



BEFORE THE GUAM PUBLIC UTILITIES COMMISSION

IN THE MATTER OF:) GPA Docket 13-14
)
GPA Demand Side Management) ORDER
)
_____)

I. INTRODUCTION

This matter originated from the concerns of the Chairman and the Commission Staff that in Guam Power Authority's (GPA) environment of high fuel costs, the Authority has virtually no programs in place to provide incentives to its ratepayers to conserve energy. Other Atlantic and Pacific island utilities as well as vertically-integrated utilities on the U.S. mainland, both public power and investor-owned, have ongoing Demand Side Management (DSM) programs in place. The Commission's desire is to have GPA take a more proactive role in creating and implementing effective DSM programs as part of GPA's integrated resource portfolio.

II. BACKGROUND

GPA filed its 2013 Integrated Resource Plan (IRP) with the Guam Public Utility Commission (GPUC) on February 22, 2013. Lummus Consultants was asked by the GPUC to review the IRP. After engaging in discovery and collaborative discussions with GPA, Lummus Consultants issued its Letter Report and Appendix thereto on July 23, 2013. Its observations relative to DSM included:

- The range of potential DSM options considered by GPA as showing promise appeared to be too narrow;
- Although the R.W. Beck report indicated that a wider range of options was explored, there was no identification of those options evident in the study or supporting information provided to demonstrate the result of screening for those options;
- CFL lamps as a recommended option for residential and commercial was rendered moot in light of Federal regulations that transition away from traditional incandescent lamps in favor of CFLs;
- There appeared to be a lack of technical detail for the particular equipment studied;
- There was no explicit discussion as to how avoided capacity and energy costs were developed;
- There was no detail as to program costs for the utility or the customer;
- The Participant Test was not included, which could have provided insight into whether any customer incentives to adopt the DSM options would be needed;
- GPA used the Ratepayer Impact Measure (RIM) test as the threshold test as to whether a DSM program should be implemented;
- Many mainland and island isolated utilities have and continue to offer such programs to customers and find them to be lower in overall cost when compared to traditional supply resources.

Under this Docket, the GPUC requested Lummus Consultants to prepare a follow-up report relative to:

- Providing an overview of DSM offerings by other island and U.S. mainland systems;
- Providing a review of the industry-accepted screening tests and how these tests are considered in other systems;
- Providing recommendations for potentially viable DSM programs that could be implemented by GPA; and
- Preparing high-level screening for a few DSM measures that show promise.

Lummus Consultants filed its report with the GPUC on July 2, 2014.

III. DETERMINATIONS

In accordance with Lummus Consultants' findings, the PUC makes the following determinations:

1. GPA's load curve is relatively the same year round and relatively flat during a typical weekday, with an evening peak that tends to occur at 8 P.M. This provides GPA with an opportunity to implement DSM measures that target energy savings throughout the day, with possible attendant demand savings at the time of the evening peak for some of the initiatives.
2. There are active energy conservation initiatives at other island utilities. A number of Pacific islands offer Energy Efficiency (EE) programs, including: Hawaii, Philippines, Cook Islands, Papua New Guinea (PNG), Samoa, Tonga, and Vanuatu. All are concerned with similar energy issues related to expensive generation, inefficient appliances and inefficient buildings operating in a tropical environment and each have energy efficiency and renewable goals and objectives. Puerto Rico, Virgin Islands, N. Mariana Islands, American Samoa and Hawaii include energy efficient split and central air conditioners (both residential and commercial), refrigeration (refrigerators & freezers), lighting (LEDs for residential, conversion from T12 to T8/T5 lighting for commercial - including sensors), appliance replacement (washers, dryers & dishwashers) and window repair/replacement. With respect to taking advantage of opportunities in new construction, in addition to energy efficient end uses (appliances and equipment) these island utilities offer savings from building designs with fewer windows, facing the structure away from direct sunlight, and taking advantage of sea breezes for cooling. Other opportunities offered include replacing outdoor and street lighting with LEDs or induction lamps. The common objective of these island programs is to reduce energy consumption sourced from high cost fuel or diesel oil.
3. There are a myriad of energy conservation initiatives that GPA can promote. Lighting and air-conditioning are estimated to be the two greatest uses of electricity in Guam. Lighting opportunities include LED light bulbs and higher efficiency T-8 and T-5 fluorescent lamps in residential and commercial applications. Nominal incentives to customers to purchase Energy Star central, multi-split and Variable Refrigerant Flow air-conditioners can provide additional energy savings. Other potential energy conservation measures include, but are not limited to: Energy Star refrigerators; solar photovoltaic panels (implemented through various utility-consumer arrangements); solar hot water heaters; smart power strips; ceiling or whole house fans; and occupancy sensors. Air-conditioner cycling is a demand response program that has been implemented successfully at a number of utilities and may be appropriate for GPA, operating in conjunction with its smart meters.

