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September 19, 2023

Senator Chris “Malafunkshun” Barnett  
Chairperson, Committee on Education, Public Safety, and the Arts  
37<sup>th</sup> Guam Legislature  
Via email: [malafunkshun@guamlegislature.org](mailto:malafunkshun@guamlegislature.org)

**SUBJECT: Testimony of Chief Administrative Law Judge Frederick J. Horecky, Guam Public Utilities Commission, Re: Bill 63-37 (COR)**  
An Act to Add a New Chapter 14 to Division 2, Title 17, Guam Code Annotated, Relative to Authorizing the Guam Department of Education to Directly Purchase its own Solar Photovoltaic (PV) System

Dear Senator Barnett:

The Guam Public Utilities Commission [“PUC”] appreciates the opportunity to comment on proposed Bill No. 63-37 (COR). For the reasons stated herein, the PUC opposes the enactment of Bill No. 63-37 (COR).

- I. THERE HAS BEEN NO STUDY TO DETERMINE THE IMPACT OF THIS BILL UPON THE GPA TRANSMISSION AND DISTRIBUTION SYSTEM; AUTHORIZING THE SCHOOLS TO PURCHASE THEIR OWN SOLAR SYSTEMS IS NOT THE APPROPRIATE MANNER OF PROVIDING SOLAR ENERGY TO THE SCHOOLS.**

The impact of this Bill would be to authorize 41 public schools to bid for and implement photovoltaic solar systems. If all schools implemented solar systems, this would result in a tremendous influx of solar power into the island wide power system without any assessment of

the impact or damage that such influx could cause. With a previous bill, Bill No. 219-35, which also included educational “institutions” including the Guam Department of Education [“GDOE”], GPA General Manager John Benavente and John Cruz, GPA Assistant General Manager, Engineering & Technical, estimated that an additional 24.6MW of solar energy would have been added to the island wide power system by that bill. With the present bill, if each school had a system of 2MW, that would produce an over 80MW increase in the net metering production in the power system. At this point, the Legislature has no idea of what the impact of such an influx of net metered solar power into the power system would be. This influx of solar power into the GPA transmission and distribution systems, without any assessment or determination of whether GPA’s system can handle such an amount of solar energy produced by the net metering of these schools, or whether there would be a “demonstrated adverse impact on Guam Power Authority’s transmission and distribution system”, could potentially cause great damage to the island wide power system. The Legislature should not even consider this bill without an impact study and determination of how solar PV in the schools will impact the power system.

There are serious questions as to whether the Guam Department of Education has the institutional knowledge and ability to properly bid for such systems, to implement solar systems, or to maintain such systems. The Guam Power Authority is extremely well versed in issuing bids for solar systems, overseeing their implementation, and properly arranging for the maintenance of such systems. It has the appropriate engineering staff to oversee a solar program in the schools. It makes far more sense to place a school solar project under the management of the Guam Power Authority. The maintenance record of GDOE regarding air conditioning units, and the conditions of the schools raise serious questions about its ability to plan or run such systems. A far better solution would be to have a cooperative agreement between GPA and the schools for the provision of solar power. GPA has already proposed a program for the schools under the virtual net metering program. See attachment hereto, Virtual Power Plant Program.

## **II. BILL NO. 63-37 (COR) IS NOT COST EFFECTIVE AND WILL LIKELY RESULT IN AN INCREASE IN ALL POWER RATES, RESIDENTIAL, COMMERCIAL, AND GOVERNMENTAL.**

In its Finding Section, the Bill claims that cost savings will be attained by GDOE as its electric utility expenses will be lessened or “eliminated from the Department’s obligation...”. To begin with, this bill raises more questions than it answers concerning the cost impact of solar systems in schools. There is no indication whatsoever as to the cost of placing and maintaining solar systems in 41 schools. GDOE should not merely be given a blank check without any estimate of the costs. The Bill further claims that GDOE will be allowed “to lessen its utility obligations”, which are currently \$12M annually, and that “cost savings” will be “attained.” However, the Bill further provides that all savings from the Solar Photovoltaic System(s) “shall be allocated for the maintenance and repair of the Solar PV System, Capital Improvements, and operations. The Government of Guam shall continue to appropriate funds to the Department for utility obligations.” So, in fact, there are no savings from the Bill—all “savings” will be given to GDOE for solar PV maintenance and repair, Capital Improvements, and operations. The Government will continue to appropriate funds to the Department for utility obligations. There

will be no savings. Not only are there no “savings”, then GDOE will have all costs and expenses of implementing, constructing, and maintaining the solar systems.

What the Bill also fails to consider is that whether such systems will be “cost-saving” involves not only GDOE and the schools; GPA and the ratepayers of Guam must also be considered in determining whether Bill No. 63-37 is cost-effective. Net metering solar systems in Guam schools are not cost effective because they impose a financial burden on the utility and other customers. According to GPA’s Schedule C for net metering, net-metered customers receive credits at the retail rate, which is higher than the wholesale rate or the avoided cost of generation. GPA pays more for the excess power than it would otherwise pay to generate or purchase it from other sources. This creates a cross-subsidy from non-participating customers to participating customers, who do not pay their fair share of the fixed costs of maintaining the grid. Net metering reduces GPA’s revenues and profits which may affect its ability to invest in infrastructure upgrades or new generation capacity.

