

Guam Power  
is People Power.



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# Stakeholder Meeting 1 Notes

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*October 18, 2007*  
*GPA Integrated Resource Plan*  
*Stakeholder Meeting*

**GPA IRP Stakeholder Meeting #1 Notes**  
**Presentation #2 - Background on the GPA System and Looking to the Future**

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**Slide #4**

This slide prompted several questions regarding residential rates. The slide presented was based on July 2007 data and was not updated to current rates; specifically it did not include current fuel recovery rates. The Authority will post the average rates up to the last Levelized Energy Adjustment Clause (LEAC) filing for each rate class on the Stakeholder Meeting 1 page.

*Glossary:*

**LEAC** – Fuel expenses are supposed to be revenue neutral. The PUC allows the Authority to recoup its expenses for fuel every six months. The fuel charge is held constant for these six months in the LEAC period. The PUC allows the Authority to petition a rate adjustment in the event that GPA's fuel forecasts indicate an under recovery exceeding \$2 million prior to the end of the current LEAC period.

**\*\*\*\* Discussion \*\*\*\***

Members of the stakeholder group and other attendees commented that they were surprised at the level of sophistication in the Authority's planning. Additionally, they commented that the General Manager's comment on the capability for modification of fast track units to use other fuels besides diesel such as hydrogen. Furthermore, stakeholders were surprised that GPA's residential rates are lower than residential rates in Hawaii.

**GPA IRP Stakeholder Meeting #1 Notes**  
**Presentation #3 – Future Electric Needs on Guam**

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*This presentation had a couple of slides not provided in the handout. The complete presentation is posted on the GPA website:*

<http://www.guampowerauthority.com/operations/strategicplanning/IRPStakeholderMeeting1.html>

**Slide #10**

Stakeholders asked questions concerning the makeup of the Baseline load forecast scenario. Additionally, stakeholders requested a more detailed session on the forecast. GPA will post additional information on the baseline load forecast along with a description of the forecast scenarios and their variables. Commander Sues promised the stakeholder group that he would provide a list of construction projects including schedules and costs that is more up-to-date than that provided for in the forecast assumptions. He affirmed that projects for 2008 and 2009 are firm but that there are currently no firm numbers for beyond this period.

**\*\*\*\* Discussion \*\*\*\***

Noted discussion points included the uncertainty of the forecast because of limited firm planning information from the Department of Defense (DOD). The timing and magnitude of DOD construction projects are the main drivers of the forecast. Until the completion of DOD's NEPA process, planning numbers will continue to be uncertain.

Another uncertainty was the volatility of fuel oil prices.

Dr. Bradley noted that there may be too many variables in the forecast. However, he reserves judgment until he is allowed an in depth review of the model.

According to the Guam Contractors Association Executive Director, James Martinez, Chinese laborers may be brought in to support labor force in the upcoming years. Mr. Martinez asked whether GPA included this in the forecast. The Authority replied that the forecast accounts for a transient construction work force. At the completion of construction projects, the forecast assumes that these transient workers will return to their places of origin. The marines, their dependents, and other civilian support personnel will move in to replace these transient workers. Therefore, there is no drop in anticipated demand when the transient workers leave.

GPA General Manager noted that the "High-High" forecast would bring GPA close to a N-1 or N-2 scenarios. These scenarios would impact GPA capability to provide service and depending on the timing for new units GPA could be faced with investing on something that can be constructed fast but not necessarily most cost effective. This is because of typical timelines for permitting and construction for new power plants can be a minimum of 4 years total. Mr. Cruz stated that MEC took three years to fast track their baseload plant.

**GPA IRP Stakeholder Meeting #1 Notes**  
**Presentation #3 – Future Electric Needs on Guam**

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Other questions raised during this segment of the presentation include:

- What portion of the construction peak was related to temporary (construction and supplemental laborers) and what was permanent (relocated military personnel/families and new commercial services/facilities)?
- What is Okinawa military base energy use?

