

GUAM PUBLIC UTILITIES COMMISSION
SPECIAL MEETING
JULY 16, 2015
SUITE 202, GCIC BUILDING, HAGATNA



MINUTES

The Guam Public Utilities Commission [PUC] conducted a special meeting commencing at 6:40 p.m. on July 16, 2015, pursuant to due and lawful notice. Commissioners Johnson, Perez, McDonald, Montinola and Niven were in attendance. The following matters were considered at the meeting under the agenda made *Attachment "A"* hereto.

1. Approval of Minutes

The Chairwoman announced that the first item of business on the agenda was approval of the minutes of May 28, 2015. Upon motion duly made, seconded and unanimously carried, the Commission approved the minutes subject to correction.

2. Guam Power Authority

The Chairman announced that the next item of business on the agenda was GPA Docket 15-15, Petition for Approval of LEAC Adjustment effective August 1, 2015, Slater Nakamura Report, and Proposed Order. Counsel stated that, for the Levelized Energy Adjustment Clause Process, the Commissioners tonight are considering the appropriate LEAC factor for the next six month period, from August 1, 2015 through January 31, 2016. This process was commenced when GPA filed its petition on June 15, 2015. GPA initially asked for an increase in the LEAC factor from 10.2 cents per kilowatt-hour to 11.5 cents per kilowatt-hour. This would have represented about a 6.8% increase in the total bill and a \$13.63 per month for the average residential customer. GPA's justification for the increase was that worldwide fuel prices were increasing. It was anticipated that fuel would cost \$68 per barrel in the new upcoming LEAC period.

PUC asked its consultant Slater Nakamura to conduct a review of GPA's LEAC filing. When GPA filed its petition, it used the Morgan Stanley fuel price forecast for May 25, 2015. Slater Nakamura properly decided to ask GPA for an updated fuel forecast. Fuel prices are always volatile; they are one of the most significant determinants of the LEAC factor for the upcoming period. Slater-Nakamura issued a discovery request to GPA and selected July 6, 2015, as the appropriate date for which to request the fuel forecast. Ordinarily, PUC Consultants will obtain an updated fuel forecast perhaps 10 days before the PUC meeting, or a few weeks prior. There is no rule requiring a specific date for the fuel forecast. The Consultants will normally select a date and then obtain the fuel forecast for that date.

GPA provided an updated Morgan Stanley fuel forecast for July 6. But Slater Nakamura decided that it did not want to use that forecast and instead would use the forecast for June 30, 2015. Its rationale was that, between June 30 and July 6, 2015, there had been an over 8% worldwide decrease in the price of fuel based upon events occurring in the China Market and in Greece with its indebtedness. Slater felt that there was a precipitous drop in fuel prices and then it could not verify that the price decrease would continue to affect the fuel market in the future. However, Slater quoted Morgan Stanley as indicating that the decrease would have a lasting effect and this decrease in fuel prices would continue to affect fuel prices into 2016.

Counsel does not concur with consultant Slater's reasoning that July 6 forecast was "not reliable". First, the Morgan Stanley forecast itself is supposed to be the bench mark. Normally a date for the updated Morgan Stanley report is selected relatively close to the PUC LEAC hearing which would establish the bench mark. The PUC has never previously engaged in a discussion as to whether the particular date or Morgan Stanley bench mark is reliable or not. Beyond that, it is a very difficult matter to say what fuel forecast is reliable and which is not. Fuel prices are constantly changing and can go up or down. There is no evidence provided in the Slater-Nakamura report as to why the July 6 fuel forecast was unreliable or less reliable than June 30 forecast.

Counsel recommends that the PUC utilize the July 6 Morgan Stanley forecast. The process must be fair and open and somewhat blind, impartial. A particular date cannot be picked because it helps GPA or it helps the ratepayer for that matter. The Forecast must be an accurate, fair reflection of the current state of the fuel market. PUC should not engage in a process for every LEAC determination where it engages in a question as to whether the date selected for the Morgan Stanley forecast is reliable or not. There are protections in the LEAC system to rectify any inaccurate fuel forecast. If GPA has a \$2M either under or over recovery on fuel, it can come to the Commission during the LEAC and ask for a readjustment. There is a mechanism for dealing with a fuel forecast that turns out to be ineffective or not accurate.

CFO Cora Montellano of GPA has graciously provided updated Morgan Stanley fuel forecasts, which are attached as Exhibit 1 to the proposed Order. This Exhibit gives Commissioners a view of how the fuel prices have moved for the period from June 30 through July 15. This is not an inquiry that Commissioners should ordinarily undertake. A date should be selected. But Exhibit 1 indicates that the July 6 price, which would result in the LEAC factor of 10.48 cents per kilowatt-hour, has roughly remained constant through the 15th of July. The factor on July 15 is 10.42 cents per kilowatt-hour. To promote openness and consistency, there should be a blind selection of a date for the fuel forecast with no intent to either benefit GPA or the ratepayers but to select a fair current price for fuel. The proposed Order suggests the Commissioners should accept the July 6 Morgan Stanley fuel forecast. The fuel forecast for the date recommended by Slater, June 30, would have resulted in about a 3% overall increase in

the LEAC factor and over \$6.00 per month the average ratepayer utilizing a 1000 kilowatt per month.

The July 6 fuel factor results in a 1.4% increase in the total bill or \$2.82 per month for the average residential customer. Commissioners have the option of selecting any of the dates proposed or even allowing the LEAC factor to remain as it is. Counsel recommends against that: it is important to have a procedure where a particular date is identified, selected and utilized for determining the LEAC factor. Counsel suggested a procedure whereby a date 10 days before the PUC meeting is selected for the Morgan Stanley fuel forecast; an average of either three or five days before that date could be utilized to get an accurate reading of fuel prices during that period. Use of the Morgan Stanley fuel price forecast for July 6 will result in a 10.48 cent per kilowatt-hour price for residential customers and concomitant rates for the other primary and transmission line customers. This would be effective on August 1. GPA would once again come before the PUC December 15 for a new fuel factor for February 1, 2016. The Working Capital Fund Surcharge will remain the same as it has been in the past.

