GUAM PUBLIC UTILITIES COMMISSION

Suite 207, GCIC Building
Post Office Box 862
Hagåtña, Guam 96932
Telephone: (671) 472-1907
Fax: (671) 472-1917
Email: info@guampuc.com

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Senator Jesse A. Lujan
Chairman, Committee on Transportation, Tourism, Customs,
Utilities and Federal & Foreign Affairs
38th Guam Legislature
259 Martyr St.
Hagatna, Guam 96910

SUBJECT: **Testimony of Chairman Jeffrey C. Johnson, Guam Public Utilities Commission, on Bill No. 74-38(COR)**

Dear Chairman Lujan:

I. INTRODUCTION/EXECUTIVE SUMMARY

The Guam Public Utilities Commission ["PUC"] strongly opposes the enactment of Bill No. 74-38. This Bill will completely remove the Guam Public Utilities Commission [PUC] from any participation in the process of regulating net metering. Instead, the Guam Legislature will be substituted as the new PUC for setting net metering compensation/rates. The Bill replaces the PUC with the Guam Legislature in control of the net metering regulatory framework. It will allow an unlimited number of net

metering customers in the system, and lift any cap on the amount of renewable energy injected into the power system.

Why have a Public Utilities Commission at all if the Legislature will simply remove PUC functions?

The PUC objects to this Bill on numerous grounds:

(1) For over twenty years, the Legislature has passed legislation which established the full responsibility of the PUC for establishing the rules and regulations creating the net metering program in Guam, for establishing the compensation and rates for net metering customers, and for determining the amount of net metering generation should be allowed in the island-wide power system. The PUC created rules and regulations for the net metering program, has regulated the program since 2008, and conducted various dockets concerning the program with the Guam Power Authority.

(2) As will be further explained in this testimony, this Bill destroys the net metering regulatory framework which the Legislature has created since 2004. The Bill specifically deletes the PUC from the net metering legislation. Current law vests all authority in the PUC for setting rates for GPA and power, including net metering rates and compensation. The Bill would usurp the PUC's authority by having the Legislature set the net metering rate based upon fuel cost in the prior year. This would reduce existing compensation from the current 100% full retail compensation rate to a rate based on monthly fuel cost. This would reduce the current rate for all net metering customers form roughly 30 cents per kWH to 20 cents per kWh. The Bill does not grandfather existing net metering customers for the current rate thus adversely affecting such customers who may have entered into long term lease contracts for solar systems. This Bill is contrary to existing law and repeals such law by implication.

(3) The Organic Act of Guam and Guam Public Law recognize the PUC as the "independent rate setting authority" in Guam. The Bill violates the independence of the PUC by interfering with, and removing, its rate setting and regulatory authority over net metering.

(4) If the Legislature passes this Bill, it will violate the GPA Bond covenants, §6.20, which prohibits the Guam Legislature from "substantially impairing the powers, duties or effectiveness of the Public Utilities Commission thereunder in relation to the Authority or its rates. Removing the PUC from the net metering program would be a substantial impairment of its powers. Passage of the Bill could cause a default on the GPA Bonds and lead the bond holders to demand repayment in full. The PUC has repeatedly warned the Legislature over many years of the danger of removing powers and duties of the PUC through legislation.

(5) The Bill removes the cap on the number of net metering customers in violation of the PUC Order in GPA Docket 19-04. In 2019, the PUC established a cap on the amount of net metering generation that could be introduced into the power system at 26MW and indicated that the cap would be reviewed again when net metering generation exceeded 26MW. That cap has now been exceeded. In 2024, GPA filed a new docket with the PUC, GPA Docket 24-03, and has requested that PUC review the cap. GPA and PUC are in the process of examining that cap in that docket, and the docket will likely lead to further regulatory proceedings which may alter the cap.

(6) The unilateral removal of the cap by the Legislature interferes with the independence of the PUC by nullifying its Order in GPA Docket 19-4 and halting its proceedings in GPA Docket 24-03. It removes existing authority of the PUC to set a cap and violates the GPA Bond Covenant.

(7) The Bill presumes that unlimited net metering and removal of any cap would be a benefit for the system. Such a presumption is contrary to practice in the United States and to the findings of the PUC Consultant Daymark. In fact, as will be discussed further, many jurisdictions have placed caps upon net metering

generation capacity. Jurisdictions such as California and Hawaii have restricted and limited their net metering programs. Allowance for unlimited and unrestricted net metering could damage the GPA power system, and cause underfrequency outages and impair system reliability. The Bill improperly removes the requirement that the capacity of a customers renewable energy generation does not exceed the customer's energy consumption.

(8) The Bill attempts to set a requirement that GPA "shall connect residential solar generation systems to the main power grid within thirty (30) days of receiving a completed application and all required documents from the customer." The Legislature vested the PUC with the authority to make rules and regulations concerning the interconnection of net metering customers to the grid. The PUC promulgated such rules. This requirement constitutes interference with the authority of the PUC to administer its rules governing interconnection. Arbitrary deadlines are nonsensical; it should be up to the PUC and GPA as to when net metering customers can safely be connected to the grid. This requirement could potentially sacrifice safe and reliable connections to the grid.

(9) In the "Intent" section, the Bill claims that there is a connection between "net metering" and affordable housing. Net metering makes housing less affordable and more expensive. The Bill doesn't demonstrate that there is any connection between affordability and net metering. If anything, the connection is negative. The Bill claims that ensure that "all ratepayers have equal access to net metering, without an arbitrary cap." The caps which the PUC placed upon net metering are not "arbitrary", but were recommended in a detailed Report from its consultant Daymark. The cap was approved by the Commissioners of the PUC.

(10) The Bill presumes that unlimited net metering is beneficial for Guam. It is actually far more costly for ratepayers than the utility scale solar program that GPA has developed. In its Phase IV, GPA seeks to bring over 330MW of utility scale solar to Guam, and has already entered into a contract with KEPCO for 130MW. Even under this Bill, it would cost GPA over 20 cents per KW to pay net metering customers for net metering generation. The current price for utility scale solar is roughly 14 cents per kWH without a battery, and 17 cents with battery storage. A recent pricing for LEAC from one year ago was 32 cents per kWH. The unlimited net metering plan in the Bill will cost the ratepayers

far more than utility scale. GPA already expends roughly over $7M per year to subsidize net metering customers at the expense of non-net metering customers.

(11) Any change in net metering compensation should be implemented, if at all, by the PUC, and not the Legislature. This Bill does not even grandfather existing net metering customers or only apply to new customers.

(12) The Bill is bad public policy. Its provisions are not only undesirable; they are contrary to law and violate the Organic Act and Bond Covenants. All Senators should reject the Bill.

II. BILL NO. 74-38(COR) WOULD DESTROY THE CURRENT NET METERING REGULATORY FRAMEWORK BY REMOVING THE AUTHORITY OF THE GUAM PUBLIC UTILITIES COMMISSION TO SET NET METERING COMPENSATION/RATES FOR CUSTOMERS.

A. Current Law vests with the PUC sole and absolute authority to set net metering compensation rates.

For over twenty years, Guam Law has empowered the PUC to set net metering compensation rates for customers where the electricity generated by the customer exceeds the electricity supplied by the utility during the billing period. "The customer generator is entitled to compensation for electricity provided to the utility at a rate to be determined by the Public Utilities Commission." 12 GCA §8505(b)(3), added by Public Law 27-132:1 (Dec. 30, 2004)

Currently customers are entitled to receive immediate credit for one hundred percent (100%) at the power generation capacity "until such time that GPA submits a rate structure to the PUC for the net metering program and is approved by the PUC." Public Law 29-062:6 (April 4, 2008)

B. Sections 5 and 6 of the Bill entirely remove the PUC from the net metering regulatory process and transfer all rate making authority to the Legislature.

In amendments to 12 GCA §§ 850(b)(3) and 8506, the PUC would be completely deleted and removed from the regulatory process. Not only is the PUC removed, the Legislature itself would set the compensation for net metering customers, "at a rate to be determined by the fuel cost calculated by the Annual Cost Analysis Report outlined in §8125." §850(b)(3). "This rate shall be reviewed every 10 years by the Guam Legislature."

C. The PUC is responsible for the establishment of the net-metering program in Guam, the promulgation of necessary rules and regulations, and the monitoring of GPA's program since 2008.

In Public Law 27-132, the Guam Legislature placed the PUC in charge of implementing the net-metering program by requiring that it promulgate necessary rules and regulations. On December 29, 2008, in GPA Docket 08-10, the PUC implemented the Net Metering Rider, which is a tariff establishing rates and all other terms and conditions for eligibility in the net metering program. See PUC Order dated December 29, 2008, attached hereto as Exhibit "1".

Attached as Exhibit "2" is a Compendium of PUC Dockets dealing with Net Metering issues. The Compendium does not necessarily include all dockets dealing with net metering.

III. BILL NO. 74-38(COR) VIOLATES GUAM LAW, THE ORGANIC ACT, AND THE GPA BOND CONVENANTS.

A. Guam Law.

As set forth above, this Bill would completely remove the PUC from any responsibility for monitoring and regulating the net metering program or setting net metering rates. The Bill is contrary to, and inconsistent with, the entire existing body of law that delegates responsibility for the program setting and net-metering rates to the PUC. The Bill ignores the history of why the PUC was established as an "independent rate-making authority": the reason was to remove the Guam Legislature as the rate setting body.

By the creation of the Guam Public Utilities by the Legislature, the Legislature recognized that ratemaking should be done by an independent body and not the Legislature. The Legislature itself has transferred all authority with regard to setting rates for public utilities, including GPA and net metering, to the PUC.

In 12 GCA § 12101, et. seq., the PUC enabling Act, the Legislature has vested total and complete authority for the rates of public utilities with the PUC.

> **"The Commission shall have regulatory oversight supervision of rates...over each public utility**..." 12 GCA § 12105(a).

"The Commission shall investigate and examine rates and charges charged by any utility..." 12 GCA § 12105(c).

"The Commission shall establish and modify from time to time, reasonable rates and charges, for services [Guam Power Authority is included] 12 GCA § 12105(d).

"As to the Guam Power Authority, the Commission shall ensure that rates will, at all times, be sufficient to enable the utility to meet its financial obligations, operating expenses, debt service and capital improvement needs. 12 GCA § 12105(f).

The Net Metering Law, 12 GCA Ch. 8, Guam Power Authority, also vests complete control over the Net Metering program and rates, in the PUC.

B. The Organic Act of Guam and the "Independent Rate Making Authority"

The PUC is established in the Organic Act of Guam as "an **independent rate-making authority**" of the Government of Guam..." 48 USC §1423a, as amended by P.L. 98-454, Title II, §203, 98 Stat. 1733 (1984). The Legislature cannot strip away the independent rate making powers of the PUC without undermining and interfering with its independence. Bill No. 74-38 (COR) infringes upon the authority of the PUC to set net metering compensation/rates and to supervise and oversee the net metering program.

In Public Law No. 26-18, the Guam Legislature determined "that **a strong public interest is served by maintaining a strong, independent Public Utilities Commission** ("Commission"), which is independent of the Executive and Legislative Branches." The Legislature would undermine the independence of the PUC by removing it from any role in managing and supervising the net metering program, and setting net metering compensation/rates.

C. Bond Covenants

Bill No. 74-38 violates the agreement in the GPA Bond Covenant by the Government of Guam, including the Legislature, not to impair the powers, duties or effectiveness of the

PUC in relation to GPA. In accordance with 12 GCA Chapters 8 and 12, the PUC is granted complete authority over rate setting for GPA, which includes establishing compensation and rates for net metering customers. This Bill would completely remove the PUC from any authority over, or responsibility for, setting such rates. PUC would be removed from any role or participation in the net metering program.

