

BEFORE THE GUAM PUBLIC UTILITIES COMMISSION



IN THE MATTER OF:) GPA Docket 20-05
)
GPA Demand Side Management) **ALJ REPORT**
)
_____)

I. INTRODUCTION

This matter comes before the Guam Public Utilities Commission [“PUC”] upon the Petition of the Guam Power Authority [“GPA”] for approval of the use of Levelized Energy Adjustment Clause [“LEAC”] funds to pay for the costs of the GPA Demand Side Management [“DSM”] Programs.¹ The purpose of GPA’s Petition is to create a permanent funding source for the DSM Program through LEAC. GPA’s present intent is to fund the amount of \$1.5M for DSM in every 6-month LEAC period. GPA proposes to fund the DSM Program at an annual amount of \$3M. GPA seeks to include the sum of \$1.5M for DSM in each LEAC 6-month factor going forward into the future.² To initially fund DSM, GPA would add to the ratepayers’ utility bills an initial charge of \$.0021/kWh.³

II. BACKGROUND

A. The Establishment of the DSM Program

In 2014, the Demand Side Management Program was created as a result of concerns of the PUC Chairman and Commission Staff that GPA, in an environment of high fuel costs, had virtually no programs in place to provide incentives to its ratepayers to conserve energy. Many other utilities in the Pacific and mainland US had already created DSM programs. The PUC ordered that the ALJ, Lummus Consultants, and GPA work collaboratively together to develop a DSM and Energy Efficiency program.⁴ On February 26, 2015, the PUC authorized GPA to move forward with implementing four DSM Projects (Central AC, Ductless AC, Washer, and Dryer).⁵ In May of 2017, the PUC approved 10 additional DSM Program initiatives, which included Energy Audits,

¹ GPA Petition for PUC Approval of the Execution of the GPA Demand Side Management [“DSM”] Programs using LEAC Funds, GPA Docket 20-05, filed December 5, 2019.

² GPA Responses to Requests for Information of the Administrative Law Judge, GPA Docket 20-05, dated March 13, 2020, at GPA Responses to RFIs Nos. 8 & 9.

³ GPA Petition, p. 1; in GPA Docket 20-12, GPA recently indicated that the amount of the DSM charge would increase to \$.003 because of the reduced amount of revenues that GPA is presently receiving.

⁴ PUC Order, GPA Docket 13-14 [In the Matter of: GPA Demand Side Management], dated July 31, 2014.

⁵ PUC Order, GPA Docket 13-14, dated February 26, 2015, at p. 4.

Split, Ductless A/C systems, residential and commercial A/Cs, Variable Refrigerant Flow, Commercial Lighting (LED), Water Heating Slow Flow Showerheads, and a 100 Customer Energy Storage System, pilot residential and commercial.⁶

However, due to the growth of the initial DSM residential rebate programs, particularly for residential split level air conditioning, GPA has not had sufficient funding to accommodate the growing initial program or to roll out the expanded DSM rebate program.⁷ Without additional funding, and an additional funding source, GPA will be unable to further proceed with its Demand Side Management Program. In Resolution No. 2019-18, the Guam Consolidated Commission on Utilities authorized GPA to seek both additional funding for the DSM Program and a new funding source (LEAC).⁸ The need for additional funding resulted from the “exponential growth year over year in the amount DSM Program rebate payments since FY2016...” The future DSM Program forecasted growth “places pressure on GPA base rate funding and could impact GPA Debt Service Coverage Requirements”; finally, current available funding for the program was to run out in FY2020.⁹ As of March 13, 2020, the remaining balance of funds for the DSM Program was \$157,300.¹⁰

B. To Date, there has been no Adequate, Reliable Funding Source for the DSM Program.

Since 2014, the PUC Consultant, the ALJ, and GPA have been discussing potential long-range solutions to the problem of funding the DSM Program. However, to date, no solution has been implemented. From 2016-2019, the cost of the Rebate Program alone (excluding administrative and other costs) totals \$3,597,802.¹¹ Since the beginning of the DSM program, funding has been authorized by PUC from a “Hodge-podge” of sources. Initially, the PUC authorized GPA to use 2014 Bond Funds for the DSM Task Order for Lidos Engineering. Lidos assisted GPA in its setup and initial implementation of the DSM Program.¹² PUC subsequently authorized GPA to withdraw the sum of \$1,806,014 from the Working Capital Fund “as reimbursement for interest and debt service costs

⁶ PUC Order, GPA Docket 13-14, dated May 25, 2017, at p. 3.