The Chairman asked whether the CFO Montellano had any comments to share. She indicated that the fuel price today, for July 16 has also come down some more. It's very volatile. GPA is agreeable to using July 6 Morgan Stanley fuel forecast. The Chairman asked Ms. Montellano if she agreed with the idea of picking a date 10 days out from the PUC meeting and then doing an average for future LEACS. CFO Montellano was agreeable with that plan. GPA does have a protection with being able to adjust the LEAC through an interim filing. Ms. Montellano would prefer a five day average rather than a three day average for determining the factor. The Chairman asked whether that would be consecutive days. Ms. Montellano indicated that it would.

Commissioner Niven asked Legal Counsel whether, if oil prices fluctuated considerably, could the PUC have updated information and either the Commission or at least the Chair adjust the LEAC rate. Counsel indicated that under Tariff Z, GPA would file a petition that triggers consideration of the LEAC. The Chairman indicated there could be a mid-course correction if the LEAC are increased. There have been cases where GPA did not come to the Commission even where there was a significant increase in the fuel price. Commissioner Niven asked whether if the fuel price went way down or way up, there could be an adjustment as early as November 1 based on information in September and October. Counsel indicated that there could be such an adjustment.

Interim LEAC filings are generally handled in an expedited manner. In one case the Chairman approved an emergency petition by GPA for increase in LEAC subject to Commission ratification. CFO Montellano pointed out that at one point fuel price per KWH was at 14.6 cents and went down to 10.2 cents. That was in November, and GPA came in for a reduction. Commissioner Montinola clarified that there will also be a change in the LEAC factor if prices continue to go down. The Chairman confirmed that

was the case. Commissioner Montinola indicated that fuel appears to be going down now. Chairman indicated that in the last five days the LEAC factor has more or less been even. But if you were true to the policy, it would slightly higher. One is essentially looking at a 1.1% increase. Upon motion duly made, seconded and unanimously carried, the Commissioners approved a LEAC factor of 10.48 cents per kilowatt-hour for residential customers commencing on August 1, 2015 and adopted the Order made *Attachment "B"* hereto.

The Chairman announced that the next item for consideration by Commissioners was GPA Docket 15-16, Petition for Approval of GPA's Energy Storage System, PUC Counsel Report and Proposed Order. Counsel indicated that the Commission was already familiar with this matter. It had approved the 2014 Revenue Bond Issuance for GPA that provided funding for an energy storage system. Subsequently the PUC ordered that, if GPA chose to go out on a procurement for an energy storage system, it should first come back to the Commission and obtain its approval. GPA is now seeking approval from the PUC to issue a procurement for the energy storage system.

The main purpose of this system is to deal with the problem of under-frequency outages. When there's a fault in the system, a small fault may cause the entire system to go down. There have been a lot of these types of fault. If GPA has an energy source or battery that provides 40MW, as many as 77% of these under-frequency outages could be averted. GPA's Petition in this matter contains four volumes, and a CD, as documentation for the procurement. GPA is basically seeking either an engineer procure construct contract [EPC] or a design build contractor to build this system. The cost estimated by GPA is \$35M. Slater-Nakamura previously opined that the cost could be considerably higher; the cost of the 25-year Operations & Maintenance Contract for this project is not included in GPA's proposed costs. A feasibility study by TG Engineers & Electric Power Systems estimated a cost of almost \$50M for this project. There is certainly an issue as to what the ultimate cost will be here. GPA feels that it could mitigate the cost, that storage costs are going down and, that if the bids received are too high, GPA can reduce the size of the storage from 40MW to 35 MW. The Commissioners should be alerted that there is an issue about cost. When the Commission reviews the final contract it will know what the proposed cost is and can better evaluate cost at that time.

The contractor will be required to provide a 20-year service and parts warranty. The feasibility study indicates that the system which GPA seeks to procure can work to achieve its desired results. In a meeting between GPA and PUC personnel, GPA's consultant Dave Burlingame discussed the energy storage systems, and particularly a 25MW battery storage system in Alaska. He indicated that it is working well, and that these systems can be reliable for the purpose for which they are implemented: to deal with these under-frequency outages. If the Commission approves the procurement, the proposed Order would allow GPA to go out for a bid. Before the Contract is final, GPA

would come back to the Commission for final review of the contract, to determine the amount of the bid, and to assure that both ratepayers and GPA are protected.

PUC Counsel shared with GPA Counsel that the contract submitted by GPA is somewhat bare in its details and protections for GPA and the ratepayers. Once the bidder is selected GPA will have a better idea of type of contractor that will be involved, and what the technology will be. Though these battery storage systems often depend on lead or lithium-ion batteries, there are other type of systems too, such as flywheel and compressed air. It is not presently clear what type of technology will be selected. The procurement is "technology-neutral". The Commission will know the type of technology selected when the final bidder is selected. It appears to be a worthwhile project; if it is successful, it could solve the problem that GPA has had over the years with these under-frequency outages.

GPA proposes a reasonable solution to the problem. The Order would approve the procurement of an energy storage system at the present authorized funding of \$35M. If there is additional cost, GPA would have to come back to the PUC for approval. The Chairman asked SPORD Manager John Cruz if he had any comments. He indicated that he did not, but would be available for questions. The Chairman asked whether GPA was hopeful, with its proposed plan, to have the battery up and operating somewhere near the end of 2016. Mr. Cruz indicated that was correct. GPA had met with a lot of battery manufacturers, suppliers and integrators. The feasibility study has drawn a lot of interest from all over the world. GPA has had good comments about the proposal being approved.

The Chairman mentioned to Mr. Cruz that PUC had just received a white paper draft on compressed air energy storage from its consultant, and asked whether he had seen this report. Counsel indicated that he had shared the report with Mr. Cruz. Commissioner McDonald asked what was the life span of the battery and, is it one solid battery or two batteries for the 45 or 35 megawatts? Mr. Cruz indicated that GPA had received both types of proposals. Such batteries last for 20 years or so. Each specific technology has various advantages and disadvantages. The Chairman indicated to Commissioner McDonald the supplier would be responsible for the operation and maintenance of the batteries for a lifespan of 20 years. So if the batteries only lasted 10 years, the supplier would have to fix, repair and replace. Mr. Cruz indicated that was correct. He indicated that GPA would get 20 years out of the batteries at a minimum. Mr. Cruz indicated that several firms had indicated they would provide a guarantee, a warranty on the 20 year or more lifespan.