Pursuant to 12 GCA § 8113.3. Long-Term Indebtedness, the Bond Indenture of the GPA is "subject to the approval of PUC...": "The indenture may also include **a pledge by the government of Guam not to repeal, amend or modify Chapter 12 of Title 12, Guam Code Annotated, in any way that would substantially impair the powers, duties or effectiveness of the PUC thereunder in relation to GPA and its rates."**

The Bill would likely be deemed to be an impairment of the contractual rights of the holders of the bonds in violation of the Contracts Clause of the U.S. Constitution and the Organic Act. The purchasers of GPA bonds required an iron-clad assurance that GPA's rates would be set by an independent rate making authority which would be obligated to provide GPA the rates necessary to produce the revenues required by GPA to meet its obligations under the indenture. Enactment of Bill No. 74-38 would be a breach of the Government of Guam's promise. In direct contravention of the clear intent of 12 GCA §8113.3 and GPA's bond indenture (itself approved by the Legislature), Bill No. 74-38 would inject the Legislature into the rate-making process and authorize the Legislature itself to set net metering compensation and rates.

Section 6.20 of the GPA Bond Indenture includes a pledge by the Government of Guam that it would not "substantially impair the powers, duties or effectiveness of the Public Utilities Commission thereunder in relation to the Authority or its rates."

The proposal of Bill No. 74-38 indicates a lack of understanding concerning the history of the creation of the Guam Public Utilities Commission. The Guam Public Utilities

Commission was created as a result of several defaults by GPA on bonds that it had issued to raise funds to pay for the Cabras 1 and 2 baseload generators in the 1970's. The Guam Legislature failed to provide sufficient rate revenues to GPA to pay its debt obligations. At that time there was no PUC and the Legislature was in charge of setting rates for GPA.

GPA sought loans from the federal government to bail it out. The Federal Government, through the Federal Financing Bank, was authorized in the Organic Act to refinance GPA's obligations; however, the refinancing was "conditioned on the establishment of an independent rate-making authority by the Government of Guam..." GPA's underwriters insisted that the bond holders would be protected by the existence of an independent rate-making authority, and insisted that the Government of Guam ensure the independence and effectiveness of the PUC through the adoption of the covenant requiring non-interference with the independence and effectiveness of the PUC (P.L. 21-117, enacted in 1992, which added 12 GCA §8113.3 to GPA's enabling legislation).

Attached hereto as Exhibit "3" is a Legal Opinion from Attorney Bill Blair to the PUC (dated June 18, 2007) which gives an excellent explanation of proposed legislation which violates the GPA and GWA Bond Covenants.

IV. THE PUC OBJECTS TO SECTION 2 OF THE BILL, WHICH WOULD REQUIRE GPA TO SUBMIT AN "ANNUAL COST ANALYSIS REPORT" TO THE LEGISLATURE, AND WOULD ESTABLISH A "MANDATORY TIMELINE FOR RESIDENTIAL SOLAR SYSTEM CONNECTION."

A. The Bill provides no justification for requiring GPA to provide an Annual Cost Analysis Report.

The Bill would require GPA to submit an annual cost analysis Report to the Legislature no later than sixty (60) days following the end of each fiscal year. The Report would include a detailed breakdown of GPA's operational costs, including Debt, Capital

Improvement, Transmission and Distribution costs, Customer Accounting, Administration/General, and Production-Nonfuel.

Nowhere in the Bill is there a justification for imposing this requirement upon GPA. Why should such a report be required? There is no explanation at all. The requirement for such a report is not supported by any logic or reasoning. The Legislature is completely uninvolved in the budgeting and finances of GPA. The legislature does not provide appropriations to GPA. The Legislature cannot change budgeting or financing of GPA, which is provided through rate revenues.

B. A Requirement for an Annual Cost Analysis Report is unnecessary and duplicative; the Guam Legislature already receives the information that the Report would require.

GPA and the PUC are responsible for determining what rates and charges for electric service are necessary to satisfy the needs of GPA's budget. Its budget must be sufficient for the full cost of service, the cost of debt service, and the contractual obligation of GPA to the holders of any bonds. 12 GCA § 8104(d).

Furthermore, 12 GCA § 8117, Accounting and Expenditures, gives the Guam Consolidated Commission on Utilities the authority to issue a budget resolution establishing GPA's budget.

12 GCA § 8117 provides:
Accounting and Expenditures. (a) The Board shall adopt and maintain a system of accounting which is substantially in accordance with the Uniform System of Accounts prescribed for Public Utilities and Licensees (Class A and B) issued by the Federal Power Commission of the United States, as amended from time to time. (b) The Board may authorize, by annual budget resolution and amendments thereto, the payment of demands against the Authority resulting from its exercise of the powers prescribed in

this Act, for a period of one (1) year if: (1) the purposes and amounts of such demands are projected in a budget expressed in terms of major account groups of the Uniform System of Accounts, which has been adopted by the Board after receiving recommendations of the General Manager; and (2) if the specific demands which are made are approved by the Board or the General Manager prior to payment. (c) **The Board shall employ a firm of independent certified public accountants who shall examine and report to the Board, at least annually, upon the status of the financial records and accounts maintained by the Authority. Copies of any such report shall be furnished to I Maga'håga/Maga'låhi and to I Liheslatura. (d) The Board shall report to I Maga'håga/Maga'låhi concerning its administration of the affairs of the Authority. It shall present an annual report within one hundred twenty (120) days after the end of each fiscal year and, if requested by I Maga'håga/Maga'låhi, shall present special reports within thirty (30) days after the end of each intervening quarter. The financial information presented in such reports shall be in accordance with the Uniform System of Accounts adopted by the Board. Copies of any such reports, including the annual and special reports, shall be furnished to I Liheslatura."** (emphasis added).

The Consolidated Commission on Utilities already provides the Legislature with copies of its annual audit report, which includes the status of financial records and accounts maintained by the Authority. The Consolidated Commission also provides an annual report to the Legislature concerning the affairs of the Authority. That report will essentially cover all of the items that the Bill would include in the annual cost analysis report. GPA also provides its monthly financial statements to the Legislature. The real question is what would the legislature do with the information required by the Bill once received?; the Legislature has no authority to impact any of the items which the report would require, i.e. debt, capital improvement, transmission and distribution costs, customer accounting, administration/general and production-nonfuel. None of these matters are within the purview or jurisdiction of the legislature.

C. The Bill would constitute legislative interference and micromanagement of the Consolidated Commission on Utilities and PUC.

GPA is governed by five elected Commissioners of the Consolidated Commission on Utilities. It has independent authority to establish the budget of GPA. On the other hand, the Guam Legislature is not involved with the GPA budget process and has no authority with respect thereto. Any interference by the Legislature in GPA's budget process would violate separation of power principles.

The PUC is intimately involved in financial oversight of GPA. GPA provides the PUC with monthly financial statements. The PUC reviews all GPA contracts in excess of $1.5 million, and must review and approve all bond issuances by GPA. When GPA's revenues are not sufficient to support its obligations, the PUC comprehensively reviews GPA's budget and financial accounting to determine whether a rate increase is justified. The PUC is empowered to examine the financial records of GPA including bank records, cost of operations, schedule of rates and classifications, issuance of bonds, the amount and disposition of its income, and all of its financial transactions. 12 GCA § 12106(a).

D. The Legislature lacks authority to mandate that GPA "shall connect residential solar generation systems to the main power grid within thirty (30) days of receiving a completed application and all required documents from the customer."

When the Guam Legislature enacted the Net Metering law in Public Law 27-132, it stated as follows in Section 2: "The Public Utility Commission shall promulgate all necessary rules and regulations for the implementation of the program within one hundred twenty (120) days upon enactment of this Act." On February 27, 2009, in Docket 08-10, the PUC approved the Standard Interconnection Agreement between GPA and net metering customers and the Net Metering Program Interconnection Policy. The PUC Order in Docket No. 08-10 implementing the Interconnection Rules

and Policy is attached hereto as Exhibit "4". By attempting to create a deadline for residential solar system connection, a "30" day rule, the Legislature is again usurping rule making functions of the PUC over the net metering program.

The "30-day" deadline is arbitrary and without any basis or justification. The proponents of this Bill have no special knowledge concerning the Interconnection process or how long it should take to complete the interconnection process. There should be no arbitrary deadline imposed; for the safety and health of GPA customers, employees, and the public. The process must take whatever time is necessary to ensure that the interconnection is properly and safely made.

The time needed for completion of a residential solar system connection is not standard and will depend upon particular circumstances of each connection. Larger systems may also take more time than smaller systems to connect. There must be adequate time to ensure that GPA has access to the metering equipment of the generating facility to make a full inspection. Establishing an arbitrary deadline makes no sense at all. The Legislature should not be in the process of determining work deadlines for work functions of GPA. GPA must ensure that the interconnection is safe, that a proper kilowatt-hour meter is installed, and that interconnection to the grid will not compromise the efficiency and reliability of the power system.

V. BILL NO. 74-38 REMOVES THE CAP ON THE NUMBER OF NET METERING CUSTOMERS THAT THERE MAY BE IN THE POWER SYSTEM, AND ON THE AMOUNT OF ENERGY THAT CAN BE PRODUCED THROUGH NET METERING GENERATION.

A. Under Guam statutes, the PUC, not the Legislature, is authorized to determine how many net metering customers there may be in the power system, and the penetration level for energy produced by net metering customers.

In Section 4, the Bill amends §8502(c)(2), Article 5, Chapter 8, Title 12, to remove any limitation whatsoever upon the number of net metering customers that there may be in

the power system or the amount of energy that can be produced through net metering generation. There is no analysis of what impact this will have on the island wide power system.

The Bill would remove the power of the PUC to limit the number of net metering customers and its authority to limit the amount authority of the PUC to set any limitation upon the amount of energy produced by net metering generation. The level of penetration for net metering generation is a standard set by the PUC since 2008 to determine what percentage of total capacity of generation that Net Metering Customers can produce before there could be an adverse impact to the power system. The penetration level is also utilized by the PUC to determine when the compensation rates for Net Metering Customers for excess energy produced should be changed or altered. Under the present Net Metering Program, Net Metering Customers are credited for excess power produced by their Net Metering systems, that is power in excess of the amount required for the Customer's own power consumption.

The amendment in the Bill deletes the restriction that the rated capacity of the renewable energy generation does not exceed the customer generator power service entrance capacity.

From the onset of initial legislation authorizing the creation of the net metering system, it has been GPA and the PUC that have been responsible for establishing and implementing the Net Metering Tariff, and setting the level of penetration for the net metering systems.

On December 29, 2008, in GPA Docket 08-10, the PUC implemented the Net Metering Rider, which is a Tariff establishing rates and all other terms and conditions for eligibility for the net metering program. The PUC established a process for determining proper penetration levels for net metering customers. The Rider states: "[T]he NM rider is available to all customers without limitation as the aggregate capacity of Customer-

Generator Installations on the GPA system. **However, at that time the number of Customer-Generators exceeds one-thousand (1000) customers this issue will be reviewed by the PUC and a determination made as to the continued offering of the NM Rider for new "net metering" customers."**

In GPA Docket 19-04, GPA sought to modify the current Net Metering Rider and to reduce the compensation of net metering customers for excess energy produced from the "retail rate" to a "value of solar" compensation.

After holding three public hearings, the Commission issued the Order in GPA Docket 19-04 rejecting a change in compensation for net-metering customers. However, the PUC specifically changed the prior level of penetration level of 1,000 net metering customers. The PUC amended the Net Metering Rider cap "**to be changed from a customer cap of 1000 net metering customers to an aggregate kW cap set at 10% of GPA's August 1, 2017 system peak demand of 261 MW.**" Ordering Provision No. 4. The PUC further held that the following amendment would be added to the Net Metering Rider: "However, when the capacity of Customer-Generator installations on the GPA system exceeds an aggregate KW cap (10%) of the utility's system peak demand (261 MW), the PUC will review the net metering program, determine whether the NM Rider should continue to be offered for new "net metering" customers, and consider whether any other adjustments should be made to compensation rates paid by GPA to customer-generators for capacity generation."

The PUC set a penetration level, or cap, limiting net metering generation to roughly 26MW (10% of the system peak).

The PUC further held as follows: "GPA may petition the PUC for further changes to the NM Rider, including the rate of compensation paid to net metering customers, prior to the time at which the aggregate KW cap (10%) of the utility's system peak demand is met, but only if it has met all of the following preconditions: (1) the distribution system

impact study which GPA has already planned shall be completed; (2) GPA shall have conducted and completed a full, balanced benefit-cost analysis that analyzes all of the impacts distributed generation has on the distribution system, especially specific to the location of the distributed generation on the system; (3) A third-party consultant, undertakes and completes an independent study determining the cost of grid and other services used by NEM customers and which identifies, in detail, the specific value of those services to the NEM customers. The studies referenced in (2) and (3) above shall only be undertaken upon joint approval of the PUC and GPA, and shall be undertaken at the expense of GPA."

