. Renewable Energy Zones [NEW - Energy Agreement Initiative No. 33, subpart f, page 39]

1. The utility shall identify Renewable Energy Zones where areas of its service territory contain significant renewable resource potential. The CESP shall identify possible infrastructure requirements needed to interconnect the utility's grid to the REZ and operationally integrate renewable resources that may be developed in the REZ with the utility's system.

~~f.~~H. Assumptions; Risks; Uncertainties

1. The utility shall identify the assumptions underlying any forecast, resource option, ~~or~~ the cost or benefit of any option or any analysis performed.

2. The utility shall also identify the risks and uncertainties associated with each forecast and resource option.

3. The utility shall further identify any technological limitations, infrastructural constraints, legal and governmental policy requirements, and other constraints that impact on any option or the utility's analysis.

~~g.~~I. Models

1. The utility may utilize any reasonable model or models in comparing resource options and otherwise in analyzing the relative values of the various options or combinations of options.

2. Each model used must be fully described and documented.

~~h.~~J. Analyses [NEW and REVISED]

~~1. The utility shall conduct cost-benefit and cost-effectiveness analyses to compare and weigh the various options and various alternative mixes of options. Alternative mixes of options include variously integrated supply-side and demand-side management programs.~~

~~2. The utility shall conduct such analyses from varying perspectives, including the utility cost perspective, the ratepayer impact perspective, the participant impact perspective, the total resource cost perspective, and the societal cost perspective.~~

~~3. The utility shall analyze all options on a consistent and comparable basis. It shall give the costs, effectiveness, and benefits of demand-side management options consideration equal to that given to the costs, effectiveness, and benefits of supply-side options. The utility may use any reasonable and appropriate means to assure that such equal consideration is given.~~

1. The CESP scenarios should focus on higher level planning using a portfolio of energy resources/types rather than identifying specific details on individual resources in the plan. [Energy Agreement Initiative No. 33, subpart a, page 38]

2. The utility shall review the CESP scenarios to look for common themes, assets and strategies that demonstrate robust value to balance costs and risks across many of the scenarios evaluated. Resources and strategies that provide the greatest value and flexibility across a wide range of potential futures and uncertainties shall be identified. [Energy Agreement Initiative No. 33, subpart l, page 40]

3. The CESP scenarios shall identify the preferred energy contributions from various resources, taking into account the differing renewable energy impact, emissions, fossil fuel usage and cost (utility and total resource cost perspective) into consideration. All existing contractual and forward looking operational requirements and constraints on the utility grid shall be factored into the analysis. [Energy Agreement Initiative No. 33, subpart c, second paragraph, page 38]

4. The utility shall compare the CESP scenarios~~options~~ on the present value basis. For this purpose, the utility shall discount the estimated annual costs (and benefits, as appropriate) at an appropriate rate. The utility shall fully explain the rationale for its choice of the discount rate.

5. The CESP scenarios shall be supported by quantitative and qualitative analyses to the extent reasonably possible and feasible. [Energy Agreement Initiative No. 33, subpart c, first paragraph, page 38]~~The utility may rank, as appropriate, the various options and mixes of options upon such reasonable criterion as it may establish with the advice of its advisory groups.~~

6. Technical analyses shall be performed to determine the extent to which renewable resources with certain types of characteristics (e.g., variable, as-available resources, or fixed dispatched resources) can be integrated into the utility system grid while maintaining stability and reliability. [Energy Agreement Initiative No. 33, subpart c, third paragraph, page 38]

7. The utility shall conduct a high-level load flow transmission system analysis building on the base case planning considerations, evaluating grid conditions and flows for no

less than a three-year period. The CESP shall evaluate system level distributed generation and DSM impact, taking into account the aggregate system impact to load and load flows on the transmission system to determine transmission and generation system benefits. New transmission assets triggered by load growth, addition of new or expanded generation, or a change in planning criteria that require Commission approval shall be identified. [Energy Agreement Initiative No. 33, subpart g, page 39]

8. The utility shall provide estimates of potential impacts of the CESP scenarios on customer rates and bills.

9. The CESP scenarios shall identify the size, timing, and operational characteristics of future resources in accordance with the Competitive Bidding Framework, Docket No. 03-0372.

10. The CESP scenarios shall provide guidance for the utilities to develop the CESP Action Plan.

~~i.Resource Optimization~~

~~1.Based on its analyses, the utility shall select those resource options or mix of resource options that achieve that level of effectiveness or that level of benefits specified in the objectives at the least cost. The utility shall also identify those resource options or mix of resource options that achieve the highest level of effectiveness or level of benefits at various levels of cost.~~

~~2.The options or mix of options shall be selected in a fashion as to achieve an integration of supply-side and demand-side options.~~

~~3.The selection of options or mix of options constitutes the utility's integrated resource plan.~~

~~4.The utility shall develop a number of alternative plans, each representing optimization from a differing perspective, including the perspective of the utility, the ratepayers, the non-participant, and society. It shall also develop alternate plans to meet the needs identified by each demand forecast scenario.~~

~~5.For each plan, the utility shall identify the revenue requirements on a present value and annual basis. It shall note the risks and uncertainties associated with the plan. It shall also describe the plan's impact on rates, customer energy use, customer bills, and the utility system. It shall also describe the plan's impact on external elements--the environment, people's lifestyle and culture, the state's economy, and society in general.~~

~~6.The utility shall rank the various plans, based on such criterion as it may establish with the advice of its advisory groups. The utility shall designate one of these plans as its~~

~~preferred plan and submit to the commission the preferred plan as its integrated resource plan.~~

~~j.Sensitivity Analysis~~

~~The utility shall subject its selection of resource options to sensitivity analysis by altering assumptions and other parameters.~~

~~5.~~V. Pilot Demand-Side~~side~~ Management Programs

~~a.~~A. Purposes

1. A purpose of piloting demand-side management programs is to ascertain whether a given program, not yet proven in Hawaii, is cost-effective--whether it will ~~have the penetration and will~~ achieve ~~accomplishment of~~ the ~~utility's~~ objectives as originally believed.

2. A second purpose of piloting demand-side management programs is to determine whether the program design and configuration (including how it is managed and promoted) are such as to permit implementation of the program as efficiently and effectively as desired.

~~b.~~B. Utility Pilot Programs

1. A utility may implement on a full-scale basis (without pilot testing) any demand response~~ side management~~ program that has been proven cost effective as a result of a full-scale or pilot implementation of the program in another ~~comparable utility~~ service territory or as a result of pilot testing ~~by a utility~~ in Hawaii. ~~In all other cases, the utility shall pilot test a demand-side management program before implementing it on a full-scale basis.~~

2. The~~Each~~ utility may~~shall~~ develop appropriate pilot demand response~~ side management~~ programs for implementation without awaiting Commission~~commission~~ approval of the utility's CESP Action Plan. ~~its initial integrated resource plan. For each program, the utility shall clearly articulate the parameters of the program, the objectives to be attained by the program, the expected level of achievement of the objectives, the measures by which the attainment of the objectives is to be assessed, the data to be gathered to assist in the evaluation of the pilot program, and the expenditure it proposes to make by appropriate cost components.~~

3. All utility proposed pilot demand response~~ side management~~ programs are subject to Commission~~commission~~ approval.