Commissioner asked whether the battery storage system had anything to do with the solar site. The Chairman stated that it would be helpful to integrate. The storage system serves to smooth out the system in case any large generators go down. You can get the peak loading when it's up and running. The Chairman asked whether it was also helpful in integrating the renewable systems. Mr. Cruz indicated that keeping

GPA out of the operational ranges of frequency but we might have a problem with the system. There is a dual purpose. Mr. Cruz agreed it's not a regulating battery per se to keep it exactly in 60 hertz. It's there to keep GPA from load shedding. In 2000, GPA did a post audit outage analysis of blackouts, when it had just added units such as MEC, and Cabras 3 & 4. It found that the generation governors did not respond very quickly, especially with the new mix of units. In 2005, that study was confirmed by a consultant who did a subsequent study. One of the recommendations of the 2005 study was that GPA look at its energy storage and battery system or a flywheel system. A draft document which Mr. Cruz provided to PUC shows how quickly GPA's frequency decays once it has a generator trip. If GPA doesn't arrest the decay within about 100 milliseconds, it is inevitable that GPA will load shed. Shedding is due to under-frequency relays tripping off. That is 60% of GPA's outages.

This battery storage won't get rid of all of the trips, but will get rid of 77%. That is a fair amount of reliability that will have been built into the GPA system with the battery storage. The storage will enable GPA to carry less spinning reserve and therefore run its generation units more efficiently. That in itself is a large enough cost inside the feasibility study by itself to recommend this project. It also doesn't take into account that the service reliability is going to be what we should be expecting if we lived somewhere else where we didn't have this problem. It's a big step, a good beneficial step for the island. The Chairman agreed and indicated that this may be the first step in an energy storage equation. There could be other components coming in later as we have discussed.

Mr. Cruz reiterated that this package was "Phase 1" of this process. Phase 1 is really geared towards arresting the under-frequency problem that we have. Phase 2 is pushing about 120MW of renewable energy. The islands day time peak plato is around 120. There is going to be plenty of solar available most of the year. GPA would like to have another energy storage system soak up the solar and use it at night. That would reduce capacity needs to put in additional generation. Upon motion duly made, seconded and unanimously carried, the Commissioners authorized GPA to procure an energy storage system, to an expenditure limit of \$35M, and adopted the Order made *Attachment "C"* hereto.

3. Guam Waterworks Authority

The Chairman announced indicated that the next item of business was GWA Docket 15-05, Petition to Authorize Use of Remaining SRF Grants, ALJ Report, Proposed Order. Counsel indicated that this matter has been postponed until the next meeting.

4. Administrative Matters

The Chairman indicated that the first matter was Final E911 Fiscal 2014 Surcharge Summary, GTA Docket 15-01. Counsel indicated that this matter was submitted for information purposes. PUC has complied with its statutory duty to submit copies of

this report to the Governor, the Speaker, and the Public Auditor. That was done yesterday. The report is over seven months late, which Counsel is not happy about. The findings are in line with the prior years and show that E911 receipts have greatly increased over \$2.1M per year. It shows a steady progress. There are a number of procedural issues that PUC will have to deal with. The Counsel will shortly plan a docket with telecom companies to address some of the recommendations in the E911 Report. These will be provided to all of the collection agents.

The Chairman indicated that the next matter was an FCC Notice of Application filed for the Transfer of Control of Teleguam Holdings LLC to Telekomunikasi Indonesia International, USA, Inc. Counsel indicated that this was merely submitted for information. Counsel indicated that PUC has received a petition from GTA (Teleguam Holdings) to sell Teleguam Holdings to Telekomunikasi. The proceeding is in process and a public notice has been issued. There will be a hearing on August 13, 6pm, here at the GCIC building. The purpose of that hearing will be to take public testimony on the sale from members of the public or other companies. The Commissioners can be present if they like, but do not have to be. The purpose of the hearing really is to take testimony. After the hearing Counsel will compile a report on the testimony at the hearing and there will be a Proposed Order at a subsequent PUC meeting.

The Notice from the FCC gives a good summary of what is involved in the sale and may be of interest to the Commissioners. The Commission's roll is limited in these proceedings. There are only two determinations that the Commission must make under the statute: whether the purchasing company has sufficient technical, financial, and managerial resources to carry out the services that the company previously has been providing; and second, whether the sale is not "contrary to the public interest". This involves sales of private companies in the private sector. The Commission's roll is limited to the two items in the statute. Counsel will attempt to have this matter on the calendar for the meeting on the end of August. Mr. Sean Miles of Docomo indicated that GTA had requested that the FCC defer a decision until the standard Team Telecom procedure is complied with. Counsel indicated that was correct: Since the proposed purchaser is a foreign entity, there are detailed requirements with Homeland Security and "Team Telecom" which involves five or six different federal agencies that enter into an agreement with GTA. Mr. Miles is correct that this is a big pending factor that GTA must deal with.

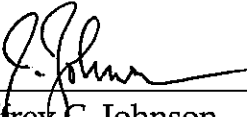
The Chairman then indicated that he noticed there was an additional item, comment which Legal Counsel had made to Senator Ada regarding Bill No. 84-33. Counsel indicated that Senator Ada had requested comment on a particular bill. Counsel did not have sufficient time to seek much input, but conducted a brief analysis. The bill would transfer responsibility for the operations of some waste water pumps at the Southern and Untalan Schools from DOE to Guam Waterworks. The reason given in the bill was that the cost was too much for DOE to bear, and that DOE's funds would be better spent with education rather than with maintaining pumps. Senator Ada asked for

comment. Counsel pointed out that there was a cost factor here. If responsibility was transferred from the schools to GWA, that's a cost for GWA. According to the law PUC has to ensure that every utility has sufficient rates to meet its obligations. GWA would likely come to the PUC and ask for funds in its rates to take care of this responsibility. There would also be some issues as to whether school pump facilities are really a part of the island-water system at all, and whether GWA should be responsible. Senator Ada thanked Counsel for submitting a response. Chairman asked whether GWA was opposed to the bill. Counsel said that it was. GWA indicates that, under its bond covenant, the Legislature cannot force it to provide free service or to take on an unfunded obligation. GWA submitted testimony opposing the bill.

