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## Docket 13-14: Demand Side Management

Dear Mr. Horecky,

Lummus Consultants International, Inc. (Lummus Consultants) is pleased to submit this letter report in response to Guam Power Authority's (GPA) initial Demand Side Management (DSM) filing on December 19, 2014, which was filed in response to the Guam Public Utilities Commission's (GPUC) order on July 31, 2014, relative to GPA Docket 13-14 on Demand Side Management.

This letter report provides Lummus Consultants' independent perspective and findings relative to the GPA DSM and Energy Efficiency (EE) Implementation Plan (Initial Implementation Plan). Through its order on July 31, 2014, the GPUC requested that Lummus Consultants work collaboratively with GPA, with the participation of Administrative Law Judge (ALJ) Mr. Fred Horecky, to move ahead to implement cost-effective DSM and EE programs on the island of Guam. Previous to this order, Lummus Consultants had provided the GPUC with various advisory services relative to the topic of DSM, including:

1. Independent review of GPA's Integrated Resource Plan filing, in which Lummus Consultants offered specific findings and recommendations concerning GPA's lack of DSM programs; and,
2. An independent follow-up report that provided further information relative to DSM offerings in place in other jurisdictions, appropriateness and use of various cost-effectiveness tests, and a discussion and high-level screening of potentially viable DSM programs that could be implemented by GPA.

The GPUC's July 31, 2014 order in GPA Docket 13-14 requested that Lummus Consultants participate in collaborative conference with GPA and the ALJ to discuss the goals and objectives of DSM and EE programs and establish potential programs, including the means by which potential programs would be screened. The GPUC also ordered GPA to develop two filings in collaboration with the ALJ and Lummus Consultants. The first of these filings was the Initial Implementation Plan, which was prepared by Leidos for GPA in cooperation with Lummus Consultants and was filed in December 2014. The second report, to be filed in 2015, will provide more detailed, longer term DSM implementation recommendations.

This letter report provides documentation of and Lummus Consultants' perspective on:

1. The collaborative process that took place between the July 31, 2014 GPUC order and the December 19, 2014 filing by the GPA of its Initial Implementation Plan;
2. The Initial Implementation Plan filing, specifically what was included in that filing and how that aligns with GPUC direction; and,
3. Lummus Consultants' independent findings relative to both the process and the filing.

### *Collaborative Process*

The GPUC's order on July 31, 2014 included ordering provisions authorizing the ALJ to conduct further proceedings in this docket with the goal of developing a DSM and EE program. Through these ordering provisions, GPA was directed to:

1. Participate in a series of collaborative conferences between GPA and Lummus Consultants, with the participation of the ALJ - these collaborative conferences would cover the topics of: first, DSM and EE objectives, direction, procedure, costs, timing, and other pertinent considerations; second, potential DSM and EE programs; and, third, specific proposals for screening and implementation.
2. Following these conferences, by 120 days from the July 31, 2014 order, GPA was to submit a DSM and EE Implementation Plan (Initial Implementation Plan) - this Initial Implementation Plan would establish (1) steps, a timeline, and milestones required for DSM and EE screening and implementation, and (2) an implementation plan for an initial set of measures to begin no later than one year from the July 31, 2014 GPUC order.

As a result of this order, GPA and Lummus Consultants, together, held several collaborative conference calls between August 21, 2014 and October 9, 2014.

- The kickoff discussion was held via conference call on August 21, 2014 between GPA, Lummus Consultants, and Mr. Horecky. Topics discussed included how the process would proceed, what GPA's concerns and ideas were relative to DSM, and what hurdles would need to be addressed moving forward, such as approaches to cost recovery.
- A second conference was held on September 11, 2014 between GPA and Lummus Consultants. Ahead of that meeting there was an exchange of information between both parties. During the meeting, GPA further described their vision for this collaborative process, including how it would be governed and what objectives it would meet. GPA offered an initial list of program concepts that the process would consider and an initial proposal for the kind of stakeholder engagement GPA was envisioning be part of the process. Both parties then turned to discussing Guam's specific energy end-uses (such as air-conditioning units, lighting, etc.) and energy end users (including the Navy, residential customers, commercial customers, etc.) - GPA also provided a summary of past efforts and analyses relative to DSM. As a result of the meeting, Lummus Consultants provided GPA with a list of documents discussed, which GPA then provided to Lummus Consultants via a central document sharing platform.
- The third conference was held on September 18, 2014. In advance of this conference call, Lummus Consultants provided all parties with a PowerPoint presentation that contained a proposed framework for developing DSM programs. The framework described the ordering provisions and progress toward meeting them, it described the relative roles that GPA and Lummus Consultants would fulfill and the agreements both parties made as to how to move forward collaboratively, it documented the information sharing that had occurred to date, including GPA's responses to all of the data requests developed in the second meeting, and finally it proposed a process and timeline for moving through the identification, analysis, prioritization, and justification of various DSM and EE programs that could be offered by GPA.
- A fourth conference call was held between GPA and Lummus Consultants on September 26, 2014. Ahead of this meeting, Lummus Consultants prepared a short PowerPoint slide deck that listed potential DSM programs and potential cost effectiveness tests, for discussion. Through collaborative discussion, GPA and Lummus Consultants discussed whether each program represented short-term, medium-term, or longer-term opportunities for demand side management. Both parties also discussed industry