B. Bill 74-38 eliminates the PUC's authority to set the level of penetration for Net Metering Customers by removing the cap established by the PUC.

At present, GPA has already exceeded the 10% level of penetration. The most recent figures from GPA indicate that there are 2,701 Net Metering Customers and approximately 32MW of net metering generation estimated.

Adoption by the Legislature of Bill No. 74-38 would nullify the 26MW net metering energy production penetration level, or cap, established by the PUC Order in GPA Docket 19-04, and further remove any restriction on the amount of energy that could be produced through net metering. The PUC would be excluded from the process of monitoring net metering, the number of net metering customers, and the level of net metering renewable energy production.

These issues concerning whether there should be a further cap on the number of net metering customers, the allowable amount of net metering generation, the compensation for net metering customers, and requirements that future net metering customers have energy storage systems, are presently pending before the PUC in GPA Docket 24-03. Passage of this Bill would remove these issues from the present jurisdiction of the PUC.

C. Removal of the Cap could have disastrous impacts upon the power system.

On what basis does the Legislature determine that there should be no cap upon the number of net metering customers or the level of net metering generation? This is an issue that requires technical studies and consultant opinions. The PUC has been involved in the determination of such issues for years and has a full complement of research and consulting services. PUC submits that a removal of any cap is ill-advised and could have disastrous effects upon the island wide power system. The cap cannot be cavalierly removed, or altered, without serious study and investigation. The Legislature cannot assure that removal of any cap will not adversely impact the power system and cause tremendous problems with reliable power, such as intermittent power outages.

D. There should be a cap on numbers of net metering customers and the amount of renewable energy that they produce;

The PUC set a penetration level at 10% (26MW) based upon the recommendation of its rate consultant Daymark Energy Advisors, which found that the 10% aggregate cap proposed by it was higher than most U.S. States with similar caps. Daymark also found that Hawaii started to experience circuit level issues when penetration reached 10%. It determined that the 10% cap would enable GPA to conduct its distribution system impact study and further determine the overall benefits and costs that customer-generators have on the distribution system.

Many states have imposed restrictions on the amount of generation that nay be produced through net metering. A portion of the Daymark Report, Net Metering Review: GPA Request to Modify Net Metering Rider (March 2019), is attached hereto as Exhibit "5."

Most net metering systems, whether residential or commercial, do not include battery storage. 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 cause 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.[1]

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. At present, many net metering systems cause electrical issues for their non-net metering neighbors.

GPA has submitted Reports to the PUC in GPA Docket 24-03 which indicate that renewable energy is already creating an excessive load on certain feeders in the system. The current NEM installed solar represents approximately 10% of its system peak demand. However, over half of the feeders with solar have greater than 50% penetration rates with several above 90. Utility Financial Solutions, LLC, Impacts of Customer Installed Sollar and batteries at p. 4 (Mark Beauchamp, President, November 13, 2021). All four circuits out of Apra Heights Substation are already experiencing considerable voltage fluctuations in the base case and only worsen when the PV installation will be 90% of the peak load. E/2, Advanced Grid Analytics Engineering Studies Distributed Energy Resources Report for Apra Heights Substation, at p. 3 (March 3, 2023).

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

E. The Setting of a Cap by the Guam Legislature and the nullification of the cap set by the PUC in GPA Docket 19-04 violate Guam Law, the Organic Act, and the GPA Bond Covenants.

The Bill removes any role of the PUC in setting cap or penetration levels for net metering. The number of customers and amount of net metering energy produced directly relate to the compensation/rates set by the PUC. The Bill also removed all of the PUC rate setting functions regarding compensation to net metering customers. This testimony incorporates the arguments here previously set forth in the Section BILL NO. 74-38(COR) VIOLATES GUAM LAW, THE ORGANIC ACT, AND THE GPA BOND CONVENANTS. It nullifies PUC Orders and removes its rate making functions in violation of Guam Law. It destroys the independent rate making authority for the PUC for the Net Metering Program under the Organic Act. It also violates the GPA Bond Covenants. The Bill would substantially impair the powers, duties, and effectiveness of the PUC. Passage of the Bill could like lead to a default on the GPA Bonds.

Thus, the Bill also interferes with the authority of Guam Power Authority under 12 GCA §8104(d), to adopt rates and charges for electric service subject to approval of the Public Utilities Commission. Bill 315 would destroy the independence of the PUC with regard to setting rates for the Net Metering Program.

VI. THE UNDERLYING PREMISE OF THIS BILL, THAT NET METERING POSITIVELY IMPACTS AFFORDABLE HOUSING, IS FAULTY, UNSUBSTANTIATED, AND WITHOUT ANY PROOF.

In the Bill, the Legislature would find: "that the net metering program is an integral part of an affordable housing strategy, which is of critical importance as recent reports from the Department of Defense show an imminent affordable housing crisis. The availability of affordable utilities comprises a significant part of affordable housing costs, and therefore it is the intent of *I Liheslatura* to ensure all ratepayers have access to net

metering, without an arbitrary cap. Affordable homeownership goes hand in hand with affordable utilities."

It sounds nice, but nothing stated in the Bill proves that there is any connection between net metering and "affordable housing." To begin with, installation of a net metering system does not make housing "affordable" and does not even contribute to the affordability of housing. If the system is purchased by the customer, it could increase the cost of the house—roughly $30,000 for a 5KW system. If the customer purchases a leased system, there will be monthly payments to the provider of the system for twenty-five years or more. The purchase of a leased solar system does not increase the affordability of the house.

There is no proof that there are presently many solar systems installed on affordable housing. Where the customer pays for the installation, or leases from a provider, installation of a solar system will increase the cost of housing. Recently the PUC reduced the LEAC by 6 cents per kWH, down to 20 cents per kWH. With the new Okudu plant coming on line, LEAC may soon be reduced by as much as an additional 7 cents. Customers locked into twenty-five-year leases may end up paying more than they otherwise would for power because of the reduction in the LEAC.

For sellers who sell "affordable houses", Realtors have learned that the existence of a net metering system on a home is sometimes an impediment to the sale of a home to a new buyer. The existence of such a system increases the cost of the home and makes the mortgage more costly. Numerous sales have fallen through where buyers could not afford the additional mortgage cost imposed by the new metering system.

CONCLUSION

This Bill is a terrible piece of proposed legislation that would destroy the PUC and cause serious problems for net metering and the Guam power system. I request that this Committee reject Bill 74-38, which is based upon bad and poorly though-out policies. The Legislature should not pass this legislation. Thank you for your consideration of this Testimony.

Sincerely,

Jeffrey C. Johnson
Chairman
Guam Public Utilities Commission

BEFORE THE GUAM PUBLIC UTILITIES COMMISSION

IN THE MATTER OF: NET METERING (pursuant to P.L. 27-132 and 29-62))	)	Docket No. 08-10

DECISION AND ORDER

Public Law 27-132 authorized the creation of a "net-metering system". Thereunder, customer-generators are authorized to establish facilities for the production of electrical energy, using various types of alternative energy sources. "Net-metering" is a service to the customer under which electric energy is generated by that electric customer from an eligible on-site generating facility and is delivered to Guam Power Authority (GPA) local distribution facilities. Net Metering is the measure of the difference between electricity supplied by a utility and the electricity generated by a customer-generator which is fed back to the utility over the applicable billing period. Such electric energy generated by the customer may be used to offset electric energy provided by GPA to the customer during the same billing period. Net-metering can result in providing a subsidy to an on-site generating customer and the transfer of certain cost burdens incurred by the utility to the utility's other customers.

P.L. 27-132 also required that the PUC promulgate rules and regulations for the implementation of the net-metering program. Public Law 29-62 states that the rate structure for the net metering program is subject to the approval of the PUC. In response to these public laws, the PUC issued an Order on May 30, 2008 initiating this proceeding, under which "net-metering" rates, rules and regulations would be established in accordance with Article 5 of GPA's enabling legislation. [1]

GPA and the PUC's independent consultant, the Georgetown Consulting Group, Inc. (GCG) initiated a collaborative effort to develop an "Interim" Net Metering Tariff. The parties presented a Workshop to the PUC on September 29, 2008, concerning their progress in developing a net metering tariff. GCG presented a draft tariff, and GPA raised concerns that the net metering program be limited to customers with usage no greater than 25kW in accordance with Public Law 27-132; and that the requirement in the draft tariff that customers maintain liability insurance was contrary to Public Law 27-132, which

[1] Staff Report on the Implementation of a "Net-Metering" Rider pursuant to the Energy Policies Act of 2005 and Guam Public Law 29-62 (prepared by Georgetown Consulting Group, Inc.) filed September 8, 2008.

stated that the utility may not require the customer to purchase additional liability insurance. [2]

The parties appeared for a Regulatory Conference before Administrative Law Judge David A. Mair on December 15, 2008, and indicated that they were preparing a stipulation concerning net metering. GPA and GCG have now agreed upon a revised version of the Net Metering Tariff which addresses the concerns raised by GPA.[3] Attached hereto as Exhibit "A" is the Interim Net Metering Rider for Customer - Generator Energy Facilities.

After careful consideration of the record herein and the Interim Net Metering Rider, attached hereto as Exhibit "A", for good cause shown and on motion duly made, seconded and carried by the affirmative vote of the undersigned commissioners, the Commission hereby ORDERS that:

1. The Interim Net Metering Rider for Customer-Generator Energy Facilities, attached hereto as Exhibit "A", is hereby adopted and approved by the Commission.

2. The Interim Rider is adopted by the Commission pursuant to P.L. 27-132 and P.L. 29-62, and 12 GCA §12004. Since an "interim" rate is provided for by P.L. 29-62, and is initiated by the PUC pursuant to 12 GCA §12004, the net metering rider is not subject to the provisions of the Ratepayer's Bill of Rights.

3. Nevertheless, the PUC wishes to provide the public with a full opportunity to address the Interim Net Metering Rider and will schedule a Public Hearing on this subject in the near future. The "Interim" Net Metering Rider shall not become final until the public has had a full and adequate opportunity to comment upon the Rider.

4. Since Guam law specifies a maximum limitation of 25kW per customer - generator, this limitation is and shall be included in the Interim Net Metering Rider.

5. In accordance with the recommendation of GCG, at such time as the number of customer - generators availing themselves to the

[2] Letter from General Manager of GPA to PUC Administrative Law Judge, dated September 17, 2008, Re: GPA Response on GCG Report Implementation of a "Net Metering".
[3] E-mail from William J. Blair to PUC Legal Counsel dated December 24, 2008.

"net metering" tariff approaches one-thousand (1,000) customers, the issue of whether a limitation should be imposed by Guam on the aggregate capacity eligible for "net metering" treatment will be reviewed and examined by the PUC.

6. Since there is no limitation in P.L. 29-62 on the availability of net metering to any particular customer classes, the Interim Net Metering Rider is available to all GPA customer classifications.

7. Net metering customers may utilize any of the available technologies indicated in Public Law 27-132, including fuel cells, micro turbines, wind, biomass, hydroelectric, solar energy or a hybrid system consisting of these facilities as its primary source of fuel.

8. In accordance with the Interim Rider, net-metering customers are required to enter into a separate agreement with GPA before being eligible for the program. GPA shall, at its earliest convenience, prepare a draft Interconnection Agreement for Net Metering Facilities and submit such agreement to the PUC for review and approval.

9. 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 29th day of December, 2008.