The Chairman indicated that PUC did receive a draft white paper on compressed air energy storage, and indicated it looks pretty good. It has a lot of background. This is another vehicle to do energy storage, and the PUC wanted GPA to look at this. The battery storage is quicker and more responsive. However CAES could blend in with the renewable energy system better and complement the battery storage. This may come to the forefront later on. We may be seeing more of this a year or so from GPA. The original compressed air units were using salt caverns with empty underneath a certain locality. Compressed air was placed in salt caverns. There are no salt caverns on Guam. Companies are now coming up with smaller foot print modular units that have tanks, above ground or underground tanks. This is something to look at later on.

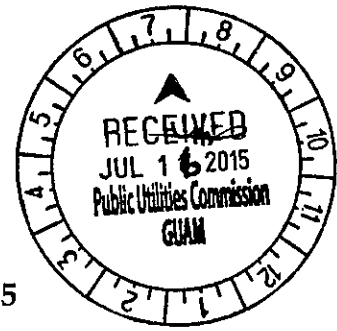
The Chairman indicated that he had asked Administrator Palomo and Accountant Kim to prepare the numbers on where the PUC is in its administrative budget. The Chairman asked the Administrator to prepare copies for the Commissioners. The Chairman indicated that the PUC is on target to meet its goals by year end. At the end of June the PUC had \$175,000 in the bank. The PUC is spending about \$100,000 per quarter. This is where the PUC ended up last year. The PUC had around \$75,000 in the bank at the end of the fiscal year, and that appears to be about where the PUC is headed this year too. The Chairman wished to make sure that the PUC was not anywhere near zero funds any time before the end of the year. The PUC appears to be safe.

There being no further business, the Commissioners moved to adjourn the meeting.



Jeffrey C. Johnson
Chairman

BEFORE THE GUAM PUBLIC UTILITIES COMMISSION



GUAM POWER AUTHORITY
LEVELIZED ENERGY ADJUSTMENT
CLAUSE [LEAC]

GPA DOCKET 15-15

ORDER

In accordance with the protocol established by Guam Public Utilities Commission [PUC] Order dated January 29, 1996, as amended by Order dated March 14, 2002, Guam Power Authority [GPA] transmitted its LEAC Filing, dated June 15, 2015, to the PUC.¹ GPA requested that the Levelized Energy Adjustment Clause Factor ["LEAC"], for the six-month period commencing August 1, 2015, be increased from \$0.102054/kWh to \$0.115688/kWh effective for meters read on or after August 1, 2015.² This increase in the LEAC factor would represent a 6.80% increase in the total bill or a \$13.63 increase for a residential customer utilizing an average of 1,000 kilowatt hours per month.³

The stated basis for the LEAC filing is a continuing increase in worldwide fuel prices. GPA believes that the market will remain within the \$60-70bbl range during the period.⁴ In recent LEAC periods there had previously been a substantial decrease in the fuel prices and a reduction in the LEAC factor.⁵

On May 26, 2015, the Guam Consolidated Commission on Utilities, in Resolution No. 2015-31, authorized GPA Management to Petition the PUC for an increase in the LEAC for the period of August 1, 2015, through January 31, 2016, as set forth in GPA's Petition.⁶ The CCU indicated that the market price of fuel in the current LEAC period, originally projected to be \$60.94/bbl for the six-month period ending July 31, 2015, was currently projected to be \$65.55/bbl. The projected price for the period ending January 31, 2016, is \$68.60/bbl.⁷

In certain Questions to GPA, Set 1, 1-2, dated June 15, 2015, the PUC's Consultant, Slater, Nakamura & Co. LLC [hereinafter "Slater"] requested that GPA provide a July 6, 2015 version of Morgan Stanley's "Asia Noon Call."

¹ GPA LEAC Filing, GPA Docket 15-15, filed June 15, 2015, at p. 1.

² Id.

³ Id.

⁴ Id.

⁵ PUC Ratification Order, GPA Docket 14-12, filed December 1, 2014; see also PUC Order, GPA Docket 15-08, dated January 29, 2015.

⁶ CCU Resolution No. 2015-31, adopted May 26, 2015.

⁷ Id.

ATTACHMENT A

The purpose of Slater's request was to update the fuel prices used for the LEAC factor calculation. On July 11, 2015, Slater submitted its Review of the Proposed LEAC Adjustment.⁸

Slater decided not to utilize the July 6, 2015, Morgan Stanley fuel estimates, but instead selected the June 30, 2015, Morgan Stanley forecast, in setting the LEAC factor.⁹ The stated reason for relying upon the June 30 MS forecast was: "We also observed a precipitous drop (of 8.93%) in the price of RFO settlements in Singapore from June 30 through July 6 in four trading sessions. Similarly, between June 30 and July 6, Morgan Stanley reflected that price drop as if it would have a lasting impact on prices through the first quarter of 2016. Slater Nakamura is unable to test whether a nearly 9% price drop - occurring during a short week in the midst of a nearly 9% price drop - occurring during a short week in the midst of a holiday period marked by turmoil in securities markets due to events in Greece and China - could reasonably be expected to continue for the entire period when the revised LEAC factor would be in effect.

Given our inability to predict whether fuel markets will continue to reflect current conditions, we decided to rely upon the June 30 Morgan Stanley forecast in setting the LEAC factor." (Emphasis added).

Use of the June 30, 2015, Morgan Stanley fuel estimate would result in a LEAC factor of \$0.10849; this represents an increase of \$6.10 per month, or 3.04%, in the total bill for a residential customer using an average of 1,000 kilowatt hours per month.¹⁰ However, use of the July 6, 2015, Morgan Stanley fuel estimate results in a LEAC factor of \$0.104871, an increase of \$2.80 per month, or 1.4%, in the total bill for a residential customer using an average of 1,000 kilowatt hours per month.¹¹ A true and correct copy of GPA's Calculation of Proposed LEAC Rate is attached hereto as Exhibit "1".

The issue squarely presented in this proceeding is which date for the Morgan Stanley fuel forecast should be used to determine the LEAC factor for the next LEAC period.