In response to the first, the Authority replied that this would be discussed in great depth at the next Stakeholder meeting and posted on the website. In response to the second question, the Authority replied that although GPA has some information on this topic, it is from a third source who wishes the information remain confidential.

*Glossary:*

**N-1** – relates to the scenario where all of GPA’s total power generation capacity is available to serve load except for the largest unit. The largest units in the Authority generation mix are the Cabras 1&2 Steam Power units at 66 MW each. An N-1 scenario occurs when only one of these units is unavailable to serve loads.

**N-2** – relates to the scenario where all of GPA’s total power generation capacity is available to serve load except for the two largest units. The largest units in the Authority generation mix are the Cabras 1&2 Steam Power units at 66 MW each. An N-2 scenario occurs when both of these units is unavailable to serve loads. Thus, the total capacity unavailable to serve load is a combined 132 MW.

**GPA IRP Stakeholder Meeting #1 Notes**  
**Presentation #4 – An initial Look at Future Power Options**

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*Note there were several errors in presentation corrected here.*

**Slide #3**

*Correction:*

**Guam SWAC** - This system requires approximately about 15,480 total feet (~ 3 miles or ~ 4.7 kilometers) from shore to coldwater source at 42.5 deg. F at a depth of 2200 feet.

**Slide #5**

*Correction:*

**HRSG** – Heat Recovery Steam Generator. HRSG technology is typically used in combined cycle systems where hot exhaust from a combustion turbine or other thermal unit is directed into a heat recovery steam generator to generate steam and turn a steam generator (SG).

Stakeholders asked whether Nuclear Power is being considered as an option to be evaluated as a new power resource. The Authority replied that it is not presently investigating Nuclear power as an option because there are no small nuclear plant options licensed by the Nuclear Regulatory Commission appropriate for Guam's power system. The Authority mentioned that it had contacted and spoke with Toshiba several months ago concerning the 10 MW Toshiba 4S (Super Safe, Small and Simple) nuclear power system proposed for Galena, Alaska. This unit had considerable press as a potential application in the CNMI. At the time, Toshiba had not yet begun the process for licensing this technology.

The information from Toshiba changed on October 18, 2007 Alaska Standard Time. The Nuclear Regulatory Commission has scheduled a meeting about the 4-s nuclear reactor and Toshiba's request for a pre-application review on its new design. The meeting will take place on October 23rd at NRC headquarters in Rockville, Maryland.

**Slide #11**

*What is baseload production percentage?*

The Authority's energy production from baseload units is near 98% of total energy production. This means GPA is predominantly operating units that burn the less expensive fuel. Prior to the formation of the Consolidated Commission on Utilities, GPA energy production from baseload units was about 83%. The Authority noted that it had filed a white paper showing that the Authority had saved customers over \$65 million in fuel costs because of the current operations.

**Slide #13**

The slide provided in this section was from a July 2007 publication of Energy SEER. Noted was the price of fuel was declining, however, this data is outdated. The graph was used to make a point on fuel price volatility and the uncertainty in fuel oil forecasts.

**GPA IRP Stakeholder Meeting #1 Notes**  
**Presentation #4 – An initial Look at Future Power Options**

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**Slide #19**

There was discussion on the comparison of biodiesel with diesel fuel. GPA research revealed that biodiesel manufacturers are heavily subsidized by the Federal Government. Without this subsidy, most of them would lose money. Also, the price of feedstock for biodiesel production are increasing because of increasing demand and recent substitutions for acreage devoted to corn production versus biodiesel feedstock.

Many of the Authority's diesel-fired generation units are able to use biodiesel blends. However, the prices for biodiesel track those of diesel fuel. This means that although there is an environmental benefit, there is little or no cost benefit. Additionally, consistent supply and on-island storage are issues that the Authority needs to address.