standard cost-effectiveness tests used for DSM programs, including the value and perspective offered by each. As a result of this meeting, additional data and documents were shared, including GPA's draft scope of work for contracting with Leidos to support development of the Initial Implementation Plan filing.

GPA contracted with Leidos to assist in the development of this Initial Implementation Plan in late September. Subsequent to the four meetings described above, GPA, Leidos, and Lummus Consultants continued to hold several more collaborative conferences between October 9, 2014 and December 19, 2014 to develop the Initial Implementation Plan. These meetings occurred on October 9, October 31, November 13, November 25, December 2, and December 4. Periodic email communications and phone calls occurred as the draft filing was reviewed in mid to late November and in December prior to filing. In preparation for the meetings in October, a significant number of documents were exchanged as the team worked through potential program assumptions. The Parties requested, and were granted, a three-week extension on the filing deadline for the Initial Implementation Plan in order to more fully address collaborative direction. GPA filed the Initial Implementation Plan on December 19, 2014.

#### *Initial Implementation Plan Filing by GPA*

As a result of collaboration with Leidos, Lummus Consultants, and the ALJ, GPA filed its Initial Implementation Plan on December 19, 2014. This document contained an 89-page final report, in addition to eight pages of appendices. The final report was structured as follows.

1. **Introduction and Background** - this initial section provided introductory language to explain the motivation for the development of the document (the GPUC July 31, 2014 order); this section then went on to chronicle the evolution of GPA's past DSM efforts, including a DSM implementation plan in 1994, GPA's 2008 and 2013 IRP planning process, and a 2012 analysis of residential DSM potential. Finally, this section makes reference to GPA's "Current DSM Activities", namely its participation in this DSM Docket 13-14, which was created as a result of Commission interest in efficiency and Lummus Consultants' review of GPA's 2013 IRP.
2. **DSM Options to be Considered** - this second section of the filing discussed, at a high level, thirteen different program types, including descriptions of what each program is, how each can be structured, how each can be delivered, and identifying those benefits that each have historically provided in other jurisdictions. The list of programs described in this section was primarily developed through discussion between GPA and Lummus Consultants in August and September 2014.
3. **Goals and Anticipated Savings** - this section provided a discussion of the overarching goals of a successfully deployed DSM program, followed by a discussion of potential peak demand and energy savings that included a description of technical, economic, and market potential within GPA's customer base. This section closed with a summary of DSM implementation by other utilities in island environments.
4. **Four Initial Options Analysis** - this section teed up several program options that the collaboration agreed could be implemented more quickly to provide immediate savings and interest. These potential programs addressed air conditioning, refrigeration, clothes washers, and clothes dryers. Each program was evaluated for cost effectiveness and Leidos-suggested investment levels were relied upon to develop the analysis. The collaboration spent time discussing appropriate approaches to establish avoided costs for this report, agreeing to use a blended approach that was intended to fairly value DSM initiatives while accommodating the schedule for report completion and the limitations and intricacies of the production cost model runs available. Although this blended approach should meet the goal of

fairly evaluating the four program options being looked at as part of this initial analysis, it was agreed among the collaboration that this approach should not necessarily set a precedent for how future analyses would be conducted, but that refinements and improvements should be addressed early in the process to move forward with the broader DSM Program Plan recommended by this report<sup>1</sup>. This section of the report also discussed the multiple benefit/cost ratios calculated as well as the modeling required to achieve the evaluation of program cost-effectiveness. The refrigerator program was deemed unsuccessful at this stage while the air conditioner programs show strong benefits; the washer is a strong contender due in part to the inclusion of water savings – and from a program marketing perspective pairing efficient washers and dryers would likely produce better consumer response.