There will be a tremendous loss of revenue for GPA from this Bill. The Bill claims a reduction in GDOE’s power bills but does not consider the negative rate impacts on GPA and non-net metering customers. Conversion of the schools to net metering could cause a loss of revenue to GPA of \$12M or more per year. Such would greatly diminish GPA’s rate base. At present power rates for government entities subsidize residential power rates. By authorizing these arrangements, the Legislature negatively impacts the rate subsidies provided by government customers to the residential class. The result will very likely be an increase in residential rates.

So, allowing the schools to implement their own solar systems does not really “save” utility expense at all; it merely shifts the expense to GPA and non-net metering customers. With a loss of up to \$12M annually, the Guam Public Utilities Commission would be compelled to consider rate relief and “to provide GPA with all rates necessary to cover the full cost of service.” 12 GCA §12105(e) The PUC could not ignore the magnitude of such a revenue impact loss.

### **III. ALLOWING THE SCHOOLS TO IMPLEMENT THEIR OWN NET METERING SYSTEMS WILL NOT PROVIDE LOAD CAPACITY THAT WILL ENABLE GPA TO AVOID OUTAGES OR LOAD SHEDDING.**

The Bill claims that solar power in schools will increase solar energy capacity. However, energy provided by net metering solar systems in Guam schools will not be reliable or resilient because it depends on the availability of sunlight and the stability of the grid. Solar power is an intermittent and variable source of electricity, which means that it cannot provide a constant or predictable supply of power. Net metering customers still rely on the grid for backup power when their solar systems are not producing enough electricity or when there is a grid outage. Net metering can also cause grid instability by introducing fluctuations in voltage and frequency, which can damage equipment or cause blackouts.

There is no assurance that net metering systems in the schools will have sufficient battery storage to provide additional load capacity to the system at the peak (in the evenings). The reality is that existing net metering customers do not have energy shifting batteries and do not significantly reduce the overall demand or assist with providing additional capacity during peak hours.

Without sufficient and adequate battery storage, net metering systems in the schools will be useless to provide additional capacity. There is no assurance that school net metering systems will have sufficient batteries in their systems.

Bill No. 63-37 will cause an increase in the load of the existing system. Such additional load will be more than the system can handle. GPA has contended in prior PUC dockets that net metering systems without frequency control capability can overload system circuits, degrade system reliability, and cause intermittency and disruption in the system. There is a need to mitigate issues due to intermittent solar supply and its disruption of the system. NEM growth without batteries will significantly degrade reliability. The intermittency of solar PV supply can also cause conventional generators to trip offline.<sup>1</sup>

An influx of large 2MW systems into the island grid will potentially overload circuits and cause instability and unreliability in the system. This is because grid tied net metering systems cannot stay on during power outages based on safety requirements. Such instability will cause more outages and load shedding. Also, there are voltage and reverse power issues that need to be mitigated with the increase of generation capacity by net metering customers. Increasing net metering generation capacity and the installation of additional large solar PVs without sufficient and properly configured energy storage systems and microgrid controllers add to the problems of stable grid operation.

In previous testimony, the PUC has taken the position that utility scale PV plants are a far more efficient means of adding solar power to the power system than net metering. With the present problems that GPA has had with outages, insufficient load, and load shedding, it would not be a propitious time to add a huge supply of solar power into the system through net metering.

#### **IV. BILL NO. 63-37 INTERFERES WITH THE INDEPENDENCE OF THE PUC AND ITS RATE MAKING FUNCTIONS.**

In GPA Docket 19-04, the PUC amended the Net Metering Tariff, Tariff C, to change from a customer cap of 1,000 net metering customers to an aggregate kW cap set at 10% of GPA's August 1, 2017 system peak demand of 261MW. In other words, PUC only authorized a 26.1MW load for net metering capacity; when net metering exceeded a cap of 26.1MW, the PUC would again review the net metering program to determine whether the NM rider should continue to be offered to new "net metering" customers, and whether any other adjustments should be made to compensation rates paid by GPA to customer-generators for capacity generation.

GPA has recently indicated that it has already exceeded that cap with 32MW provided by net metering customers. What the Guam Legislature proposes in this Bill and other pending bills is a huge increase in the production of net metering customers which could more than effectively double the current limit of net metering load capacity. The PUC consultant, Daymark Energy Advisors, stated that a 10% cap on net metering production was supported by the fact that

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<sup>1</sup> GPA's Proposed Optional Energy Storage System (ESS) Rate, PUC Docket 20-09, submitted by John M. Benavente, General Manager, April 2021.

Hawaii, when penetration levels of net metering reached 10% in Oahu, led to the approval of a new policy for roof top solar.

What this Bill would do is to abolish the cap in net metering capacity established by the PUC and provide a doubling or tripling of the amount of net metering power in the system. Issues concerning the penetration level for net metering energy in the GPA power system are for the determination of the independent rate setting body, the Guam Public Utilities Commission. The PUC, not the Guam Legislature, should make the determinations concerning the amount of net metering capacity that Guam should have in its power system.