⁷ DEMAND-SIDE MANAGEMENT PROGRAM UPDATE, dated March 12, 2020, prepared by SPORD/Engineering & Technical Services, at p. 2. (Attachment to GPA’s Response to ALJ RFIs, filed March 3, 2020.)

⁸ Guam Consolidated Commission on Utilities Resolution No. 2019-18, Authorizing Management of the Guam Power Authority to File Recommendations for Placing the Demand-Side Management (DSM) Program Expenses under LEAC, adopted November 26, 2019.

⁹ Id.

¹⁰ GPA Responses to Requests for Information of the Administrative Law Judge, GPA Docket 20-05, dated March 13, 2020, at p.13, Response to RFI No. 4.

¹¹ See figure A-2, Historical and Forecasted Annual DSM Rebate Expenses, attached hereto.

¹² PUC Order, GPA Docket 13-14, dated April 30, 2015.

on the 2010 Subordinate Bond Issuance.” That sum was ordered to be placed in a separate account known as the Energy Sense Fund, and to be “only used by GPA for the DSM Program and projects specifically approved by the PUC...”¹³ Finally, on March 29, 2018, the PUC ordered, in accordance with GPA’s request, that \$1,139,189 of the savings from GPA’s refunding of its 2010 Series A Revenue Bonds be allocated “to fund the GPA Demand Side Management (DSM) rebate program...”¹⁴ It is evident that the PUC must determine a more stable, long-term funding source if the DSM Program is to continue to expand and strengthen.

III. ANALYSIS

A. The PUC previously determined that DSM Programs are beneficial to the Ratepayers of Guam; the Cost of the DSM Programs should be Borne by the Ratepayers.

As the justification for a DSM Program, the CCU has stated that “the DSM Program is predicated on the avoidance of fuel costs, and it also defers the need for capacity additions.”¹⁵ GPA estimates that there are fuel savings of \$21.3M resulting from residential AC rebate applications to date; total kW reduction is estimated at 3,108. Annual kWh avoided is 15,519,193. Annual savings is projected as \$3,046,418. The total fuel cost savings previously cited is based upon an assumption of seven years for the A/C equipment life.¹⁶ DSM Programs are further justified as a means of reducing the need for generation capacity: “utilities benefit from reducing energy consumption demand at peak times because there is less need to add additional capacity through costly construction programs.”¹⁷

“DSM aims to balance supply by reducing or shifting the electric demand. Therefore, DSM can potentially postpone the construction of new generation, transmission, and/or distribution infrastructure.”¹⁸ **Utility-Sponsored DSM programs are typically funded**

¹³ PUC Order, GPA Docket 13-14, dated August 27, 2015, at p. 4.

¹⁴ PUC Order, GPA Docket 18-11, dated March 29, 2018, at p. 5.

¹⁵ CCU Resolution No. 2019-18, Authorizing Management of the Guam Power Authority to File

Recommendations for Placing the Demand-Side Management (DSM) Program Expenses under LEAC, adopted November 26, 2019, at p. 1.

¹⁶ GPA Responses to Requests for Information of the Administrative Law Judge, GPA Docket 20-05, dated March 13, 2020, at GPA Response to RFI No. 12.

¹⁷ U.S. Department of Energy, Federal Energy Management Program, Utility Rebates and Incentive Programs, July 2009.

¹⁸ Potter, Stuart, and Cappers, Barriers and Opportunities to Broader Adoption of Integrated Demand Side Management at Electric Utilities, A Scoping Study (Energy Analysis and Environmental Impacts Division, Lawrence Berkeley National Laboratory, February 2018, at p. 1

https://emp.lbl.gov/Sites/Default/Files/Barriers_and_opps_idsm_final_20180213.pdf

by ratepayers either explicitly in the form of a surcharge on electricity consumption or implicitly through higher electricity prices.¹⁹ (emphasis added). DSM Programs are generally justified by state regulatory authorities “on the presumed positive affect of DSM on energy efficiency...”²⁰ By requiring GPA to implement a DSM program, PUC has already determined that there should be public policies to promote DSM and Energy Efficiency programs. Numerous justifications for use of ratepayer funds to support energy efficiency can be offered, such as legal requirements, fairness, practicality, and consistency with other social objectives. A pragmatic basis is that there should be support and acceptance for policies that rely on voluntary participation by customers.²¹