4. The five standard tests to assess the cost effectiveness of DSM or energy efficiency measures are: The Total Resource Cost Test (TRC); the Societal Cost Test (SCT); the Program Administrator Cost Test (PACT); the Ratepayer Impact Measure Test (RIM); and the Participant Cost Test (PCT). In the U.S., the most common primary measurement of energy efficiency is the TRC, followed by the SCT. As each of these five standard tests evaluates program measures from a different perspective, an evaluation of all of the tests in conjunction with one another provides a more comprehensive picture than any one test alone. The aggregate of all of the information should be used to shape how the cost effectiveness of energy-related programs is treated in terms of the policy goals and circumstances of a given program, utility, and regulatory commission.
5. Currently GPA requires the use of the Ratepayer Impact Test to assess the cost effectiveness of DSM or EE programs. This test is the strictest in use today. Lummus Consultants observes that if supply side options were required to pass the RIM test, no new plants would be constructed as all such investment typically increases rates.
6. Lummus Consultants performed high-level screening for four potential program measures: LED lamps; Energy Star refrigerators; photovoltaic panels; and solar hot-water heating. The preliminary analysis resulted in benefit to cost ratios greater than 1.0 for the RIM test in two of the four measures and greater than 1.0 for all four measures under each of the three other tests: the PCT, the TRC and the PACT. Hawaii provides incentives for some of these program measures, as well as others, including a nominal rebate for Variable Refrigerant Flow air-conditioners.
7. Rate design can serve as an important adjunct to DSM, especially with the ability to incorporate the functionality of GPA's Smart Meters. Effective DSM program measures that work in conjunction with usage during peak hours include: critical peak pricing and air-conditioning cycling. Plug-in electric vehicles can use as much energy as an entire house and it is likely that charging these vehicles will occur at the time of GPA's evening peak hour resulting in a lowering of GPA's system load factor.
8. In the interest of the Commission's desire to have GPA offer its customers a reasonable array of DSM and energy conservation measures in Guam, this Docket will remain open for so long as the Commission determines necessary for the purpose of monitoring the development and implementation of such initiatives.

IV. ORDERING PROVISIONS

After careful review and consideration of the Report of Lummus Consultants and consideration of the above determinations, the Guam Public Utilities Commission HEREBY ORDERS that:

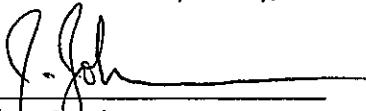
1. The Administrative Law Judge ["ALJ"] is hereby authorized to conduct further proceedings in this Docket. In such proceedings, the ALJ shall work collaboratively with GPA and Lummus Consultants to develop a DSM and EE program. The ALJ shall take such steps and measures as are necessary to determine the elements of such program and to implement the program; the final DSM and EE program shall be reviewed and approved by the PUC prior to implementation.

2. In order to begin the implementation of DSM, and in particular EE program measures, in an expeditious manner, a series of conferences shall be held between GPA and Lummus Consultants with participation of the ALJ (hereinafter the Parties), as follows:
 - a. Within 21 days of the date of this Order, the Parties shall participate in an initial conference to discuss objectives, direction, procedure, costs, timing and other pertinent considerations;
 - b. Within 30 days after the initial conference, the Parties shall participate in a second conference, along with GPA's consultant or experts to discuss potential DSM and EE programs;
 - c. Within 14 days after the second conference, a third conference shall be held to discuss and negotiate specific proposals for screening and implementation.
3. Not later than 120 days after the date of this Order, GPA shall submit a DSM and EE Implementation Plan (Initial Implementation Plan) to the PUC that includes steps, timeline and milestones that are required for screening and implementation of DSM and EE measures, with initial implementation of some of the measures targeted to begin no later than one year from the date of this order.
4. Not later than 180 days after PUC approval of the Initial Implementation Plan, GPA shall submit a detailed DSM & EE Report to the PUC that includes:
 - a. DSM and EE measures considered and evaluated, transparency of details in the screening process, including but not limited to assumptions related to avoided costs, program costs, physical and operational characteristics of each screened program measure in Guam's environment and societal costs and benefits, as such data is available;
 - b. Adjusted steps and timeline and milestones required for the implementation of each DSM or EE program measure;
 - c. Proposed sources of funding;
 - d. A monitoring and verification plan;
 - e. Other pertinent information.
5. The development of the Initial DSM and EE Implementation Plan, the DSM & EE Report and efforts through actual implementation shall be an ongoing collaborative effort between GPA and Lummus Consultants regarding suggestions, recommendations and exchange of ideas.
6. The GPA will report annually to the GPUC on the activities related to the DSM and EE implementation detailing by program and technology implemented the number of participants, the annual and cumulative energy saved, demand savings, program costs, participant costs, and program benefits.
7. GPA is ordered to pay the Commission's regulatory fees and expenses, including, without limitation, consulting and counsel fees and the fees and expenses of conducting the hearing proceedings. Assessment of PUC's regulatory fees and expenses is authorized pursuant to 12

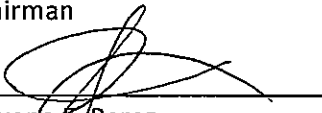
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GCA §§12002(b) and 12024(b), and Rule 40 of the Rules of Practice and Procedure before the
Public Utilities Commission.

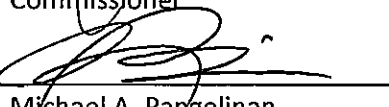
Dated this 31st day of July, 2014.



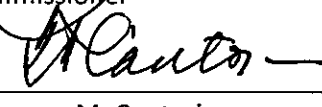
Jeffrey C. Johnson
Chairman



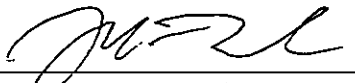
Rowena E. Perez
Commissioner



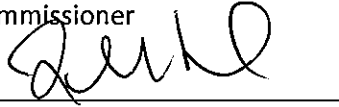
Michael A. Pangelinan
Commissioner



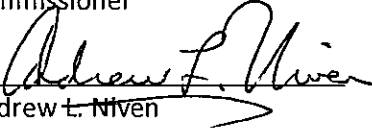
Filomena M. Cantoria
Commissioner



Joseph M. McDonald
Commissioner



Peter Montinola
Commissioner



Andrew L. Niven
Commissioner

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