Jeffrey C. Johnson
Chairman

Joseph M. McDonald

Filomena M. Cantoria

Rowena E. Perez

Michael A. Pangelinan

Exhibit A
Net Metering Rider—NM
Interim

NET METERING RIDER FOR CUSTOMER-GENERATOR ENERGY FACILITIES

GENERAL:

To encourage private investment in renewable energy resources; stimulate economic growth; and enhance the diversification of energy resources in the Territory this Net Metering (NM) Rider for Customer-Generator Energy Facilities is offered to customers operating qualifying generation facilities. The NM Rider may be amended or modified in the future by GPA, with the approval of the Guam Public Utilities Commission (PUC),

AVAILABILITY:

The NM Rider is available to GPA customers throughout the Territory who own and operate an eligible Net Metering Facility designed to operate in parallel with GPA's distribution facilities. Existing GPA distribution facilities of adequate capacity and suitable phase and voltage must be adjacent to the Net Metering Facility of the Customer-Generator. Customers eligible for this Rider must also take service from GPA under an applicable standard service tariff. The NM Rider is offered in conjunction with the GPA's existing rate schedules for the following customer classifications:

Schedule R—Residential Service
Schedule G—General Service - Non Demand
Schedule J—General Service - Demand
Schedule P—Large Power Service
Schedule S—Small Government Service - Non Demand
Schedule K—Small Government Service - Demand
Schedule L—Large Government Service
Schedule N—Navy Service

The NM Rider is available to all customers without limitation as to the aggregate capacity of Customer-Generator installations on the GPA system. However, at that time the number of Customer-Generators exceeds one-thousand (1000) customers this issue will be reviewed by the PUC and a determination made as to the continued offering of the NM Rider for new "net metering" customers

Provisions of applicable rate schedules with which the NM Rider is used are modified as described herein.

APPLICATION:

The NM Rider is applicable to Customer-Generator facilities which operate in parallel with the GPA system and which meet the Conditions of Service for a Net Metering Facility. Only those customers who produce electrical energy using eligible Net Metering Facilities (i.e., fuel cells, micro-turbines, wind, biomass, hydroelectric, solar energy or a hybrid system consisting of these facilities) will be eligible for this Rider. This Rider is applicable only to the net energy supplied to

(Continued on Sheet NM-2)

(Continued from Sheet NM-1)

GPA's system by the Customer-Generator. All other services furnished to the customer shall be billed in accordance with the rates and charges under the customer's applicable standard rate schedule.

CONDITIONS OF SERVICE:

For the purposes of this NM tariff, an eligible Customer-Generator must comply with all of the following requirements:

1) Operate and produce electric energy by fuel cells, micro-turbines, wind, biomass, hydroelectric, solar energy or a hybrid system consisting of these facilities, as its primary source of fuel;
2) Own and operate generation facilities located at customer premises;
3) Have as its primary purpose the intent of supplying a part or all of the electrical energy requirements of customer; and
4) Design and install facilities to operate in parallel with GPA's electric distribution system without adversely affecting the operation of the equipment and service of GPA and its customers and without presenting safety hazards to GPA and customer personnel.

The rated capacity of the Customer-Generator facilities at any single customer service location shall not exceed twenty-five (25) kilowatts.

Customer-Generators seeking to interconnect an eligible Net Metering Facility to GPA's system must submit to GPA a completed "Standard Interconnection Agreement for Net Metering Facilities," and a one-line diagram showing the configuration of the proposed Net Metering Facility.

A "Standard Interconnection Agreement for Net Metering Facilities" between GPA and the eligible Customer-Generator must be executed before the Net Metering Facility may be interconnected with GPA's system.

Customer-Generator facilities connected in parallel operation with GPA and located on customer's premises must be manufactured, installed and operated in accordance with governmental and industry standards and capable of providing single phase or three phase electric energy at 60 Hertz. The service provided under the NM Rider will be provided to the entire premise through a single point of delivery at a single voltage.

All generator equipment and installations must comply with GPA's Technical Requirements. All generator equipment shall be installed in accordance with the manufacturer's specifications as well as all applicable provisions of the National Electrical Code and state and local codes. All generator equipment and installations shall comply with all applicable safety, performance and power quality standards, established by the National Electrical Code, the Institute of Electrical and Electronic Engineers and accredited testing laboratories.

Customer-Generators shall provide GPA proof of qualified installation of the Net Metering Facility. Certification by a licensed electrician shall constitute acceptable proof.

(Continued on Sheet NM-3)

(Continued from Sheet NM-2)

Customer-Generators shall install, operate, and maintain the electric generating facility in accordance with the manufacturer's suggested practices for safe, efficient, and reliable operation in parallel with GPA's system.

Customer-Generators must provide a visibly open, lockable, manual disconnect switch, which is accessible by GPA and is clearly labeled.

GPA may, at its own discretion, isolate any electric generating facility if GPA has reason to believe that continued interconnection with the electric generating facility creates or contributes to a system of emergency.

GPA may perform reasonable on-site inspections to verify the proper installation and continuing safe operation of the Net Metering Facility and the interconnection facilities, at reasonable times and upon reasonable advance notice to the Customer-Generator.

An eligible Customer-Generator installation is transferable to other persons or service locations only upon notification to GPA and verification that the installation is in compliance with all applicable safety and power quality standards. All other conditions of service apply.

Deleted: ¶
. Customers operating electric generating facilities shall maintain homeowners, commercial or other insurance providing coverage in the amount of at least one million thousand dollars ($1,000,000) for the liability of the insured against losses or damages arising from the use of customer's electric generating facility. Customer-Generators must submit evidence of such insurance to GPA with the "Standard Interconnection Agreement for Net Metering Facilities." GPA's receipt of evidence of liability insurance does not imply an endorsement of the terms and conditions of the coverage. ¶

METERING:

Net energy metering shall be accomplished using a standard kilowatt-hour meter capable of measuring the flow of electricity in two (2) directions. If the existing electrical meter installed at the Customer-Generator's facility is not capable of measuring the flow of electricity in two directions, GPA shall furnish and install a standard bi-directional kilowatt-hour meter. The Customer-Generator shall provide any related interconnection equipment in accordance with GPA's technical requirements, including safety and performance standards. The Customer-Generator shall be responsible for all costs associated with the installation of a standard kilowatt-hour meter. Such Customer-Generator responsible costs include, but are not limited to, the meter socket, riser, weather head and other related equipment.

In the case where two meters are used, the reading of the meter measuring the flow of energy from the customer to GPA shall be subtracted from the reading of the meter measuring the flow of energy from GPA to the customer to obtain a measurement of net kWh for billing purposes

(Continued on Sheet NM-4)

(Continued from Sheet NM-3)

MONTHLY BILLING:

On a monthly basis, net metering customers shall be billed energy charges applicable under the currently effective standard rate schedule and any appropriate rider schedules including the Levelized Energy Adjustment Clause and other clauses as well as surcharges. Under this NM tariff, only the kilowatt-hour (kWh) units of a Customer-Generator's bill are affected. No excess energy credits shall reduce any fixed monthly customer or demand charges, if any.

Monthly charges for energy, and demand where applicable, to serve the customer's net or total load shall be determined according to GPA's standard service tariff under which the customer would otherwise be served, absent the customer's electric generating facility. Energy charges under the customer's standard tariff shall be applied to the customer's net energy for the billing period to the extent that the net energy exceeds zero.

If the customer's net energy is zero or negative during the billing period, the customer shall pay only the non-energy charge portions of the standard tariff bill. If the customer's net energy is negative during a billing period, the customer shall be credited in the next billing period for the kWh difference. When the customer elects no longer to take service under this Net Metering Service Tariff, any unused credit shall revert to GPA. Excess electricity credits are not transferable between customers or locations.

In no event shall the excess credit from a single month be carried forward beyond twelve (12) months as a credit against the current monthly bill. At the end of each calendar year, or in the event of termination of service under this Rider, any excess kWh credits, if any, will be granted by the customer to the GPA without compensation to the customer.

OTHER CHARGES:

The customer is responsible for all equipment and installation costs of the electric generating facility.

As specified in the "Standard Interconnection Agreement for Net Metering Facilities," the Customer-Generator must pay for a non-refundable application fee of $50.00. This fee includes the cost of inspection of the customer's electric generating facility if GPA deems such inspection is necessary.

Should GPA determine that an interconnection study is required; GPA will advise the customer of the estimated additional cost of performing such study. Upon payment by the customer of the estimated study costs, GPA will proceed with the interconnection study to determine if installation of the customer's electric generating facility will have significant impact on GPA's distribution system.

Should construction or upgrades of GPA's system be required in order to interconnect the customer's electric generating facility, additional charges to cover costs incurred by GPA shall be determined by GPA and paid by the customer.

The customer shall pay any additional charges, as determined by GPA, for equipment, labor, metering, testing or Inspections requested by the customer.

(Continued on Sheet NM-5)

(Continued from Sheet NM-4)

TECHNICAL REQUIREMENTS OF INTERCONNECTION:

The Customer-Generator shall agree to locate its Net Metering facility so as not to cause a hazard to GPA's existing distribution system. The Customer-Generator shall furnish and install equipment which will automatically isolate the Net Metering facility from GPA's system in the event of loss of GPA service as outlined in IEEE Standard 1547, "Standard for Interconnecting Distributed Resources with Electric Power Systems."

The Customer-Generator will have to acknowledge its understanding that several small systems on one line have the potential of degrading GPA's system integrity; therefore, Customer-Generator must agree to accept pursuant to the "Standard Interconnection Agreement for Net Metering Facilities" the responsibility of any electric service problems that Customer-Generator's Net Metering facility may cause.

The Net Metering Installation shall comply with the requirements specified in IEEE 1547, "Standard for Interconnecting Distributed Resources with Electric Power Systems" and other technical requirements stated herein. The Customer-Generator shall furnish and install equipment which will properly match voltage and phase and synchronize power from the Net Metering facility with GPA service. All Net Metering facilities shall maintain a current distortion level of five percent or less as defined in Table 3 Section 4.3.3. of IEEE standard 1547. The customer installed equipment must adhere to current standards and codes, including but not limited to, IEEE 929, IEEE 1547, U.L. 1741, National Electric Code, uniform building codes, and other applicable standards and codes. IEEE publications are available from the Institute of Electrical and Electronics Engineers, 433 Hoes Lane, P.O. Box 1331, Piscataway, NJ 08855-1331 (http://standards.ieee.org/).

The standard IEEE 1547 contains the majority of the technical requirements necessary for interconnection; however, IEEE 1547 does not address planning, designing, operating, or maintaining a utility's distribution system and it does not identify or address all of the potential system impacts a proposed Net Metering Installation may create beyond the point of interconnection. Due to the limitations of IEEE 1547, additional technical requirements are contained herein.

To assure that the safety, reliability and power quality of the distribution system is not degraded by the interconnection of the Net Metering Installation the installation:

1) Shall comply with the Technical Requirements stated herein.
2) Any distribution system modifications and/or modifications to the Net Metering Installation identified by the Interconnection Study shall be completed.
3) Will be required to install correction equipment approved by GPA if the operation of the Customer-Generator's Net Metering facility adversely affects GPA's system or the quality of service supplied to other GPA customers.
4) Shall be operated and maintained as agreed upon by the parties.

EQUIPMENT DESIGN REQUIREMENTS:

Data for major equipment proposed by a Customer-Generator to satisfy the Technical Requirements must be submitted for review and approval by GPA with the completed Request for

(Continued on Sheet NM-6)

(Continued from Sheet NM-5)

Interconnection. To facilitate review and approval, GPA will maintain a list of Pre-certified Equipment. The List of Pre-certified Equipment will be available to Customer-Generators upon request and contains Pre-certified Equipment types, makes, and models of manufactured generating equipment and interconnection system components. This listing is based upon equipment certified by recognized national testing laboratories as suitable for interconnection with a distribution system based upon compliance with IEEE Standard 1547. Suitably for interconnection does not imply that Pre-certified Equipment may be interconnected without study to determine system impact.

The use of equipment that is not Pre-certified may delay GPA review and approval of the Customer-Generator's design. All interconnection equipment must be approved by GPA prior to being connected to its distribution system and before parallel operation is allowed.

ADDITONAL TERMS AND CONDITIONS:

In addition to the terms and conditions set forth in GPA's applicable rate schedules and/or on file with the Guam PUC, the following requirements will be adhered to:

1) Customers operating Net Metering Facilities will be required to contract under the terms of a "Standard Interconnection Agreement for Net Metering Facilities."

2) GPA will require the customer to sign a statement certifying that the customer is a Net Metering Facility and meets the requirements established by the Guam Public Utilities Commission.