DSM and energy efficiency programs can be funded through many different sources, including public funds, grants, loans, and various types of utility charges. Certain state and federal programs can fund DSM investments.²² For the most part, utilities appear to fund DSM and Energy Efficiency Programs through surcharges, non-bypass able surcharge on electricity bills, public benefits or goods charges, and other cost adjustment rate mechanisms.²³ An article on “Customer Energy Efficiency Programs” contains a comprehensive description of different funding mechanisms for DSM and energy efficiency programs in the states.

Arizona funds such programs through “an adjuster mechanism or collected through a non-by passable surcharge on electricity bills, “depending on the utility”. California funds DSM programs in part from collection of a “Public Goods Charge (PGC) on customer utility bills...”. In Colorado, the major investor-owned utility funds DSM programs through a “demand-side management cost adjustment mechanism rate rider.” In Hawaii, ratepayers who are customers of HECO pay “a public benefits fee.” In New Mexico, DSM program costs are 3% of customer bills for investor-owned electric utilities and may not exceed 3% of total annual revenues for gas utilities. In New York, customers pay a non-by passable system benefits charge (SBC) on their utility bills. Oregon utility customers pay a “public purpose charge” for energy

¹⁹ David S. Loughran and Jonathan Kulick, *The Energy Journal* Vol. 25, No. 1 (2004), pp. 19-43.

²⁰ *Id.*, at p. 20.

²¹ Eto, Goldman, and Kito, *Ratepayer-Funded Energy-Efficiency Programs in a Restructured Electricity Industry: Issues, Options, and Unanswered questions*, (Environmental Energy Technologies Division, Ernest Orlando Lawrence Berkeley National Laboratory, University of California, August 1996), at pgs. 2-3, <https://eetd.lbl.gov/Sites/All/Files/Publications/Lbnl-40026.pdf>.

²² Meal, Monsen, Selting, Morse, Richard, Weisenmiller & Associates, Inc., *Financing Options for Demand-Side Management Programs: Risk-Reward Trade-offs for Ratepayers*. https://www.aceee.org/files/proceedings/1996/data/papers/SS96_Panel7_Paper11.pdf.

²³ *Customer Energy Efficiency Programs*, ACEEE. <https://database.aceee.org/state/customer-energy-efficiency-programs>.

efficiency programs, which is 3% of the total revenues collected by the utilities from customer electric bills. In Texas, an "Energy Efficiency Cost Recovery Factor (EECRF) rate schedule is included in tariffs and permits utilities to recover the cost in providing energy efficiency programs."²⁴

It is a fair conclusion that nearly all of the states include some type of ratepayer charge, included on utility bills, which is utilized to fund DSM and Energy Efficiency Programs. Therefore, it is appropriate for the Guam Public Utilities Commission to devise a charge, to be paid by GPA ratepayers, which will be used to fund the DSM Program. Of course, with regard to the rebate programs, the ratepayers are the primary beneficiaries and thus should legitimately assist in the funding of the program. Incentive programs within DSM, such as the A/C rebate program, "are funded either explicitly or implicitly by ratepayers."²⁵

B. The Most Appropriate Funding Mechanism available to the PUC for the DSM Program is LEAC.

The ALJ, PUC Consultants, and GPA have, over the past few years engaged in discussions concerning the most appropriate funding mechanism for the DSM Program. Quite obviously, that program cannot continue to be funded on the *ad hoc* basis that has existed to date, which is comprised of a hodge-podge of reallocation of bond funds, the working capital fund, and bond refinancing savings. There are really few viable alternatives even to consider. One possible mechanism would be through base rates. However, this would involve a new rate case and the inclusion of additional amounts for DSM in the base rate. The problem with this mechanism is that any increase in costs for DSM could ultimately require a new base rate case to be undertaken.