⁸ Slater, Nakamura & Co. Report on the Review of the Proposed Levelized Energy Adjustment Clause, GPA Docket 15-05, dated July 11, 2015.

⁹ Id. at p. 11.

¹⁰ Id. at p. 2.

¹¹ GPA CFO Cora Montellano, Calculation of Proposed LEAC Rate, submitted July 13, 2015.

DETERMINATIONS

1. In LEAC dockets, the PUC has historically used the Morgan Stanley fuel forecasts to determine the appropriate cost of fuel for determining the LEAC factor for the forecast period. In this case, GPA used the Morgan Stanley fuel forecast for May 25, 2015 in its Petition, which was filed June 15, 2015. Use of such forecast would result in a 6.8% increase in the total bill or a \$13.63 increase for a residential customer utilizing an average of 1,000 kilowatt hours per month.
2. In reviewing GPA LEAC Petitions, it has been customary for PUC Consultants to obtain an updated Morgan Stanley fuel forecast on a date within a few weeks before the PUC hearing at which the LEAC Petition will be considered. There is no specific rule as to which date should be selected. The Consultant designates a date, and the Morgan Stanley estimated fuel price forecast for that date is used in determining the fuel factor.
3. Here PUC Consultant Slater designated a date for the updated Morgan Stanley fuel price forecast, July 6, 2015, but then determined it would not use the July forecast because the June 30 forecast was "more reliable." A determination of the relative "reliability" of fuel price forecasts for different dates is difficult, if not impossible. Fuel prices are normally volatile. A forecast is merely an estimate.
4. The reliability of fuel prices for the next six month period cannot be predicted with certainty. The date of a particular Morgan Stanley fuel price forecast is a snapshot in time. If the fuel price forecast on a particular date later turns out to have been inaccurate, there are protections built into the LEAC process. GPA can petition the PUC for an interim LEAC factor if it has a \$2M over or under recovery during a particular LEAC period. Furthermore, fuel price forecasts are always updated and reconciled in the next LEAC proceeding.
5. There are no specific facts or evidence showing that the June 30 forecast is "more reliable" than the July 6 forecast.
6. Slater itself points out that, based upon the drop in fuel prices between June 30 and July 6, Morgan Stanley reflected that price drop as if it would have a lasting impact on prices through the first quarter of 2016. Morgan Stanley indicated that the price drop would have a lasting impact on fuel prices. Slater does not counter the Morgan Stanley reflection that the drop in fuel prices will be

“lasting.” Slater only states that it was “unable to test whether a nearly 9% price drop could reasonably be expected to continue for the entire LEAC period.”

7. There is an additional reason to believe that the July 6, 2015, Morgan Stanley forecast should be utilized. The LEAC factors for July 6, July 8, July 10, and July 13, based upon the updated Morgan Stanley fuel forecasts, range between \$0.101352 and \$0.104871. Each of the Morgan Stanley forecasts indicate fuel pricing for Number 6 (HSFO/LSFO) and number 2 (Diesel) that are far below the Morgan Stanley pricing for May 25 and June 30.¹²
8. The original justification offered by GPA for a 6.8% increase in the LEAC factor was the “continuing increase in worldwide fuel prices.” GPA based its request upon the May 25 Morgan Stanley estimate that the average cost of fuel would be \$68.60, effective August 1, 2015. However, the more recent Morgan Stanley estimate, i.e. the July 6 estimate, indicates that fuel prices are in fact decreasing. It is now estimated that, effective August 1, 2015, the average price of fuel per barrel will be \$64.15.
9. The Morgan Stanley July 13th estimate continues to show a decrease in the average price of fuel, to \$63.66 per barrel.¹³
10. The Commission should therefore adopt the LEAC factor based upon the Morgan Stanley Fuel price forecast of July 6, 2015. Furthermore, it is reasonable and prudent to adopt the LEAC factors as set forth in GPA Revised Schedule 1, attached hereto as Exhibit “2”.
11. This change represents a 1.4% increase in the total bill (rather than the 6.8% requested by GPA or the 3.04% increase suggested by Slater). There will be an increase of \$2.82 in the total bill for a residential customer using an average of 1,000 kilowatt hours per month.

ORDERING PROVISIONS

After carefully reviewing the record in this proceeding, having considered the LEAC Filings of GPA and the Report of Slater, Nakamura & Co. LLC, and after discussion at a duly noticed public meeting held on July 16, 2015, for good cause shown and on motion

¹²Id.

¹³GPA CFO Cora Montellano, Calculation of Proposed LEAC Rate, submitted July 13, 2015.

duly made, seconded and carried by affirmative vote of the undersigned Commissioners, the Guam Public Utilities Commission hereby **ORDERS** that:


1. The current singular LEAC factors are hereby adjusted effective August 1, 2015, as shown in the following table:

LEAC	
<u>Delivery Classification</u>	<u>\$ per kWh</u>
Secondary -	\$ 0.104871
Primary - 13.8 KV	\$ 0.101512
Primary - 34.5 KV	\$ 0.101202
Transmission - 115 KV	\$ 0.099877

This change represents a 1.4% increase in the total bill for a residential customer utilizing an average of 1,000 kilowatt hours per month (\$2.82 per month).

2. GPA should file for a change in the LEAC factors to be effective February 1, 2016 on or before December 15, 2015.
3. As requested by GPA, the current Working Capital Fund Surcharge of \$0.00466/kWh for civilian customers and \$110,374.00/month for the Navy shall remain in effect. This Surcharge is for the payment of debt service on the replenishment of the WCF from bond funds.
4. 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 GCA §§12002(b) and 12024(b), and Rule 40 of the Rules of Practice and Procedure before the Public Utilities Commission.

Dated this 16th day of July, 2015.