3) GPA shall not be liable directly or indirectly for permitting or continuing to allow the attachment of a Net Metering Facility, or for the acts or omissions of the Customer-Generator that cause loss or injury, including death, to any third party.

4) The Contract Period for service under the NM Rider shall be one (1) year and thereafter shall be renewed for successive one-year periods.

5) After the initial period, customer may terminate service under the NM Rider by giving at least sixty (60) days previous notice of such termination in writing to GPA. GPA reserves the right to terminate service under the NM Rider at any time upon written notice to customer in the event that customer violates any of the terms or conditions of the NM Rider, or operates a Net Metering Facility in a manner which is detrimental to GPA or its customers.

ANNUAL REPORTING:

GPA shall submit an annual "net-metering" report to the PUC. The report shall be submitted by April 1st of each year, and shall include the following information for the previous compliance year:

1) Total number of Customer-Generator facilities;
2) Total estimated rated generating capacity of its "net metered" Customer-Generators;
3) Total net kilowatt-hours received from Customer-Generators; and
4) Total estimated amount of energy produced by Customer-Generators.

A COMPENDIUM OF PUC DOCKETS DEALING WITH NET METERING ISSUES

These are some, but not necessary all, of the PUC Dockets dealing with net metering issues;

Over the years, the PUC has repeatedly exercised jurisdiction over the net metering program. On February 27, 2009, in Docket 08-10, the PUC approved the Standard Interconnection Agreement between GPA and net metering customers and the Net Metering Program Interconnection Policy. On September 24, 2014, in GPA Docket 11-09 [the FY13 RATE DECISION), the PUC rejected GPA's attempt to change the rate of compensation provided by it to net metering customers for the 100% "retail rate" to a lower "LEAC" rate related to "avoided fuel cost." The main reason for the denial was that the PUC determined that the level of penetration of net metering customers had only reached 77 customers, and not the milestone of 1,000 customers established by the Net Metering Rider.

On February 26, 2015, in GPA Docket 15-09, the PUC considered a Petition by the Guam Renewable Energy Association to extend the life of renewable energy credits for net metering customers beyond the period of the established one-year term. A study was ordered. On December 10, 2015, in GPA Docket 08-10, the PUC changed the Net Metering Rider to allow net metering customers to carry over any unused kWh credits for excess energy produced beyond twelve months. The customer was then allowed to elect whether to carry the credits forward, or to have GPA purchase all kWh credits remaining on their account at a one-to one retail rate. On May 28, 2020, the PUC reversed its prior determination that Net Metering Customers could carry over excess kWh credits beyond one year. At the end of each year the Customers would not be entitled to compensation for such credits.

In GPA Docket 19-04, GPA again sought to modify the current Net Metering Rider and to reduce the compensation of net metering customers for excess energy produced from the "retail rate" to a "value of solar" compensation. In practical terms, GPA sought to compensate new net metering customers for excess energy produced at a value of solar rate of $0.161995 /kWh, rather than the prior 100% retail rate provided of $0.24886/kWh. GPA argued that the level of net metering penetration now exceeded 1,000 customers; under the Net Metering Rider. GPA demonstrated that, at that time, there were approximately 2,000 net metering customers. In its Order dated May 30, 2019, the PUC indicated that it agreed to review the matter because the Net Metering Rider provided that the PUC would review the compensation when the number of net metering customers exceeded one-thousand (1000) customers.

After holding three public hearings, the Commission issued the Order in GPA Docket 19-04 rejecting a change in compensation for net-metering customers. However, the PUC specifically changed the prior level of penetration level of 1,000 net metering customers. The PUC amended the Net Metering Rider cap "**to be changed from a customer cap of 1000 net metering customers to an aggregate kW cap set at 10% of GPA's August 1, 2017 system peak demand of 261 MW.**" Ordering Provision No. 4. The PUC further held that the following amendment would be added to the Net Metering Rider: "However, when the capacity of Customer-Generator installations on the GPA system exceeds an aggregate KW cap (10%) of the utility's system peak demand (261 MW), the PUC will review the net metering program, determine whether the NM Rider should continue to be offered for new "net metering" customers, and consider whether any other adjustments should be made to compensation rates paid by GPA to customer-generators for capacity generation."

The PUC further held as follows: "GPA may petition the PUC for further changes to the NM Rider, including the rate of compensation paid to net metering customers, prior to the time at which the aggregate KW cap (10%) of the utility's system peak demand is met, but only if it has met all of the following preconditions: (1) the distribution system impact study which GPA has already planned shall be completed; (2) GPA shall have conducted and completed a full, balanced benefit-cost analysis that analyzes all of the impacts distributed generation has on the distribution system, especially specific to the location of the distributed generation on the system; (3) A third-party consultant, undertakes and completes an independent study determining the cost of grid and other services used by NEM customers and which identifies, in detail, the specific value of those services to the NEM customers. The studies referenced in (2) and (3) above shall only be undertaken upon joint approval of the PUC and GPA, and shall be undertaken at the expense of GPA."

In GPA Docket 20-06, the PUC an Amendment to the Net Metering Rider which prohibited customers from carrying over net metering credits beyond twelve months as a credit against the current monthly billing. At the end of each calendar year, any excess credits would be returned to GPA without compensation to the customer.

In GPA Docket 20-09, GPA attempted to implement a policy which required the implementation that all new net metering customers must have battery storage systems as a part of their net metering systems. The PUC held that GPA could not implement such a policy without prior PUC approval. The proposed policy was inconsistent with prior PUC decisions. In the Order, the PUC recognized that it was "responsible for the implementation of the rules and regulations for the Net Metering Program.

In fact, there is currently a pending proceeding before the PUC, filed by GPA, GPA Docket 24-03. In which GPA has requested PUC to review various aspects of the Net Metering Program. GPA requests review of the current number of net metering customers, including the present number of 2,496 NEM customers. The PUC Administrative Law Judge and GPA representatives have recently met to narrow the issues. The specific issue to be reviewed will be whether the current full compensation (100%) rate given to net metering customers for excess energy produced should be changed to a value of solar/LEAC type rate. The Legislative attempt to require a net metering rate based upon the average cost of fuel per kilowatt -hour of fuel incurred by GPA in the prior fiscal year usurps the authority of the PUC to determine this issue and would nullify PUC proceedings in GPA Docket 24-03.

June 18, 2007

VIA E-MAIL
hboertzel@hotmail.com

Harry M. Boertzel, Esq.
Administrative Law Judge
PUBLIC UTILITIES COMMISSION OF GUAM
Suite 207, GCIC Building
Post Office Box 852
Hagåtña, Guam 96932

RE: BILL NO. 128

Dear Judge Boertzel:

To aid you in preparing testimony for the Guam Public Utilities Commission ("PUC") on Bill No. 128 (The "Honesty in Utility Rate Setting Act"), you have requested that I, on behalf of Georgetown Consulting Group, Inc. ("GCG"), the PUC's independent rate consultant, provide an opinion as to whether the Bill, if enacted into law, would violate certain of the covenants made by the Guam Power Authority ("GPA") and the Guam Waterworks Authority ("GWA") in their respective bond indentures. I submit this letter in response to your request.

Summary of Opinion

It is my opinion that Bill 128, if enacted into law would be found to violate the rate covenants included in GPA's and GWA's bond indentures, as well as the public laws authorizing and approving those indentures. As such, the Bill, if enacted into law, would very probably be deemed an impairment of the contractual rights of the holders of the bonds violating the Contracts Clause of the U.S. Constitution and the Organic Act version of the Contracts Clause.

Analysis

The bond indenture of GPA contains what has been commonly referred to in PUC proceedings as the "rate covenant." In the December 1, 1992 indenture for GPA's 1992 Series A Bonds, the rate covenant is Section 6.20, which states as follows:

> Section 6.20. Pledge by Government. The Government hereby pledges to the holders of all Bonds that the Government will not repeal, amend or modify Chapter 12, Title 12, Guam Code Annotated, in any way that would substantially impair the powers, duties or effectiveness of the Public Utilities Commission thereunder in relation to the Authority or its rates. The Authority includes this pledge of the Government in this Indenture as authorized by §8113.3 of the Act [12 GCA §8113.3].

12 GCA §8113.3, referred to in the rate covenant, is the statute that authorizes GPA to incur long-term indebtedness through the issuance of revenue bonds. It provides, in pertinent part, as follows:

> Section 8113.3. Long-Term Indebtedness. In order to enable GPA to obtain the best possible price to the territory, and in the best interest of GPA's rate-payers, GPA is authorized to incur long-term indebtedness…payable solely from revenues of GPA. Notwithstanding [12 GCA §8210], without further approval by legislation, but subject to the approval of PUC, the indenture pursuant to which the indebtedness is issued may include any and all covenants described by s8210…. **The indenture may also include a pledge by the government of Guam not to repeal, amend or modify Chapter 12 of Title 12, Guam Code Annotated, in any way that would substantially impair the powers, duties or effectiveness of the PUC thereunder in relation to GPA and its rates…** (Emphasis supplied)

The purpose and intent of the GPA rate covenant is self-evident. Potential purchasers of GPA bonds required an iron-clad assurance that GPA's rates would be set by an independent rate making authority which would be obligated to provide GPA the rates necessary to produce the revenues required by GPA to meet its obligations under the indenture. That is the statutory mandate of the PUC under 12 GCA §12004, which obligates the PUC to establish rates for GPA (and GWA) which "shall be at least adequate to cover the full cost of such service or subject to any contractual agreements of the utilities to the holders of any bonds" and to "increase rates or charges from time to time as may be necessary pursuant to any contractual obligations…".

In other words, the government of Guam made a promise to purchasers of GPA bonds that GPA's rates would be set by an independent rate making authority which would be obliged "to ensure that rates will, at all times, be sufficient to enable the utility to meet its financial obligations, operating expenses, debt service and capital improvement needs." 12 GCA §12004. Politics are to be removed from the rate-making process.

Enactment of Bill 128 would be a breach of the government of Guam's promise. In direct contravention of the clear intent of 12 GCA §8113.3 and GPA's bond indenture (itself approved by the Legislature) Bill 128 would inject the Legislature into the rate-making process. Under it, before GPA or GWA could even seek approval of a base rate increase of four percent or more in any 18-month period, it would be required to first submit its request to the Legislature for its prior approval, which presumably might not be given. The fundamental purpose of the rate covenant would be eviscerated.

To understand the importance of the rate covenant to bond holders and the bond market in general, a bit of historical background is appropriate. Back in the 1970s GPA defaulted on bonds it had issued to raise funds to pay for the Cabras 1 and 2 baseload generators. Following its default, GPA looked to the federal government to bail it out. In 1976 Congress amended the Organic Act of Guam to

authorize the Secretary of the Interior to guarantee for purchase by the Federal Financing Bank bonds and other obligations of GPA. 48 USC 1423a, as amended by P.L. 94-395, 90 Stat. 1199. Due to continuing defaults by GPA, this provision was subsequently amended in 1980 to authorize the Federal Financing Bank to refinance GPA's obligations by purchasing or guaranteeing new ones. P.L. 96-205, Title III, §303, 94 Stat.88. GPA's financial woes continued. As a result, in 1984 Congress again amended the Organic Act to add the following language:

> At the request of the Board of Directors of the Guam Power Authority for a second refinancing agreement and conditioned on the approval of the Government of Guam pursuant to the law of Guam, **and conditioned on the establishment of an independent rate-making authority by the Government of Guam, the Secretary may guarantee for purchase…"** [GPA obligations].

48 USC 1423a, as amended by P.L. 98-454, Title II, §203, 98 Stat. 1733 (emphasis added).

The PUC, in its present incarnation, is the result of this Congressional mandate.

GPA's obligations to the Federal Financing Bank were paid off by the proceeds of the bonds issued by GPA in 1992, so the Organic Act requirement is now moot. However, to ensure that the new bonds could be sold at favorable prices, GPA's underwriters insisted that the bondholders would similarly be protected by the existence of an independent rate-making authority. They, therefore, insisted that the bond indenture include a covenant of the entire government of Guam that the independence and effectiveness of the PUC would not be substantially impaired. In 1992, the Twenty-First Guam Legislature passed legislation authorizing GPA to issue new bond obligations to pay off the Federal Financing Bank indebtedness. P.L. 21-117. That law added 12 GCA §8313.3 to GPA's enabling legislation. In response to the financial community's concerns, §8313.3 was soon thereafter

amended by P.L. 21-133:1 to authorize GPA to include the rate covenant pledge in its indenture.