The PUC and GPA have often created separate surcharges which appear on the customer bill to fund specific items. These include the working capital fund surcharge, the water well surcharge, the self-insurance surcharge and others. The purpose of these surcharges was to fund certain matters by including a charge on the ratepayer's bill. Certainly, the separate surcharge approach could be used to fund the DSM Program. But there are numerous disadvantages with such an approach. Such surcharges have cluttered customer bills and sometimes create customer confusion as to exactly what is being charged. Such surcharges are not popular with ratepayers; in recent years the PUC has sought to avoid adding new surcharges to customer bills whenever possible.

²⁴ Id.

²⁵ Stephane De La Rue Du Can, Greg Leventis, Amol Phadke, Annand Gopal, Design of Incentive Programs for accelerating penetration of Energy-Efficient appliances, Energy Policy Volume 72, September 2014. <https://www.sciencedirect.com/Science/Article/Pii/S0301421514002705>.

An additional problem is the rigid nature of such surcharges. They are generally for a fixed amount and are difficult to alter; such alteration could also require public hearings. With regard to the DSM Program, it is likely that required funding amounts will increase in the future. Presently GPA has requested funding in the amount of \$1.5M per 6-month LEAC period. However, if the program is to grow in the future, there will likely be required upward adjustments of funding amounts. It is far easier to make such adjustments in an “adjustment” clause such as LEAC than in a fixed surcharge.

The option of including DSM funding in LEAC appears to be the best available solution. It has a downside too, in that such inclusion will increase the amount that ratepayers pay for the LEAC charge. Regardless of how DSM is funded, it is the ratepayers that will ultimately bear the cost. Looking at the history and development of the LEAC charge by the PUC, there is a good argument that LEAC is the appropriate mechanism for inclusion of DSM charges. GPA points out that the justification for including both renewable energy charges and DSM charges in LEAC is predicated on the avoidance of fuel costs. Previously, the PUC has allowed GPA to recover its Utility Scale Renewable Energy costs through LEAC.²⁶

From the inception of GPA’s Utility Scale Renewable Energy Program, PUC has allowed GPA to include the cost per MWh for renewable energy for solar power from the Dandan Solar Plant in the LEAC calculation. For the Dandan plant, average energy costs, based upon the contract price per MWh, has ranged in the vicinity of approximately \$5M per 6-month period.²⁷ The theory for inclusion of the energy cost for the renewables is that reliance upon such renewable energy reduces fuel costs and thereby benefits ratepayers.

With regard to GPA’s Phase II Renewable Acquisition, which include the development of 120MW of solar power by Korean Electric Power Company and Hanwa Energy Corporation, GPA will in all likelihood seek to pay the energy produced by those solar plants through the Levelized Energy Adjustment Clause. Should inclusion of such costs in the LEAC clause be approved by PUC, the cost of solar power purchased by GPA under the contracts would be included in the fuel cost used to determine the customer LEAC rates. In general, the solar power produced by the Phase II solar plants will range between 6 and 8 1/2 cents per kWh; such fuel cost will generally be far below that applicable to RFO and diesel fuel. Inclusion of the cost for solar power within LEAC is

²⁶ CCU Resolution No. 2019-18, Authorizing Management of the Guam Power Authority to File Recommendations for Placing the Demand-Side Management (DSM) Program Expenses under LEAC, adopted November 26, 2019, at pgs. 1-2.

²⁷ LEAC filing, GPA Docket 20-03, dated December 12, 2019, Schedule 12.

reasonable, as renewable energy is less expensive than fossil fuel. It is well recognized that renewable energy is “an effective hedge against rising fuel oil prices.”²⁸ Inclusion of DSM Program Funding in LEAC has a similar justification as for the inclusion of renewable power costs within LEAC. DSM Programs are designed to reduce fuel costs; as indicated, GPA estimates that the A/C rebate program will result in over \$21M in fuel savings. In addition, DSM theoretically can result in reducing the need for new power generation, thereby providing an additional benefit to ratepayers.

C. The PUC should adopt the DSM Program requested by GPA with the Addition of Certain Requirements.

GPA has requested that it be authorized to use LEAC funds to implement additional DSM programs in accordance with its DEMAND-SIDE MANAGEMENT PROGRAM Update.²⁹ GPA has set forth in detail the elements of the existing DSM rebate program and its plans for expansion with regard to the 10 new DSM projects approved by the PUC. In terms of an annual budget, GPA is proposing \$3M. Utilizing a ratepayer charge through LEAC of \$0.003 per \$/kWh, GPA seeks to recover \$1.5M per 6-month LEAC period. It is requesting that \$1.5M be charged to ratepayers every LEAC period to support the DSM Program.