**\*\*\*\* Discussion \*\*\*\***

Military is looking at wind options for renewable resource and is or will be acquiring data in the north and south part of the island. Navy representatives offered the possibility for sharing information with GPA. GPA had earlier shared information from its meteorological monitoring station at Piti with the Navy.

Stakeholders brought up the question of structural integrity of wind turbines during typhoons. Most wind turbines are designed for strong winds and some also have capability to turn blades to reduce contact area during storms. The Authority reported that wind turbines built to withstand 150 mph winds are available. GPA also cited that Okinawa Electric had built such units, one of which failed during a recent typhoon.

*Is GPA looking or has GPA looked into geothermal?*

GPA has not initiated any research on this and does not know of any information available here. GPA will look into what is required to initiate this type of research.

**GPA IRP Stakeholder Meeting #1 Notes**  
**Presentation #5 – IRP and Competitive New Resource Acquisition**

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**Slide #11**

*Does the military have renewable policy standards?*

The military under the Energy Policy Act of 2005 is required to have 25% of power consumption supplied by renewable resources by year 2025.

*What is the likelihood of waivers for Guam for carbon-greenhouse gas “tax”?*

It is anticipated that a 40MW coal plant can have an additional \$8 million dollars added on in expenses based on new legislation. Angelo Muzzin replied that a request to waive carbon emission penalties is highly unlikely to be granted.

**\*\*\*\* Discussion \*\*\*\***

*How often is the IRP updated?*

Typically every 2-4 years depending on the expectations for changes in loads.

**GPA IRP Stakeholder Meeting #1 Notes**  
**Presentation #7– Demand Side Management Programs**

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**Slide #7**

R.W. Beck will provide cost figure for smart metering hardware at the customers premises.

**\*\*\*\* Discussion \*\*\*\***

The EPAct of 2005 set guidelines on policies that the Authority needs to investigate.

It was noted that there is a company that is aiming to sell small wind turbines for residential use. This may be something that GPA will need to consider if a large number of residents invest in these devices.

**GPA IRP Stakeholder Meeting #1 Notes**  
**Presentation #7– Demand Side Management Programs**

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**Slide #12**

Demand Response programs are for both residential and commercial customers. This program will allow utility to control appliances or air conditioning to manage power system peaks.

*Does the stakeholder process need to review these programs?*

Stakeholders will be presented with information regarding these issues.

**\*\*\*\* Discussion \*\*\*\***

The Authority noted that there is a national standard for electric appliance efficiency but it is not regulated or enforced on Guam. This means that air conditioners are available locally that do not meet efficiency standards. The Authority cited that there is a national home appliance act providing for mandatory energy efficiency standards.

The National Appliance Energy Conservation Act (NAECA) superseded existing state requirements and set the first national efficiency standards for home appliances, as well as a schedule for regular updates, currently specified to 2012. NAECA, its updates, and the Energy Policy Act of 1992 (EPAAct), are major drivers behind energy-efficiency advances in residential appliances, lighting, office equipment, plumbing products, distribution transformers, commercial air conditioning and heat pumps, and small electric motors.

**GPA IRP Stakeholder Meeting #1 Notes**  
**Action Items**

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1. Finalize the notes and post on website 10/22/07
2. Convert the audio tape into MP3, post on web site, and forward link to stakeholders, GCG, and ALJ. 10/24/07
3. Embed audio into power point presentation and post on web site. 10/24/07
4. Complete thank you letters and invitation letters 10/24/07
5. Review/update manuals 10/22/07
6. Forward copies of booklet to PUC and Georgetown 10/23/07
  - a. Jeffrey C. Johnson, PUC Chairman
  - b. Terrence M. Brooks, PUC Member
  - c. Joseph M. McDonald, PUC Member
  - d. Filomena M. Cantoria, PUC Member
  - e. Rowena E. Perez, PUC Member
  - f. Harry Boertzel, Esq. ALJ (Administrative Law Judge)
  - g. Jamshed K. Madan, Georgetown Consulting Group, Inc.
  - h. Larry Gawlik (GCG)