The underwriters for GWA for identical reasons insisted on an identical rate covenant in GWA's bond indenture. The importance placed on the government of Guam's pledge to preserve the independence of the PUC is made crystal clear by 12 GCA §14229:

> The government of Guam is fully committed to ensuring that [GWA] has the ability to implement the capital improvements authorized to be paid by this [bond] legislation in order to meet the needs of Guam ratepayers for reliable and affordable services. The government also is fully committed to ensuring that bondholders are protected to ensure full and timely repayments of their loans. **In order to mirror the previous pledge that allowed Guam Power Authority to successfully reenter the financial markets as found in 12 GCA §8113.3…, the government of Guam hereby pledges that while any bonds of [GWA] issued under this Article remain outstanding and not fully performed or discharged (a) to maintain the rights, powers and duties of the Board and the Guam Public Utilities Commission….** (Emphasis added)

This pledge of the government of Guam is incorporated into §6.17 of GWA's bond indenture:

> Section 6.17. Pledge of the Government. The Government hereby pledges to the holders of all Bonds the following: while any Bonds remain outstanding and not fully performed or discharged (A) **to maintain the rights, powers and duties of the Board and the Guam Public Utilities Commission, or their respective successors in accordance with law, to fulfill the terms of Bonds and this Indenture,** (B) to maintain the rights and remedies of Bondholders provided in the Act and this Indenture, (C) to protect the exclusive right of the Authority to operate or

> maintain within Guam any water or wastewater system operated by the government or its designees by preventing the acquisition, operation, maintenance or permitting of any instrumentality of the Government or any other public or private agency, entity or person to operate a separate and competitive water and/or wastewater system, and (D) not to transfer any additional non-system operating responsibilities or other unfunded mandates to the Authority without providing for the payment of the costs of such additional responsibilities, with the exception of annual supplemental annuity and COLA contributions paid by the Authority on behalf of retired employees of the Authority (or its lawful predecessors) as may be required by other laws of Guam. **The Authority includes this pledge and agreement of the Government in this Indenture as authorized by §14229 of the Act.** (Emphasis supplied)

Bill 128 would amend GPA's and GWA's enabling legislation, not the statute creating the PUC (Chapter 12 of GCA Title 12). Thus, it might be argued that such an amendment was not a violation of the rate covenant or 12 GCA §8313.3 which refer only to Chapter 12 of Title 12. However, in my opinion a court would give short shrift to such an argument. The Legislature (and the government of Guam) cannot accomplish indirectly what they are prohibited from doing directly. If enacted into law, the provisions of Bill 128 would eviscerate the PUC's independent rate-making authority and hinder and potentially prevent it from fulfilling its statutory obligations.

In the case of Pangelinan v. Gutierrez, 2004 Guam 16, the Guam Supreme Court, set forth the three-step inquiry that governs challenges to legislation based on the Contracts Clause of the Organic Act. 48 USC 1421b(j). Citing the U.S. Supreme Court decision in Energy Reserves Group, Inc. v. Kansas Power and Light Co., 459 U.S. 400, 103 S. Ct. 697 (1983) the court stated that "the threshold inquiry is 'whether the state law has, in fact, operated as substantial impairment of a contractual relationship.'"

The second step of the inquiry is "[i]f the state regulation constitutes a substantial impairment, the State, in justification, must have a significant and legitimate public purpose behind the regulation..." Finally, "[o]nce a legitimate public purpose has been identified, the next inquiry is whether the adjustment of 'the rights and responsibilities of contracting parties [is based] upon reasonable conditions and [is] of a character appropriate to the public purpose justifying [the legislation's] adoption.'" 2004 Guam 16, at ¶39.

In my opinion, Bill 128, if enacted into law, would likely be found to fail each of the elements of this test. First, the obvious intent of the Legislation is to prevent GPA or GWA from seeking a base rate increase from the PUC without first running the gauntlet of the Legislature. The rate covenant included in the bond indenture was precisely intended to prevent this from happening. GPA and GWA, indeed the entire government of Guam (including the Legislature), promised that the government would do nothing that would substantially interfere with the PUC's ability to act or its effectiveness. Bill 128 clearly would do this by erecting an additional, potentially insurmountable obstacle to the ability of GPA and GWA to seek needed rate relief. Such an outcome would unquestionably undermine the effectiveness of the PUC and effectively eliminate the very protection the rate covenant was intended to provide.

Given that there would be a substantial impairment of the bondholders' rights under the indenture, the second step would be to look for a "significant and legitimate purpose" which "guarantees that the State is exercising its police power, rather than providing a benefit to special interests." 2004 Guam 16, at ¶41, quoting Energy Reserves, 459 U.S. at 411-12, 103 S. Ct. at 704-05. Section 1 of Bill 128 sets forth the purported legislative intent (or proposed findings). It states that the Consolidated Commission on Utilities ("CCU") "has failed to represent the interests of the people of Guam in its ongoing governance and supervision of management" of GPA and GWA, "causing inefficiencies, waste and possibly illegal diversion of public resources to be recovered from ratepayers in the form of increased rates for services."

This is an indirect indictment of the PUC, which is the body charged with setting rates, not the CCU.

I cannot speculate as to "possibly illegal diversion of public resources" to which the sponsor of Bill 128 refers or what evidence of such diversion he believes he can present to the Legislature in support of his bill. However, I can comfortably state that there could hardly be any evidence of such diversion with regard to the base rates of GPA, which has not sought a base rate increase for more than 10 years. If such diversions occurred or are ongoing, they would be the subject of possible investigation by the PUC, if and when GPA ever does file for base rate relief.

In my view this bill does not set forth or otherwise establish any "significant and legitimate public purpose" which would justify a substantial impairment of the right of GPA's and GWA's bondholders to have rates for the utilities set by an independent rate-making authority. The concerns expressed in the proposed findings could be addressed in rate proceedings before the PUC.

While I believe there could be no "significant or legitimate public purpose" that would justify the enactment of Bill 128, it is harder to believe that a court would find that the "adjustment" of the bondholders rights was based on reasonable conditions or "of a character appropriate" to the purported public purpose. Requiring GPA or GWA to submit proposed base rate increases first to a politically charged legislative body, answerable only to voters naturally averse to any rate increases, instead of an independent rate-making authority such as the PUC would not be reasonable or appropriate. That is why Congress required the government of Guam to create the PUC when it authorized the GPA bailouts in the 1980s and why the financial community similarly insisted on maintaining an independent PUC when GPA and GWA went to the bond market to borrow funds.

Conclusion

In summary, in my opinion Bill 128, if enacted into law, would be held to violate the Contracts Clause of the Organic Act (48 USC 1421b(j)). Requiring GPA and GWA first to submit requests for base rate relief before they could submit them to the PUC would "substantially impair" the powers and effectiveness of the PUC, in direct violation of the pledge made by the government of Guam in the rate covenants of GPA's and GWA's bond indentures not to do so.

There is no "significant or legitimate public purpose" that would justify such a substantial impairment of the bondholders' rights.

Lastly, the impairment of the bondholders' rights would be neither reasonable nor appropriate. The PUC is already charged with conducting such investigations and hearings as it deems necessary with regard to any proposed rate increase, and no rate increase can be approved unless the utility establishes, by a preponderance of the evidence, that a rate increase is necessary. 12 GCA §12004.

Inasmuch as the test announced by the Guam Supreme Court is based on test pronounced by the U.S. Supreme Court, Bill 128 would also violate the Contracts Clause of the U.S. Constitution.

Very truly yours,

BLAIR STERLING JOHNSON
MARTINEZ & LEON GUERRERO
A Professional Corporation

WILLIAM J. BLAIR

cc: Terrence Brooks, Esq. (via e-mail)
Mr. Jamshed K. Madan (via e-mail)
Mr. Edward R. Margerison (via e-mail)

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BEFORE THE GUAM PUBLIC UTILITIES COMMISSION

IN THE MATTER OF:
NET METERING (pursuant to P.L. 27-132 and 29-62)

Docket No. 08-10

ORDER

This matter previously came before the Commission on December 29, 2008. The Commission Decision and Order on that date approved the Interim Net Metering Rider for Customer-Generator Energy Facilities. In paragraph 8 of its Decision and Order, the Commission requested that GPA prepare a draft Interconnection Agreement for Net Metering Facilities and submit such agreement to the PUC for review and approval. Appended hereto as Attachments *A* and *B* are the Standard Interconnection Agreement for Net Metering Facilities and Net Metering Program Interconnection Policy submitted by GPA. On February 17, 2009, the PUC's regulatory consultant, Georgetown Consulting Group, Inc. [GCG] submitted its Report on the GPA Net Metering Interconnection Agreement.[1] Therein GCG recommended approval, with the exception of the requirement that all design and construction drawings must be signed and stamped by a licensed Professional Engineer.

After consideration and review of the Standard Interconnection Agreement for Net Metering Facilities, and the Net Metering Program Interconnection Policy, made attachments *A* and *B* hereto, the Report of GCG, and for good cause shown and on motion duly made, seconded and carried by the affirmative vote of the undersigned Commissioners, the Commission hereby ORDERS that:

1. The Standard Interconnection Agreement for Net Metering Facilities and Net Metering Program Interconnection Policy are hereby adopted and approved by the Commission, subject to the exception indicated in paragraph 2 below.

2. In accordance with the recommendation of GCG, the requirement in paragraph 2 of the Standard Interconnection Agreement for Net Metering Facilities that "all design and construction drawings must be signed and stamped by a licensed Professional Engineer" shall be deleted. In addition, the requirement in paragraph 5.5 of the Net Metering Program Interconnection Policy, that the required construction drawings must be "signed and stamped by a licensed Professional Engineer having jurisdiction", shall also be deleted.

3. GPA shall include an indemnification clause in both the Interconnection Agreement and the Policy which requires that Net Metering Customers indemnify and hold GPA harmless from any claims, causes of action, damages, or any matter concerning or relating to the Customer's Net Metering Facility, operation of such facility, the interconnection agreement, or the interconnection to GPA's system.

[1] See GPA Net Metering Interconnection Agreement – Docket 08-10, submitted by Larry Gawlick to PUC Chairman Johnson on February 17, 2009.

Dated this 27th day of February, 2009.

Jeffrey C. Johnson
Chairman

Joseph M. McDonald

Rowena E. Perez

Filomena M. Cantoria

Michael A. Pangelinan

GUAM POWER AUTHORITY

ATURIDÅT ILEKTRESEDÅT GUAHAN
P.O.BOX 2977 • AGANA, GUAM U.S.A. 96932-2977

STANDARD INTERCONNECTION AGREEMENT FOR NET METERING FACILITIES

THIS AGREEMENT is made and entered into on this day of_____, by _____ hereinafter called the NET METERING CUSTOMER, and the Guam Power Authority, hereinafter called GPA.

THE NET METERING CUSTOMER hereby applies for interconnection of a Qualifying Customer Generator up to 25 kW in capacity to the GPA Distribution System in accordance with GPA Service Rules and Regulations, rate schedules, and the GPA Net Metering Program Interconnection Policy (AP-0 _____). This Agreement shall be supplemental to GPA's standard "Application and Agreement for Electric Service."

The Guam Power Authority hereby agrees to interconnect the Net Metering Customer at the designated service location in accordance with applicable polices and regulations pursuant to the following conditions including those conditions provided in GPA's "Application and Agreement for Electric Service:"

1. **Application Fee** The Net Metering Customer shall be assessed a non-refundable application fee of $50 as part of this Standard Interconnection Agreement.

2. **Required Documentation** In accordance with the Authority Policy, attach all required documentation. All design and construction drawings must be signed and stamped by a licensed Professional Engineer.

3. **Safe Operations and Maintenance** The Net Metering Customer shall be fully responsible to operate, maintain, and repair the Generating Facility as required to ensure that it complies at all times with the GPA Authority Policy for Net Metering.

4. **Access** The Guam Power Authority shall have access to the metering equipment of the Generating Facility at all times. GPA shall provide reasonable notice to the Customer when possible prior to using its right of access.