Based upon the ALJ’s review, the \$3M budget estimate per year is reasonable to fund a broader program and to allow for the continued development of DSM. The proposed annual budget would provide \$1.6M for the residential rebates program alone. Rebates for that program totaled nearly \$1.5M in 2019. With the projected growth of the A/C rebate program, the amount requested for residential rebates does not appear to be unreasonable. In addition, a number of the proposed commercial programs involve new types of commercial A/C, including Solar Thermal Assisted, High Efficiency Split, and ducted A/C systems. The annual budget indicated for commercial rebates is \$950,000. This additional amount for rebates will allow GPA to expand the commercial rebate program, as was approved by the PUC previously.

In addition to the rebate amounts, there are numerous other expenses GPA must bear to support the program. Those include: Marketing, Outreach, and non-labor expenses; Meter Monitoring & Verification (to measure efficiency results of the rebate programs); and residential/commercial customer Energy Audits. The total annual estimated amount for such audits is \$50,000. The audits will be performed by GPA or third-party

²⁸ See PUC Order, GPA Docket 18-06, dated February 22, 2018; and PUC Counsel Report, GPA Docket 18-08, dated March 23, 2018.

²⁹ GPA Responses to Requests for Information of the Administrative Law Judge, GPA Docket 20-05, dated March 13, 2020, at p.13.

companies. These audits will advise customers on energy efficient improvements that they can make. The new programs approved by PUC for the DSM program will not be able to succeed unless the funding levels are raised.

The ALJ recommends that the PUC approve recovery of \$1.5M by GPA through the imposition of a per kilowatt charge of \$0.003 on all meters read on or after June 1, 2020. GPA has indicated that the funding of the \$1.5M can be trued up for each successive LEAC period. Each “true-up” can determine whether the established factor is appropriate, or should be altered to produce the required funding.³⁰ The “true-ups” will also determine whether any changes are required in appropriate funding levels. GPA has requested that the initially approved factor should remain in effect for one year until further review by the PUC.³¹ The ALJ suggests that the first true-up review be conducted in its consideration of the LEAC factor in January of 2021 (for the next 6-month period commencing February 1, 2021). The PUC can further evaluate whether the level of the charge for DSM is appropriate and should be continued for the next LEAC period. The DSM charge should thereafter be reevaluated during each successive LEAC period.

GPA should be required to submit, along with its normal LEAC filing, a “true-up” of the amount collected in the prior LEAC period and whether the amount collected was more or less than the anticipated \$1.5M. GPA’s report will include a statement of the total amount of funds collected for DSM through LEAC, a complete accounting of all amounts expended by GPA during the prior LEAC period for DSM, including rebates, program costs, and every expenditure of every nature. The report will include estimated fuel savings during the prior LEAC period resulting from the program. A more detailed protocol must be developed between GPA and the ALJ as to the specific reporting and other requirements.

GPA should be required to place all funds obtained by GPA for DSM from LEAC in a separate account, which is the Energy Sense Account. All funding related to DSM, in terms of accounting, should be deposited in the Energy Sense/DSM Fund Account and maintained separate and apart from all other GPA accounts. Said funds shall only be used for funding the specific DSM rebate programs and marketing plans approved by the PUC for DSM. PUC understands that GPA has a separate Utility Energy Services Contracting (UESC) Program, which also promotes various energy sufficiency improvements with the assistance of Johnson Controls Inc. and Siemens Industry, Inc. GPA has assisted commercial businesses, and has funded this program through federal

³⁰ Email from GPA GM John Benavente to GPA Counsel Graham Botha, dated January 8, 2020.

