

## **Docket No. 2012-0036, Integrated Resource Planning, Decision and Order No. 32052**

- Commission rejected the HECO Companies' IRP Report and associated Action Plans:
  - Companies' analytical approach was fundamentally flawed
  - Inappropriate and inadequate modeling tools and techniques were used
  - Report failed to address many principal planning issues explicitly articulated and required by Commission
  - Action Plans did not provide any reasonable context, guidance, or confidence useful for making regulatory or resource acquisition decisions
  - Action Plans were excessively ambiguous; it was not possible to determine whether any conceivable actions would be outside the scope of what could be considered consistent with the Action Plans
  
- Commission terminated HECO Companies' current IRP cycle; will not require further amendments or supplementation of IRP Report
  
- Commission has commenced separate investigatory dockets, other proceedings and actions to provide planning information expected to be provided during IRP process:
  - Each HECO Company required to file a Power Supply Improvement Plan (PSIP) to address critical power supply resource issues; RSWG decision sets forth system reliability issues that must be addressed in the PSIPs;
  - Several dockets have been commenced to examine whether inter-island and inter-utility power transmission may be in the public interest<sup>1</sup>;
  - HECO Companies required to file a Distributed Generation Interconnection Plan (DGIP) to address critical distribution system upgrade planning issues;
  - HECO Companies required to file a Demand Response (DR) portfolio plan to utilize DR resources in lieu of conventional fossil generation;
  - Hawaii Renewable Portfolio Standards Roadmap Study is being prepared by General Electric under contract with Hawaii Natural Energy Institute to assess technical feasibility and costs under different renewable energy growth scenarios.
  
- Commission provided comprehensive strategic resource planning direction in a white paper entitled *Future of Hawaii's Electric Utilities* which articulates the vision, business strategies and regulatory policy changes required to align HECO's business model with customers' changing expectations and state energy policy.

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<sup>1</sup> These include *Review of Progress of Proposed Lanai Wind Project* (Docket No. 2013-0168) and *Investigation of Whether Oahu-Maui Inter-Island Transmission System May Be in Public Interest* (Docket No. 2013-0169).

**Docket No. 2011-0206, Reliability Standards Working Group, Decision and Order**  
**No. 32053**

The decision makes various rulings regarding the final work product of the Reliability Standards Working Group, provides observations regarding reliability trends that have occurred since the final RSWG work product was submitted and directs HECO Companies and KIUC to make submissions regarding electric reliability matters.

- Distribution level (distributed generation) reliability issues:
  - Comprehensive set of observations regarding DG interconnection and reliability trends set forth in order; DG interconnection technical challenges are real
  - Lack of transparency and slow response to provide supporting technical information on reliability concerns foster public distrust about utility management of the distributed generation interconnection challenges
  - Significant technical challenge related to customer solar PV systems is the ability for net energy metering (NEM) customers to export their excess solar energy onto the grid, in an unscheduled and uncontrolled manner, regardless of whether the grid could physically or economically utilize the energy; physical interconnection of a PV system to the electric grid is not the principal technical challenge
  - Unrealistic to expect that the high growth in distributed solar PV capacity additions experienced in the 2010 - 2013 time period can be sustained, in the same technical, economic and policy manner in which it occurred, particularly when electric energy usage is declining, distribution circuit penetration levels are increasing, system level challenges are emerging and grid fixed costs are increasingly being shifted to non-solar PV customers
  - HECO Companies directed to prepare a Distributed Generation Interconnection Plan (DGIP) within 120 days to develop technical solutions and action plans to increase distributed generation interconnection capability in major capacity increments
  - HECO Companies and KIUC directed to develop and implement a distribution circuit monitoring programs to ascertain whether high penetration of solar PV systems create safety, power quality or reliability problems
  - Distributed Energy Resource (DER) - Technical Working Group (TWG) established to address and resolve distribution system and interconnection issues associated with high penetration of DER
  - HECO Companies directed to develop and implement an integrated interconnection queue within 120 days to provide transparent information as to status of all DG interconnection requests, regardless of procurement method

- System (generation) level reliability issues:
  - Set forth comprehensive set of observations regarding system level reliability and curtailment trends; some of the trends are of increasing concern to Commission
  - Significant reliability and operational challenges confronting Oahu and Kauai island grids due to potential integration of large amounts of solar PV capacity
  - Curtailments have been reduced on Hawaii and Maui islands but continued growth of customer solar PV systems would reverse this trend
  - Directed HECO to prepare a Power Supply Improvement Plan (PSGIP) within 120 days to develop actionable strategies and implementation plans to expeditiously retire older, less-efficient fossil generation, reduce must-run generation, increase generation flexibility, and adopt new technologies such as demand response and energy storage for ancillary services and institute operational practice changes
  - Directed MECO to file a reliability improvement report for Molokai island grid within 30 days that specifies corrective actions to restore customer reliability to previous level
  - Directed HECO Companies to prepare energy storage utilization plans for Oahu, Hawaii and Molokai island grids to be included in various PSIPs and Molokai report, respectively
  