Bill No. 63-37's attempt to increase the penetration level of net metering is a violation of the independence of the Guam Public Utilities Commission, a body created by the Organic Act of Guam as an "independent rate setting body." Bill No. 63-37 also potentially violates the GPA/GWA Bond Covenants. In those Covenants, the Guam Legislature agreed not to impair the powers, duties or effectiveness of the PUC. The violation of the Bond Covenants by the Legislature could result in a bond default.

**V. IF BILL NO. 63-37 BECOMES LAW, THE PUC MAY LIKELY BE COMPELLED TO REDUCE THE COMPENSATION RATE FOR ALL NET-METERING CUSTOMERS.**

At present, net metering customers, or "customer generators" are entitled to receive credit for 100% of the power generation capacity at the rate GPA currently charges the customer. 12 GCA §8506. Such customers contribute nothing to base rate costs such as operation and maintenance of the plants and distribution systems and debt service. With the net-metering energy generation increase that Bill No. 63-37 would cause, it can be expected that GPA's revenue losses will rise substantially. Under the Bill the benefits to GDOE as a net metering customer will be subsidized by GPA to its financial loss.

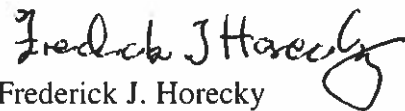
In the past, the PUC has declined to reduce the "one-to-one" compensation which net metering customers received, for each kw produced, on the theory that such reduction could inhibit the growth of the solar industry. The time may have come to reassess the current compensation level. The passage of this bill and the negative revenue loss impact on GPA may possibly compel PUC to reduce the current level of compensation to all net metering customers. GPA has recommended a "Value of Solar" ("VOS"), or an "avoided cost" rate, to replace the current one-to-one compensation. Many jurisdictions, including Hawaii and California, have altered the one-to-one compensation rate for net metering customers. More recently, the PUC has been considering the possibility of again examining the compensation rate; it is likely that, if this Bill is passed, the PUC will seriously undertake a reexamination of the existing compensation and possibly reduce that rate.

**CONCLUSION**

Bill No. 63-37(COR) should not be enacted. The Bill would likely result in higher power rates for the ratepayers of Guam, and the burden would particularly fall upon non-NEM customers. There is a clear danger that this Bill could exacerbate the instability of the power system and

cause even more outages than are presently occurring. This Bill will not provide useful additional load capacity or reduce power outages. The Bill will be to the detriment of average ratepayers. The PUC was responsible for the creation of the net-metering tariff and implementation of the renewable energy system in Guam. Whether the limit of net metering capacity should be increased is an issue which should be addressed by the Guam Public Utilities Commission.

Sincerely,



Frederick J. Horecky  
Chief Administrative Law Judge  
Guam Public Utilities Commission

# Virtual Power Plant Program

## Reason for Program:

- Establishment of the VPPP was mandated by Public Law No. 36-137 Bill No. 351-36:
  - “The Guam Power Authority (GPA) shall establish a Virtual Power Plant Program (VPPP)...”
  - Bill was sponsored by:
    - Clynton E. Ridgell
    - Joe S. San Agustin
    - Tina Rose Muña Barnes
    - Jose “Pedo” Terlaje
    - Amanda L. Shelton
    - Sabina Flores Perez
- Increase renewable generation capacity by 20 MW
- Replace Net Energy Metering (NEM) program
- Create a more accessible program for qualified homeowners, businesses, government of Guam agencies, and non-profit organizations

## Program Overview

- The parties involved in this program include:
  - GPA
  - Solar Developer
  - Solar Host (customer)
- The Solar Developer will be responsible for the installation, operation, and maintenance of all solar infrastructure
- The Solar Developer will be responsible for choosing **qualified** solar hosts and handling all land-use agreements with property owners
  - GPA will determine qualifications for property owners
  - Solar Developer will be required to prioritize the following customers when choosing “Solar Hosts”:
    - Gov. Guam Facilities
      - a) DOE Schools
      - b) GHURA Housing
      - c) Layon Landfill
      - d) Ordot Landfill
    - Qualified low-income residential customers
    - Qualified non-profit organizations
    - Qualified commercial customers
- Solar Developers are required to provide a “Solar Host Credit” to compensate program participants or “Solar Hosts” for utilizing their property/rooftops for energy generation, based on a fixed \$/kWh rate
  - The “Solar Host Credit Rate” will be negotiated between the Solar Developer and GPA and will be applied uniformly to all program participants

- GPA will enter into a Power Purchase Agreement with the Developer and will purchase the energy they produce at a mutually negotiated \$/kWh rate.

**Reference Program: Solar Host SA**

- The requirements laid out by Public Law No. 36-137 Bill No. 351-36 were likely inspired by the Solar Host program by CPS Energy in San Antonio, Texas.
- CPS Energy (utility) partnered with PowerFin (solar developer) to install 10 MW of solar on customer homes, with no cost to the customer
  - Customers receive \$0.03 per kwh produced for up to 20 years (CPS Energy charges roughly \$0.13 per kwh for residential customers)