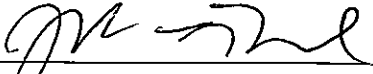


Jeffrey C. Johnson
Chairman

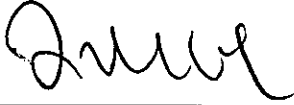


Rowena E. Perez
Commissioner

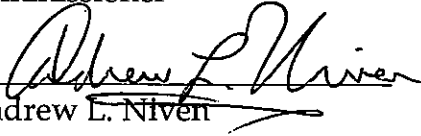
Order
LEAC
GPA Docket 15-15
July 16, 2015



Joseph M. McDonald
Commissioner



Peter Montinola
Commissioner



Andrew L. Niven
Commissioner

Michael A. Pangelinan
Commissioner

Filomena M. Cantoria
Commissioner

GPA

Proposed LEAC Rate

	Revised Proposed Eff 8/01/2015	Updated 6/30/15 Proposed Eff 8/01/2015	Updated 7/06/15 Proposed Eff 8/01/2015
1 Average Price per Bbl	\$ 68.60	\$ 65.63	\$ 64.15
2 Number 6 (HSFO/LSFO)	\$ 80,047	\$ 76,577	\$ 74,846
3 Number 2 (Diesel)	5,566	5,253	5,165
4 Renewable (Solar)	2,291	2,291	2,291
5 TOTAL COST	\$ 87,904	\$ 84,121	\$ 82,302
6 Handling Costs	3,364	2,482	1,814
7 Total Current Fuel Expense	\$ 91,268	\$ 86,603	\$ 84,116
8 Civilian Allocation	77.89%	77.89%	77.89%
9 LEAC Current Fuel Expense	\$ 71,090	\$ 67,456	\$ 65,519
10 Deferred Fuel Expense	(1,472)	(2,657)	(2,684)
11 Total LEAC Expense	\$ 69,617	\$ 64,799	\$ 62,835
12 Less: Trans. Level Costs	(4,288)	(4,008)	(3,887)
13 Distribution Level Costs	\$ 65,330	\$ 60,791	\$ 58,949
14 Add: Over recovery at the end of the period	\$ -	\$ -	\$ -
15 Adjusted Distribution Level Costs	\$ 65,330	\$ 60,791	\$ 58,949
16 Distribution Level Sales (mWh)	564,706	562,104	562,104
17 LEAC Factor Distribution	0.1115688	0.108149	0.104971
18 Current LEAC Factor Distribution	0.102054	0.102054	0.102054
19 Increase/(Decrease)	0.013634	0.006095	0.002817
20 Monthly Increase/(Decrease) - 1000 kWh	\$ 13.63	\$ 6.10	\$ 2.82
21 % Increase/(Decrease) in LEAC	13.4%	6.0%	2.8%
22 % Increase/(Decrease) in Total Bill	6.8%	3.0%	1.4%
23 Discount (3%) - Primary 13.8 KV	0.111983	0.104635	0.101512
24 Discount (4%) - 34.5 KV	0.111641	0.104365	0.101202
25 Discount (5%) - 115 KV	0.110180	0.102999	0.099977

Updated 7/8/15 Proposed Eff 8/01/2015	Updated 7/10/15 Proposed Eff 8/01/2015	Updated 7/13/15 Proposed Eff 8/01/2015	Updated 7/15/15 Proposed Eff 8/01/2015
\$ 63.15	\$ 64.12	\$ 63.66	\$ 64.09
\$ 73,685	\$ 74,814	\$ 74,284	\$ 74,782
4,929	5,056	4,977	4,997
2,291	2,291	2,291	2,291
\$ 80,906	\$ 82,161	\$ 81,553	\$ 82,071
569	1,603	1,091	1,586
\$ 81,474	\$ 83,764	\$ 82,644	\$ 83,657
77.89%	77.89%	77.89%	77.89%
\$ 63,461	\$ 65,244	\$ 64,372	\$ 65,161
(2,734)	(2,734)	(2,725)	(2,724)
\$ 60,727	\$ 62,510	\$ 61,647	\$ 62,437
(3,756)	(3,867)	(3,813)	(3,862)
\$ 56,970	\$ 58,643	\$ 57,834	\$ 58,575
\$ -	\$ -	\$ -	\$ -
\$ 56,970	\$ 58,643	\$ 57,834	\$ 58,575
562,104	562,104	562,104	562,104
0.101352	0.104323	0.102888	0.104206
0.102054	0.102054	0.102054	0.102054
(0.000702)	0.002275	0.000834	0.002153
\$ (0.70)	\$ 2.27	\$ 0.83	\$ 2.15
-0.7%	2.2%	0.8%	2.1%
-0.4%	1.1%	0.4%	1.1%
0.093106	0.100987	0.099592	0.100869
0.097806	0.100678	0.099288	0.100560
0.096526	0.099360	0.097988	0.099244

GUAM POWER AUTHORITY
Fuel Clause Reconciliation

Schedule 1

	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	FY 15	FY 16	FY 15	FY 16
1 Start Date										
2 Total Sales							Total FY 15	Total FY 16	Civilian	New
3 Daily Sales							1,539,905	1,528,985	1,196,229	1,188,508
4 Plant Use							4,217	3,277	3,277	3,256
5 Transmission Loss							5.55%	5.55%	181.74	180.57
5a Transmission Loss Above 13.8KV							0.27%	0.27%	8.97	52.12
6 Distribution Loss							2.00%	2.00%	8.91	18.76
7 Company Use							2.76%	2.76%	90.58	18.62
8 Total Daily Demand							0.31%	0.31%	10.16	2.91
9 Month	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16				
10 Days	31	30	31	30	31	31				
11 Required Generator-Civilian	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast				
12 Required Generator-New	110,632	107,064	109,918	106,373	109,918	109,918	653,823	77,891%	343,076	340,477
13 TOTAL REQUIRED GENERATION	31,426	30,412	31,188	30,182	31,188	31,188	185,582	22.109%	93	93
	142,058	137,475	141,106	136,554	141,106	141,106	839,405			
14 Number 6 (HSFO/LSFO)										
15 Number 2 (GPA)	13,112,482	12,505,580	13,376,264	11,807,993	11,983,741	12,059,505	74,846,565	Schedule 2		(1,052,250)
16 Renewables	1,625,071	1,361,136	374,784	381,499	726,448	695,961	5,164,880	Schedule 3		
17 TOTAL COST	0	0	607,478	638,509	493,310	552,055	2,291,363	Schedule 4		
18 Handling Costs	14,737,553	13,867,716	14,358,506	12,828,002	13,203,500	13,307,532	82,302,808	Schedule 5		(231,653)
19 TOTAL EXPENSE	314,820	315,209	295,767	295,854	295,921	296,683	1,314,254			(1,082,489)
	15,052,373	14,182,925	14,654,273	13,123,855	13,499,421	13,604,215	84,117,062			