5. **Disconnection** GPA may disconnect the Generating Facility in accordance with the GPA Authority Policy for Net Metering

6. **Billing** In accordance with the Interim Net Metering Rider as adopted by the PUC under Docket 08-10, net metering customers shall be billed on a monthly basis energy charges applicable under the currently effective standard rate schedule and any appropriate rider schedules including the Levelized Energy Adjustment Clause and other clauses as well as surcharges. No excess energy credits shall reduce any fixed monthly customer charges.
   a. Monthly charges for energy to serve the customer's net or total load shall be determined according to GPA's standard service tariff under which the customer

would otherwise be served, absent the customer electric generating facility. Energy charges under the customer's standard tariff shall be applied to the customer's net energy for the billing period to the extent that the net energy exceeds zero.

b. If the customer's net energy is zero or negative during the billing period, the customer shall pay only the non-energy charge portions of the standard tariff bill. If the customer's net energy is negative during a billing period, the customer shall be credited in the next billing period for the kWh difference. When the customer elects no longer to take service as a Net Metering Customer, any unused credit shall revert to GPA. Excess electricity credits are not transferable between customers or locations.

c. In no event shall the excess credit from a single month be carried forward beyond 12 months as a credit against the current monthly bill. At the end of each calendar year, or in the event of termination of service, any excess kWh credits, if any, will be granted by the customer to GPA without compensation to the customer.

7. **Indemnification** GPA shall not be liable directly or indirectly for permitting or continuing to allow the attachment of a Net Metering Facility, or for the acts or omissions of the customer Generator that causes loss or injury, including death, to any third party.

8. **Insurance** The Customer is not required to provide general liability insurance coverage as part of this Agreement.

9. **Limitation of Liability** Each party's liability to the other party for any loss, cost, claim, injury, liability, or expense, including reasonable attorney's fees, relating to or arising from any act or omission in its performance of this Agreement, shall be limited to the amount of direct damage actually incurred. In no event shall either party be liable to the other party for any indirect, incidental, special, consequential, or punitive damages of any kind whatsoever.

10. **Termination** The agreement to operate in parallel may be terminated under the following conditions:

    a. **By the Customer** By providing at least 60 days written notice to GPA

    b. **By GPA** At any time by providing written notice to Customer if the Generating Facility fails to operate for any consecutive 12 month period or the Customer fails to remedy a violation or operates the net Metering Facility in a manner that is detrimental to GPA or its customers

    c. **Permanent Disconnection** In the event this Agreement is terminated, GPA shall have the right to disconnect its facilities and/or direct the Customer to disconnect its Facility.

    d. **Survival Rights** This Agreement shall continue in effect after termination to the extent necessary to allow or require either Party to fulfill rights or obligations that arise under the Agreement.

11. **Assignment/Transfer of Ownership of the Facility** This Agreement shall survive the transfer of ownership of the Generating Facility to a new owner when the new owner agrees in writing to comply with the terms of this Agreement and so notifies GPA.

12. **Contract Period** The Contract Period for service under this Agreement shall be one year and thereafter shall be renewed for successive one-year periods.

13. **Certification** By signing below, customer acknowledges and agrees to abide by the terms of this Agreement. Furthermore, customer certifies that the customer facility is a Net Metering Facility and meets the requirements established by the Guam Public Utilities Commission

_____
GPA Authorized Representative
(Print/Sign)

Date: _____

_____
Applicant
(Print/Sign)

SSN: _____

Date: _____

_____
Co-Applicant
(Print/Sign)

SSN: _____

Date: _____

Home Phone: _____

Work Phone: _____

GPA CUSTOMER SERVICES DIVISION
NET METERING CUSTOMER INFORMATION

Existing Account Number: _____

Applicant's Name: _____ Co-Applicant's Name: _____

Applicant's ID No: _____ Co-Applicant's ID No: _____

Home Phone No.: _____ Work Phone No.: _____

Mailing Address: _____

Service Location: _____

Please draw a map to your premises

GENERATOR QUALIFICATIONS

An application is a Complete Application when it provides all required applicable information. (Additional information to evaluate a request for interconnection may be required and will be so requested from the Applicant by GPA after the application is deemed complete).

Energy Source

_____ Fuel Cells _____ Microturbines _____ Wind _____ Biomass _____ Hydroelectric

_____ Solar _____ Other (Please Specify)

Interconnection Customer or Customer-Site Load: _____ kW

Typical Reactive Load _____ kVAR

Maximum Physical Export Capability: _____ kW

Generator (or Solar Collector)

Manufacturer, Model Name & Number: _____

_____

Version Number: _____

Nameplate Output Power Rating in kW: _____

Nameplate Output Power Rating in kVA: _____

Rated Power Factor Leading: _____ Lagging: _____

Total Number of Generators in wind farm to be interconnected (if applicable):

_____ Elevation ____ Single phase ____ Three phase

Inverter

Manufacturer, Model Name & Number: _____

_____

Interconnecting Circuit Breaker

Manufacturer: _____ Type: _____

Load Rating (Amps): _____ Interrupting Rating (Amps): _____ Trip Speed (Cycles): _____

List components of the Net Metering Facility that are currently certified:

	Equipment Type	Certifying Entity
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____
5.	_____	_____

Applicant Certification

I hereby certify that, to the best of my knowledge, all the information provided under **Generator Qualifications** is true and correct.

Signature of Applicant: _____ Date: _____

Installing Electrician: _____

License No.: _____

Home Phone No.: _____ Work Phone No.: _____

Mailing Address: _____

GUAM POWER AUTHORITY Authority Policy	No.: AP-0	Issued:
	Prepared By: M.R. CAMACHO, P.E. Mgr Engineering	
Title: **NET METERING PROGRAM INTERCONNECTION POLICY**	Approved By: J.C. FLORES, P.E. General Mgr	
Effective Date: Supersedes No.		Page 1 of

1.0 PURPOSE

The purpose of this document is to establish criteria and requirements for the safe and reliable operation of interconnected customer-owned generating facilities, as part of the Guam Power Authority's Net Metering Program in accordance with Public Laws 27-132 and 29-62.

2.0 SCOPE

2.1 Customers are allowed to interconnect customer-owned generating facilities with a capacity not to exceed 25 kW.

2.2 The interconnected generating facility's primary purpose shall be to generate energy to serve all or a part of the customer's load.

2.3 A Net Metering Customer must comply with this policy, execute a "Standard Interconnection Agreement for Net Metering Facilities" with GPA, receive GPA Engineering approval, and submit a GPA Inspection report signed by an authorized DPW Inspector before Parallel Operation of a Generating Facility with GPA's Distribution System.

2.4 The specifications and requirements listed herein are intended to mitigate possible adverse impacts caused by the Customer Facility on GPA equipment and personnel and on other GPA customers. This policy is not intended to address protection of the Customer Facility itself or its internal load. The Net Metering Customer is responsible for complying with the requirements of all applicable standards, codes, statutes and authorities to protect itself and its loads.

3.0 DEFINITIONS

3.1 **Net Metering:** Measuring the difference between the electricity supplied by a utility and the electricity generated by a qualifying customer-generator, which is fed back to the utility over the applicable billing period.

3.2 **Qualifying Capacity:** A qualifying customer generator that produces no more than 25 kW of energy.

CODE [illegible] ADDED

EXHIBIT "B"

3.3 **Application:** The notice provided by the Customer to GPA, which initiates the interconnection process.

3.4 **GPA Inspection Report**: Form provided by GPA and completed by the authorized Department of Public Works (DPW) Electrical Inspector having jurisdiction over the installation, indicating acceptance of construction.

3.5 **Net Metering Customer (Customer):** The person who owns and/or operates the customer facility interconnected to the GPA distribution system.

3.6 **Qualifying Customer Generator:** A non-GPA owned equipment for producing electricity that uses fuel cells, microturbines, wind, biomass, hydroelectric, solar energy or a hybrid system consisting of these facilities, as its primary source of fuel

3.7 **GPA Distribution System:** All GPA power facilities rated 15 kV and below by which GPA provides power service to customers.

3.8 **Net Metering/Customer Facility:** A qualifying customer generator located on the Customer's premises along with all facilities ancillary and appurtenant thereto, including interconnection equipment, which the Customer requests to interconnect to the GPA Distribution System.

3.9 **Island; Islanding:** A condition on GPA's Distribution System in which one or more Customer Generating Facilities deliver power to customers using a portion of GPA's Distribution System that is electrically isolated from the remainder of GPA's Distribution System.

3.10 **In-Service Date:** The date on which the Customer Facility is complete, inspection approval is received by DPW and the facility is ready for service, even if the facility is not placed in service on or by that date.

3.11 **Standard Interconnection Agreement for Net Metering Facilities:** An agreement for interconnection service, between the Net Metering Customer and GPA. The agreement also includes any amendments or supplements thereto entered into by the Net Metering Customer and GPA.

3.12 **Point Of Common Coupling (PCC):** The point where the Net Metering Customer's local electric power system connects to the GPA distribution system. For overhead systems, the PCC is the weather head. For underground or hybrid installations, the PCC is the nearest GPA handhole or pad mounted transformer.

3.13 **Utility:** Guam Power Authority (GPA).

4.0 APPLICABLE CODES AND STANDARDS

The following codes and standards shall form a part of this policy, including the latest revisions with respect to material, design and tests.

4.1 IEEE Std 1547-2003 Standard for Interconnecting Distributed Resources with Electric Power Systems

4.2 UL Standard 1741, Inverters, Converters, and Controllers for Use in Independent Power Systems - Equipment must be UL listed

4.3 IEEE Standard 929-2000, IEEE Recommended Practice for Interface of Photovoltaic (PV) Systems

4.4 ANSI Standard C37.90, IEEE Standard for Relays and Relay Systems Associated with Electric Power Apparatus

4.5 ANSI C84.1-1995 for Electric Power Systems and Equipment—Voltage Ratings (60 Hertz)

4.6 Equipment covered by this specification shall conform to all applicable industry standards including the National Electric Code (NEC), National Electric Safety Code (NESC), the Institute of Electrical and Electronics Engineers (IEEE), American National Standards Institute (ANSI), Underwriters Laboratories (UL) standards, ASTM, and ICEA

4.7 All safety and operating procedures for joint use equipment shall be in compliance with the Occupational Safety and Health Administration (OSHA) Standard 29, CFR 1910.269, the NEC, Washington Administrative Code (WAC) rules, the Washington Industrial Safety and Health Administration (WISHA) Standard, and equipment manufacturer's safety and operating manuals.

4.8 Power Quality. Installations shall be in compliance with all applicable standards including IEEE Standard 519-1992 Harmonic Limits.

4.9 All local and federal building codes

5.0 GENERAL REQUIREMENTS

5.1 Any GPA Customer wishing to install a qualifying customer facility under this net metering program must first make application at any GPA Customer Services Office during normal business hours.

5.2 Any Net Metering Facility desiring to interconnect with the GPA Distribution System or modify an existing interconnection must meet all general requirements, in their most current approved version at the time of interconnection. GPA

reserves the right to require the customer, at the customer's expense, to provide corrective action or additions to existing electrical facilities in the event that GPA or other Government Regulations are modified.

5.3 The specifications and requirements listed herein shall apply generally to the Qualifying Customer Generator throughout the period encompassing the Net Metering Customer's installation, testing, commissioning, operation, maintenance, decommissioning and removal of said equipment. GPA may verify compliance at any time.

5.4 The Customer shall conform to all applicable codes and standards as provided in Section 4.0 for safe and reliable operation.

5.5 The Customer shall submit construction drawings (minimum size 18" x 24"; maximum size of 30" x 42") to GPA Engineering for review and approval including a Site Plan, One Line Diagram, Electrical Load Calculations and other details as necessary signed and stamped by a licensed Professional Engineer having jurisdiction.

5.6 All interconnection equipment must be approved by GPA prior to being connected to the GPA Distribution System and before parallel operation is allowed. Consequently, the Customer shall submit equipment data sheets and other technical information to GPA for review and approval.

5.7 The Customer shall be responsible to obtain all required construction and operating permits for the installation of equipment on his property.