- Hawaii Electricity Reliability Administrator (HERA) related items:
  - Commission will effectively continue to serve as HERA until formally established; Commission's consultant for the RSWG process will continue to provide support on reliability, interconnection and system operational issues
  - Commission intends to open a new docket to address issues associated with the formation of HERA
  - Commission will commence a new docket to evaluate and approve proposed reliability standards including proposed Glossary of Terms
  - Provide oversight of joint HECO Companies and interested stakeholders efforts to complete development of interconnection procedures and generator performance requirements for utility-scale projects
  - Baseline reliability assessment and reliability adequacy studies will be conducted using independent consultants
  - Existing, periodic electric utility reliability reporting will be expanded and consolidated to provide greater transparency of reliability performance related information

**Docket No. 2007-0341, Policy Statement and Order Regarding Demand Response Programs, Decision and Order No. 32054**

- Commission concluded that DR programs benefit both customers and electric utilities
  - Demand response programs can assist the utility in a variety of ways, including delaying or eliminating the need for new fossil fuel generating units, utilizing more renewable energy resources (such as solar and wind), and helping the utility to operate its system efficiently and at lower cost
  - Proper use of demand response programs to accomplish these tasks benefits all ratepayers by decreasing monthly bills due to use of lower cost fuels and more efficient operation of the electric system
  - Demand response programs benefit participating customers through direct cash incentives or bill reductions
- Order establishes the following objectives for current and future demand response programs
  - Each program must provide quantifiable benefits to ratepayers
  - Each program should provide one or more of the following benefits: a reduction in total energy consumed, a shift in when energy is used that benefits the system, a reduction in peak loads, assistance in meeting photovoltaic and wind variability, support for operating the system reliably, provision of ancillary services (such as frequency management), and opportunities for customers to have greater control over their energy use and to lower their electricity bills
- Demand response portfolio filing requirements for each company (within 90 days)
  - Consolidate all current cost-effective demand response programs into a single integrated portfolio for each company, with defined goals and objectives, and eliminate any current programs that do not assist in meeting these goals
  - Develop detailed estimates of demand response potential in terms of integrating additional renewable resources and shifting load to take advantage of low cost generation for the next 5, 10, and 20 year periods
  - Review current and “cutting edge” technologies, such as advanced meters, to achieve the maximum demand response potential
  - Investigate whether third parties can be utilized to market and manage all or part of the demand response portfolios, while allowing the utility to make operating decisions
  - Develop models to measure and quantify all of the benefits provided by demand response, including peak reduction, load shifting, frequency management, provision of spinning reserves, and ramp up/ramp down capabilities.

**Docket No. 2011-0092, Policy Maui Electric Company 2012 Test Year Rate Case, Decision and Order No. 32055**

- Decision reviews and evaluates System Improvement and Curtailment Reduction (SICR) plan submitted by Maui Electric Company (MECO); the Commission previously directed MECO to develop a SICR to provide strategies and action plans by which MECO would both improve operational efficiency and reduce curtailment of low-cost wind energy resources
- Commission's finding regarding SICR plan:
  - Overall strategy concerning how MECO's system can be operated efficiently and cost effectively is lacking, as is any discussion of how to integrate additional renewable sources
  - Analysis of new, fuel-efficient, quick-start, flexible internal combustion generating unit was flawed
  - MECO's chosen generation commitment and dispatch models have limitations and are inadequate to evaluate flexible resources
  - MECO assumed fixed schedule rather dynamic utilization of demand response, energy storage and generation resources to mitigate variable renewable resources
  - Collectively, the SICR and MECO's supplemental responses do not convey a positive impression that MECO is aggressively pursuing initiatives to reduce the current high cost of energy, or that MECO is pursuing them with a clear sense of urgency
- MECO was directed to develop and file Power Supply Improvement Plan (PSIP) within 120 days to address shortcomings in SICR:
  - Generation Fleet Adequacy Analysis to review “must run” unit designations, units operated on fixed schedules, and current retirement plans for existing units.
  - Optimal Renewable Energy Portfolio Plan to develop an optimal, least-cost, diverse portfolio of renewable energy resources to meet and exceed a 40 percent level of renewable energy
  - Generation Commitment and Economic Dispatch Review to ensure that existing generation resource allocation policies and practices yield the most fuel-efficient and cost-effective outcome
  - Consideration of Alternative Maui Resource Options to potentially reduce MECO's cost of service