Calculation of Civilian Factor

20 Sales-Civilian	101,598	98,320	100,942	97,686	100,942	100,942	600,428			
20a Sales At Transmission Level	6,457	6,249	6,457	6,249	6,457	6,457	38,225			
20b Sales @ 13.8 KV	95,141	92,072	94,485	91,437	94,485	94,485	562,104			
21a Fuel Cost Recovery @ 13.8 KV	\$104,872	\$ 9,977,637	\$ 9,655,777	\$ 9,908,864	\$ 9,589,223	\$ 9,908,864	\$ 58,949,230			
21b Fuel Cost Recovery @ "Transmission"		654,856	633,732	654,856	633,732	654,856	3,886,889			
21c Total Recovery		\$ 10,632,493	\$ 10,289,509	\$ 10,563,721	\$ 10,222,955	\$ 10,563,721	\$ 62,836,119			
22 Civilian Costs (Total Expense x%)		77.891%	\$ 11,724,481	\$ 11,047,257	\$ 11,414,396	\$ 10,222,335	\$ 10,514,868	\$ 10,596,493	\$ 65,519,830	
22a Deferred Fuel Amort.										
23 Under/(Over)										
24 Estimated Under/(Over)										
25 Net Recovery Under/(Over)										
26 Proposed Fuel Cost Recovery										

Civilian Clause Reconciliation:

27 Opening Recovery Balance-January 31, 2015	\$ (2,683,711)	\$ (1,591,722)	\$ (833,974)	\$ 16,701	\$ (621)	\$ 16,081	\$ (32,772)	2,683,711	0.004524137
Under/(Over)	1,091,988	757,728	850,675	(621)	(48,853)	32,772			
29 Closing Recovery Balance	\$ (1,591,722)	\$ (833,974)	\$ (16,701)	\$ 16,081	\$ (32,772)	\$ 0			

Customer Charge \$/month	Current Rates \$/kwh	Current Bill	Rate to Fully Recover	Increase (Decrease)
Customer Charge \$/month	\$ 13.00	\$ 13.00	\$ 13.00	\$ -
Non Fuel Energy Charge (\$/kwh)	\$ 0.0629	\$ 31.46	\$ 31.46	\$ -
Lifeline Usage (500 kwh)	\$ 0.0393	\$ 44.93	\$ 44.93	\$ -
Water/Wall Charge				
Lifeline Usage (500 kwh)	0.0000	\$ -	\$ -	\$ -
Non lifeline Usage	0.00279	\$ 1.40	\$ 1.40	\$ -
Insurance Charge	0.0029	\$ 2.90	\$ 2.90	\$ -
WCF Surcharge	0.00466	\$ 4.66	\$ 4.66	\$ -
Fuel Bank Credit (FBQ)	0	\$ -	\$ -	\$ -
Fuel Recovery Charge		302.05	104.87	2.82
TOTAL BILL		\$ 200.40	\$ 203.22	\$ 2.82
Increase (Decrease) From Current Bill				\$ 2.82
Percent Increase (Decrease)				1.41%
Increase (Decrease) From Current Lease Factor				2.82
Percent Increase (Decrease)				2.76%

Adjusted LEAC Rate:

Customer	Effective	Effective
Primary- 13.8 KV	0.104872	0.102054
Secondary- 13.8 KV	0.101513	0.098105
Primary- 13.8 KV	0.101202	0.097741
115 KV	0.098978	0.098190

BEFORE THE GUAM PUBLIC UTILITIES COMMISSION



IN THE MATTER OF:) GPA Docket 15-16
)
The Petition of the Guam Power Authority)
for Approval of Procurement of the) ORDER
Energy Storage System.)
)
)
_____)

INTRODUCTION

1. This matter comes before the Guam Public Utilities Commission [“PUC”] upon the Petition of the Guam Power Authority [“GPA”] for contract review and approval of GPA’s Procurement of the Energy Storage System.¹
2. GPA now requests that PUC approve the issuance of an Invitation for Bids [“IFB”] for an Energy Storage System. Submitted with GPA’s Petition are Volumes I through IV relative to the IFB for Energy Storage.²

BACKGROUND

3. GPA intends to issue a procurement for an Energy Storage System. This project involves the design, procurement and installation of a 40MW Energy Storage System (ESS) at the GPA Agana Substation Compound and interconnection to GPA power system.³
4. In the procurement, GPA will seek the services of an Engineer/Procure/Construct (EPC) or Design/Build (DB) contractor for the Energy Storage System Phase I Project.⁴
5. GPA seeks a “Turn-Key” project that will be fully operational upon commissioning and intends to enter into a 25-Year Performance-Based Operations and Maintenance (O & M) Contract with the successful bidder.⁵

¹ GPA Petition for Approval Procurement of the Energy Storage System, GPA Docket 15-16, filed June 19, 2015.

² Id.

³ Id at p.1.

⁴ Guam Consolidated Commission on Utilities Resolution No. 2015-30, Relative to the Approval to Submit to the Guam Public Utilities Commission (GPUC) the Energy Storage System Phase I Draft Bid Documents, adopted May 26, 2015.

⁵ Id at p.1.

ATTACHMENT B

6. The objective of this Project is to help alleviate existing under frequency load shedding issues and support renewable energy integration.⁶
7. The cost is estimated at \$35M. Project schedules estimate contract award by November 2015 with project completion scheduled for December 2016.⁷
8. The preferred ESS site is the GPA Agana Substation Compound with the ESS connected at the 115K Voltage Level.
9. The selected Contractor and/or Energy Storage System manufacturer is required to provide a 20-Year service and parts warranty.⁸
10. The Contractor shall provide full service operations and maintenance (O&M) of the Energy Storage System to GPA for period of 25-Years after commissioning. Service shall include all aspects of daily operation and monitoring of the ESS and all periodic maintenance procedures covering electrical systems, mechanical systems, grounding/lightning protection systems, fire suppression systems, etc.⁹
11. GPA previously conducted a study to determine the feasibility of adding an ESS and the performance of the GPA System with the addition of an ESS.¹⁰ The Study has recommended that “based on life cycle cost analysis, a battery-based ESS... the type of battery technology recommended at this time is lithium-ion or advanced lead-acid”¹¹
12. However, the Invitation for Bids does not specify any particular technology for the energy storage purposes and would also allow submittal of “flywheel” technology for the IFB.