5. **Plan for Implementation** – this section outlined a traditional approach to program development and implementation that is likely to be used to develop the next program filing document. This addressed analysis, matching of corporate goals with program selection, completing final cost-effectiveness testing, addressing any uncertainties, working with appropriate stakeholders, and finalizing the longer term approach to program implementation.
6. **Detailed Implementation for Four Options** – this section outlined the remaining steps that should be investigated prior to field implementation of the four options for early adoption, such as staffing, logistics, vendor training and contribution to field approaches, marketing and communication plans, tracking requirements, and measurement and verification of savings.
7. **Budgeting and Cost Recovery** – Leidos and GPA put together information about current cost recovery approaches in a number of jurisdictions with the intent of developing a collaborative recommendation. However, the parties were unable to complete this part of the effort in the time remaining and we agreed to address appropriate cost recovery as the first step in the next phase of this process, with the ALJ involved in those discussions.
8. **Appendices:**
  - a. *Appendix A, Cost-Benefit Model Pro Forma Output* – this section provided details of Leidos’ benefit/cost model utilized during this process.
  - b. *Appendix B, Project Implementation Schedule* – this section proposed a schedule for the early implementation of the four programs recommended.

### *Findings*

Lummus Consultants finds that GPA’s willingness to share information and participate in the collaborative development was a key factor in achieving the December 19, 2014 filing date. GPA worked with the Lummus Consultants team to address complex issues on which the parties had differences of opinion. However, the parties worked through the majority of the issues for the initial phase of work and noted that additional negotiation and discussion would be necessary as the collaboration moves into the next phase.

With regard to the early adoption program implementation, Lummus Consultants recommends that GPA move forward with speed to implement the programs; stakeholders are likely to be very receptive to these programs in the current economy and will be supportive and interested in moving these forward quickly. The Lummus Consultants team supports the Commission’s goal to move forward as quickly as possible, recognizing that appropriate steps must be in place for an orderly approach to market.

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<sup>1</sup> The GPUC Order dated July 31, 2014, refers to this same next filing document as the DSM & EE Report”.

Lummus Consultants recognizes that there are several key topics that require further attention by the parties as the collaboration continues toward a longer term adoption of DSM— and we welcome participation by the ALJ as these are addressed. In particular, the appropriate selection of avoided costs with which to calculate or model the benefits of programs should be an early topic in the process along with program cost recovery. Lummus Consultants has long supported cost recovery for DSM investments as they can defer or eliminate the need for expensive generation resources, which typically provide revenue enhancement for utilities. Without some incentive, utilities are not interested in programs that reduce demand for their product and ultimately their revenue stream, which supports provision of services to customers. The appropriate business model for program management is also a topic of interest for discussion: many jurisdictions utilize a third party to implement and manage programs with utility oversight, while others are managed by the utility. Discussion of the preferred approach for GPA and the island of Guam should take place during the next phase of the collaboration.

Finally, the first product of the collaboration effort must be a schedule that allows sufficient time for discussion of the complex issues identified above while program investigation continues. This schedule should provide dates when information will be shared, ahead of conference calls, and recognize that some topics will require more than one call to come to a successful conclusion. Jurisdictional research may be necessary by all parties to prepare for these discussions.

Lummus Consultants offers the following tentative schedule for consideration:

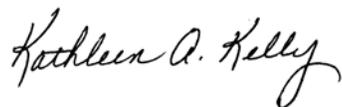
- *Week of March 9* – Planning and scheduling meeting by all parties
- *Week of March 16* – Research by all collaborators into the three tougher topics: (1) cost recovery, (2) avoided costs, and (3) program business model. Information should be shared in time for discussion to begin during the next week.
- *Weeks of March 23, 30, and April 6* – Combined agendas to address program information on a weekly basis such as design details, progress and details on the four programs to be implemented and some time on the three major research topics above.
- Weekly meetings for the remaining duration of the effort to discuss program recommendations, review reports, monitor program implementation success, and prepare the DSM & EE Report, as ordered in the GPUC’s July 31, 2014 order, for long term DSM implementation and management.

Funding for the ongoing collaboration should be authorized by the Commission so that GPA is encouraged to move forward and to allow effective investigation of the remaining issues. This funding should include funding of the Lummus Consultants team efforts as well as continuation of the Leidos efforts to support GPA.

Lummus Consultants appreciates the opportunity to assist the Commission in this matter. If you have any questions or need further assistance, please do not hesitate to call or write.

Sincerely,

**Lummus Consultants International, Inc.**



Kathleen A. Kelly  
Director and Practice Leader