³¹ GPA Responses to Requests for Information of the Administrative Law Judge, GPA Docket 20-05, dated March 13, 2020, at p.13.

grants and customer funding. However, no DSM funds from LEAC may be used for any project relating to the USEC Program. This restriction also applies to GPA's "Bringing Energy Savings To (BEST) Schools Program."³²

GPA has agreed that, for the time being, it will focus on two areas of the 10 new DSM programs: Commercial Lighting and Residential/Commercial Air Conditioning. GPA has determined that these programs have greatest likelihood of impact upon fuel efficiency. GPA will also undertake steps to quantify and improve its evaluation process for the DSM Program. This process includes improved metering and verification. GPA will continue to develop methods and protocols to assess the efficiency of the DSM programs. It will consider evaluation processes' similar to those followed in California and other states to determine whether the rebate program is effective to incentivize customers to utilize energy efficient appliances. For example, there remains a legitimate question as to whether ratepayers who buy new A/Cs are incentivized to do so by virtue of the rebates offered, or whether they had already independently decided to purchase new A/Cs and are merely taking advantage of the available rebate benefit.

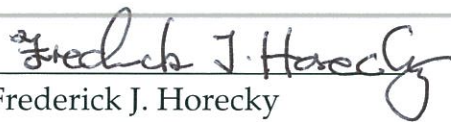
It is recognized that subsequent annual budgets for the DSM program may change depending on annual expenses and projected goals for the DSM program.

IV. RECOMMENDATION

The ALJ recommends that the PUC approve GPA's request for authorization to use LEAC funds for DSM, in accordance with the requirements and restrictions recommended herein.

A Proposed Order is submitted herewith for the consideration of the Commissioners.

Dated this 22nd day of May, 2020.


Frederick J. Horecky
Chief Administrative Law Judge

³² See Id., at pages 11-18, where the UESC and BEST programs are described in detail.

GPA

Proposed LEAC Rate (\$000)

Full Recovery	
MS Pricing 05.04.20 to 05.11.20 Jun 20- Jan 21	
Average Price per Bbl-RFO	\$ 38.42
Average Price per Bbl-Diesel	\$ 51.01
Number 6 (HSFO/LSFO)	\$ 49,038
Number 2 (Diesel)	26,876
Renewable (Solar)	7,613
TOTAL COST	\$ 83,527
Handling Costs	8,003
Total Current Fuel Expense	\$ 91,530
Civilian Allocation	80.97%
LEAC Current Fuel Expense	\$ 74,108
Estimated DSM for this period	\$ -
Deferred Fuel Expense at the beginning of the period	1,237
Total LEAC Expense	\$ 75,345
Less: Trans. Level Costs	(4,094)
Distribution Level Costs	\$ 71,251
Over recovery at the end of the period	\$ -
Adjusted Distribution Level Costs	\$ 71,251
Distribution Level Sales (mWh)	798,988
LEAC Factor Distribution	0.089177
Current LEAC Factor Distribution	0.114961
Increase/(Decrease)	(0.02578)
Monthly Increase/(Decrease) - 1000 kWh	\$ (25.78)
% Increase/(Decrease) in LEAC	-22.43%
% Increase/(Decrease) in Total Bill	-12.30%
Discount (3%) - Primary 13.8 KV	\$ 0.086506
Discount (4%) - 34.5 KV	\$ 0.086256
Discount (5%) - 115 KV	\$ 0.085195

LEAC – Billing Illustration

RATE SCHEDULE R						
	Existing Rate		Option A		Option B	
			Eff 06-01-20		Eff 06-01-20	
KWH		1,000		1,000		1,000
Monthly Charge						
Non-Fuel Energy Charge						
First 500 KWH	\$ 15.00	\$ 15.00	\$ 15.00	\$ 15.00	\$ 15.00	\$ 15.00
Over 500 KWH						
Emergency Water-well charge	0.069550	34.78	0.069550	34.78	0.069550	34.78
Total Electric Charge before Fuel Recovery Charges	0.086870	43.44	0.086870	43.44	0.086870	43.44
Fuel Recovery Charge	0.002790	1.40	0.002790	1.40	0.002790	1.40
	0.110039	94.62	0.083691	94.61	0.089177	94.61
Total Electric Charge		110.04		83.69		89.18
Increase/(Decrease) in Total Bill				\$ 178.30		\$ 183.78
% Increase/(Decrease) in Total Bill				\$ (26.36)		\$ (20.88)
% Increase/(Decrease) in LEAC rate				-12.88%		-10.20%
				-23.94%		-18.96%

Ex. 2