⁶ Id.

⁷ Issues for Decision [attached to Petition for Approval of Procurement of the Energy System], GPA Docket 15-16, filed June 19, 2015.

⁸ Id at Section 3.3.10, Warranty, at p.11.

⁹ Id at Section 3.4.1, p.11.

¹⁰ GPA Energy Storage Feasibility Study, Appendix H to the IFB.

¹¹ Id.

13. GPA has also prepared a draft "FORMAL CONTRACT", which the selected Contractor would sign. The contract sets forth the duties and responsibilities of the Contractor, as well as the compensation to be paid.¹²
14. The Consolidated Commission on Utilities (CCU) Resolution No. 2015-30 authorized the GPA General Manager to petition the PUC for approval of the procurement of the Energy Storage System.¹³
15. On July 13, 2015, PUC Counsel submitted his Report herein. The PUC adopts Counsel's recommendations.¹⁴

DETERMINATIONS

16. The PUC previously approved funding for the Energy Storage Project in GPA Docket 14-09 in the amount of \$35M. There the PUC authorized the issuance of Revenue Bonds for various projects, including the Energy Storage Project.¹⁵
17. PUC Consultant Slater, Nakamura & Co, LLC, recommended that the ESS Project be approved in its Memorandum Review of Energy Storage System dated November 25, 2014.¹⁶ Having approved the expenditure of \$35M for the ESS, PUC required GPA to seek prior approval from the PUC before issuing its procurement for Energy Storage.¹⁷
18. A continuing concern, raised by PUC Consultant Slater, Nakamura & Co., LLC, is that the cost of the ESS could exceed the approved funding of \$35M.¹⁸ PUC will further evaluate cost issues upon submission by GPA of the results of the IFB. The need for future funding may present an obstacle to this project that GPA will need to overcome.

¹² Volume III, Draft Energy Storage Contract, Invitation for Multi-Step Bid No. GPA-XXX-15, Energy Storage System Phase I.

¹³ GPA Petition for Approval Procurement of the Energy Storage System, GPA Docket 15-16, filed June 19, 2015.

¹⁴ PUC Counsel Report, GPA Docket 15-16, dated July 13, 2015.

¹⁵ PUC Order and Law Order Approving Long-Term Debt, GPA Docket 14-09, In Re: Guam Power Authority's Request to Issue GPA Revenue Bonds, dated July 31, 2014.

¹⁶ Slater, Nakamura & Co., LLC, Memorandum on Review of Energy Storage System, GPA Docket 14-09, dated November 25, 2014, at p. 4.

¹⁷ Id.

¹⁸ Slater, Nakamura & Co., LLC, Report on the Review of the Proposed Bond Financing under GPA Docket 14-09, filed July 27, 2014, at p.10.

19. Concerning the structure of the project, GPA will be responsible for the entire cost of the ESS System. The selected Contractor will be responsible for the construction of the ESS and its operation and maintenance over the 25-Year period.
20. An issue has been raised as to whether GPA could utilize a Compressed Air Energy System" could be a part of the ESS project. GPA has taken the position that CAES applications for stored energy systems are far much slower systems than are required for the GPA contingency reserve application. GPA submits that a stored air system cannot meet the contingency reserve requirement of the GPA system due to its response characteristics.¹⁹
21. GPA's Consultant, Dave Burlingame, has stated that ESS is a proven technology. It should be extremely reliable in achieving the results sought by GPA in terms of Fault induced Delayed Voltage Recovery.
22. GPA indicates that the ESS will be operational within one year after the award of the contract.
23. The useful life of battery storage systems depends upon the type of battery used and the opinions of the suppliers. This issue will have to be revisited when GPA determines the technology which it intends to use for the ESS.
24. GPA has asserted that the ESS system will improve system reliability, improve power quality and reduce underfrequency outages by 77%.
25. ESS Systems are in commercial operation in the United States. GPA's Consultant indicated that there are a number of such systems in operation, and one in particular in his state of residence, Alaska. The Alaska ESS System provides 25MW of reliable power to the power system.

ORDERING PROVISIONS

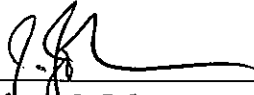
After review of the record herein, including GPA's Petition to Procure an Energy Storage System, the GPA Feasibility Study, and the PUC Counsel Report, for good cause shown, on motion duly made, seconded and carried by the undersigned

¹⁹ Electric Power Systems Inc. Consulting Engineers, CAES-Existing Projects, Slide Presentation, July, 2015.

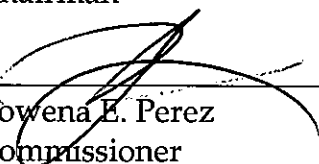
Commissioners, the Guam Public Utilities Commission **HEREBY ORDERS** that:

1. GPA's Petition to procure a Energy Storage System is granted.
2. The current level of authorized funding for the ESS is \$35M.
3. Before entering into a final contract with the selected Contractor for the ESS, GPA is required to submit such contract to the PUC for prior review and approval. Neither the terms of the Final Contract, nor the price for the Energy Storage System, are known at the present time.
4. GPA should ensure that the terms and conditions of the Final Contract fully and adequately protect the interests of GPA and the ratepayers.
5. 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 GCA §§12002(b) and 12024(b), and Rule 40 of the Rules of Practice and Procedure before the Public Utilities Commission.

Dated this 16th day of July, 2015.



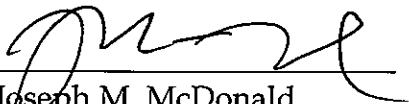
Jeffrey C. Johnson
Chairman



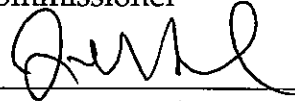
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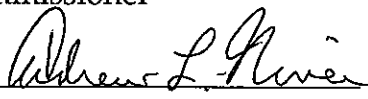
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