5.8 GPA shall install, own, and maintain a kilowatt-hour meter. The method of accounting for the electricity under net metering is with a single, reversible meter. The customer shall be responsible for providing the meter socket, conductors, and appurtenances in accordance with GPA Service Rules and Regulations.

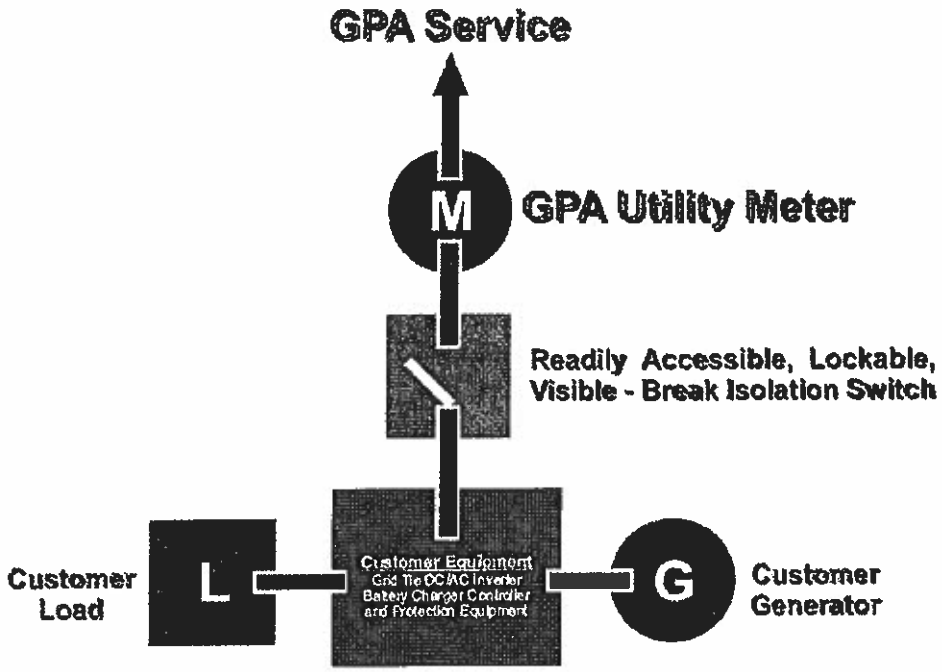
5.9 Common labeling approved by GPA and in accordance with NEC requirements must be posted on the meter base, disconnects, and other pertinent equipment stating that generation is operating at or is located on the premises.

5.10 The customer is required to coordinate closely with GPA Engineering for inspections and approvals of the net metering facility.

5.11 GPA will interconnect the facility at the Point Of Common Coupling (PCC) after an authorized DPW Electrical Inspector signs the GPA Inspection Report indicating acceptance of construction on the customer premises.

5.12 All costs including labor, equipment, and materials associated with interconnecting a net metering customer to the GPA distribution system shall be charged to the customer.

6.0 INTERCONNECTION REQUIREMENTS



Sample One-Line Diagram

6.1 Inverter

The Customer shall connect the load and generating equipment to the GPA source via a grid tie DC/AC inverter in accordance with applicable codes as illustrated in the Sample One-Line Diagram.

6.2 Visible - Break/Lockable Isolation Switch

6.2.1 The Customer shall furnish and install on the Customer's side of the meter a UL approved safety disconnect switch which shall be capable of fully isolating the Customer's generator from the GPA electric system. The disconnect switch shall be located adjacent to GPA's meter and shall be of the visible break type and placed in a metal enclosure with sealing provisions. The disconnect switch shall be accessible to GPA personnel at all times.

6.3 GPA shall have the right to disconnect the Customer Facility from GPA's system at the disconnect switch:

6.3.1 To maintain safe electrical operating conditions; or

6.3.2 In the event the Customer Facility does not meet required standards; or,

6.3.3 if the Facility at any time adversely affects GPA's operation of its electrical system or the quality of GPA's service to GPA customers.

6.4 Voltage and Phasing

The nominal voltage and phase configuration of the Customer's generation must be compatible with GPA's system at the Point of Common Coupling (PCC).

6.5 In the event of a utility power outage, the net metering facility must be able to automatically disconnect from utility power to ensure power is not fed back into the GPA power grid. This is extremely important during restoration/ repair situations where power fed into the GPA grid poses a safety hazard to distribution crews working on the system and the community who may come in contact with downed lines and equipment.

6.6 Protection Requirements

6.6.1 The protective functions and requirements of this policy are designed to protect GPA's Distribution System and not the customer facility or loads connected to the customer facility. The customer shall be solely responsible for providing adequate protection for its facility.

6.6.2 The customer's protective devices shall not adversely impact the operation of other protective devices utilized on GPA's Distribution System

6.6.3 A customer facility operating in parallel with GPA's Distribution System shall be equipped with the following protective features:

a. Over and under voltage trip functions; and
b. Over and under frequency trip functions; and
c. Voltage and frequency sensing and time-delay functions - Preventing the customer generator from energizing a de-energized GPA Distribution System and preventing the generator from reconnecting unless GPA's service voltage and frequency is within the range specified by ANSI C84.1-1995 Table 1 Range B (Voltage Range of 106 V to 127 V on a 120 V basis, inclusive, and a frequency range of 59.3 Hz to 60.5 Hz, inclusive, and is stable for at least 60 seconds); and
d. A function to prevent the customer facility from contributing to the formation of an unintended Island, and ceasing to energize the GPA Distribution System within two (2) seconds of the formation of an unintended Island.

e. A function to automatically disconnect the customer facility from the GPA Distribution System for faults on GPA's Distribution System.

6.7 Interference

6.7.1 The Customer shall not operate a generating facility in parallel with GPA that superimposes a voltage or current upon GPA's Distribution System interfering with GPA operations, with service to GPA customers, or with communication facilities.

6.7.2 To eliminate undesirable interference, each Generating Facility shall meet the following criteria:

a. Voltage Regulation. The Generating Facility shall not actively regulate the voltage at the PCC while in parallel with GPA's Distribution System
b. The Generating Facility shall not cause the service voltage at other customers to go outside the requirements of ANSI C84.1-1995, Range A (IEEE 1547-4.1.1)

6.7.3 If such interference occurs, the Customer must take corrective action at its own expense after being given notice and reasonable time to do so by GPA. If the Customer does not take corrective action in the time provided by GPA, or continues to operate the facility causing interference without restriction or limit, GPA may, without liability, disconnect the Customer Facility from GPA's Distribution System.

7.0 BILLING

7.1 In accordance with the Interim Net Metering Rider as adopted by the PUC under Docket 08-10, net metering customers shall be billed on a monthly basis energy charges applicable under the currently effective standard rate schedule and any appropriate rider schedules including the Levelized Energy Adjustment Clause and other clauses as well as surcharges. No excess energy credits shall reduce any fixed monthly customer charges, if any.

7.2 Monthly charges for energy to serve the customer's net or total load shall be determined according to GPA's standard service tariff under which the customer would otherwise be served, absent the customer electric generating facility. Energy charges under the customer's standard tariff shall be applied to the customer's net energy for the billing period to the extent that the net energy exceeds zero.

7.3 If the customer's net energy is zero or negative during the billing period, the customer shall pay only the non-energy charge portions of the standard tariff bill. If the customer's net energy is negative during a billing period, the customer shall

be credited in the next billing period for the kWh difference. When the customer elects no longer to take service under this Net Metering Program, any unused credit shall revert to GPA. Excess electricity credits are not transferable between customers or locations.

7.4 In no event shall the excess credit from a single month be carried forward beyond 12 months as a credit against the current monthly bill. At the end of each calendar year, or in the event of termination of service, any excess kWh credits, if any, will be granted by the customer to GPA without compensation to the customer.

III.1 Level of Penetration

When net metering tariffs were first developed, they typically included language that set an aggregate[36] cap on the amount of DG systems that could be interconnected at that rate based on a percentage of a utility's peak demand. The aggregate cap limits, as well as caps on system sizes differ by state, by type of customer, by utility-type (i.e., investor-owned utility, municipal, or cooperative), and by type of DG system. Table 6 through Table 10 in Appendix A provide state-specific information on the solar penetration levels set by state regulatory agencies, which define the capacity limits imposed on both individual systems and systems in aggregate. It is important to note that some states (Arizona, Maryland,[37] New Jersey, Rhode Island,[38] and Virginia) mandate that systems be sized such that the energy production will not exceed, or will mostly meet, the customer's on-site annual energy consumption.

When an aggregate cap is reached or is approaching a its limit, Commissions, state legislatures, and utilities have sought legislation or made filings to address the next phase of net metering. As the costs of solar DG systems have come down over the last several years, and with tax incentives from local and federal governments, the level of penetration of net metered solar has risen. This has led to net metering program cap limits in many states being reached, or reconsidered, prompting an examination of net metering tariffs to evaluate rate design and rate structures.

In Guam, the penetration of systems under GPA's net metering rider has seen increased growth since the inception of the program in 2009. Figure 5 depicts the cumulative growth of GPA's net metering customer-generators.[39] While hard to see in the figure, FY18 has not seen the same high growth as previous years. During our Technical Session[40] with GPA, the Company confirmed as much and indicated that it is likely due to the tax law change and due to the idea that customers who could afford systems have

[36] Includes all net metering customers in both residential and commercial classes.

[37] Limited to that needed to meet 200% of annual baseline customer electricity usage.

[38] Systems must be sized to produce no more than an average of three years of annual consumption of energy at the account.

[39] GPA PUC Filing, Docket 08-10-Filing of Net Metering Data, March 30, 2018.

[40] Technical Session held Thursday, January 17, 2019 at 9am.

EXHIBIT "5"

already purchased them. This effectively, per GPA, leaves the market mainly open to third party power purchase agreements (leasing of systems).

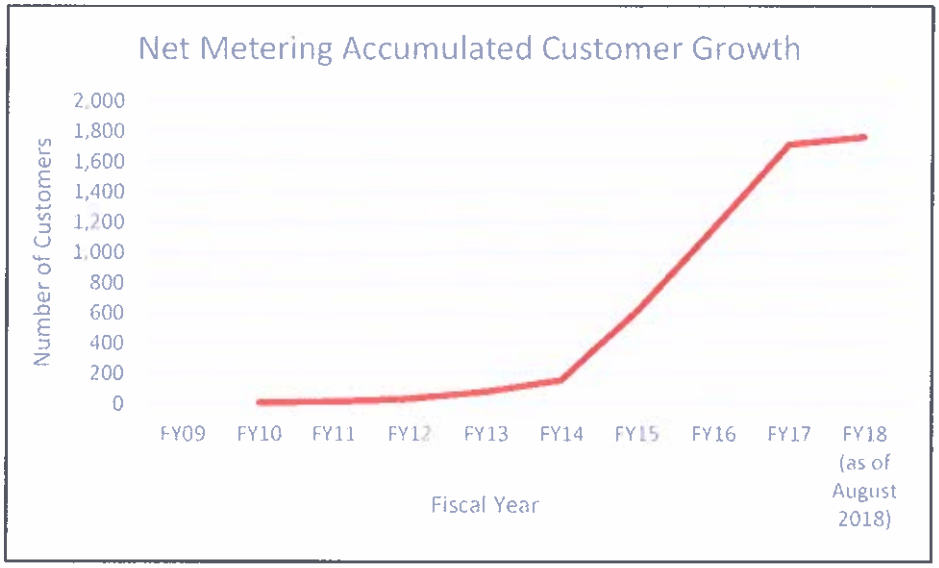


Figure 5. GPA NEM Accumulated Customers

Besides examining the level of customer penetration in Guam, we used net metering data from the last five years to analyze the impact of net metering around the United States. Figure 6 below shows the cumulative net metering capacity and customer penetration in the Pacific Region. Figures for the other four regions defined earlier – Frontier, Midwest, Northeast, and South – can be found in Appendix A.

Pacific Region

In the Pacific Region, California has the highest penetration followed closely by Arizona and Hawaii. However, year over year additions were not significantly high in any state other than California. As noted earlier, the island territories of Guam and Puerto Rico are included with the Pacific Region. Guam has a shown a big increase in capacity additions,

but still has nowhere near the same levels of capacity additions and number of net metering customers as its fellow islands.

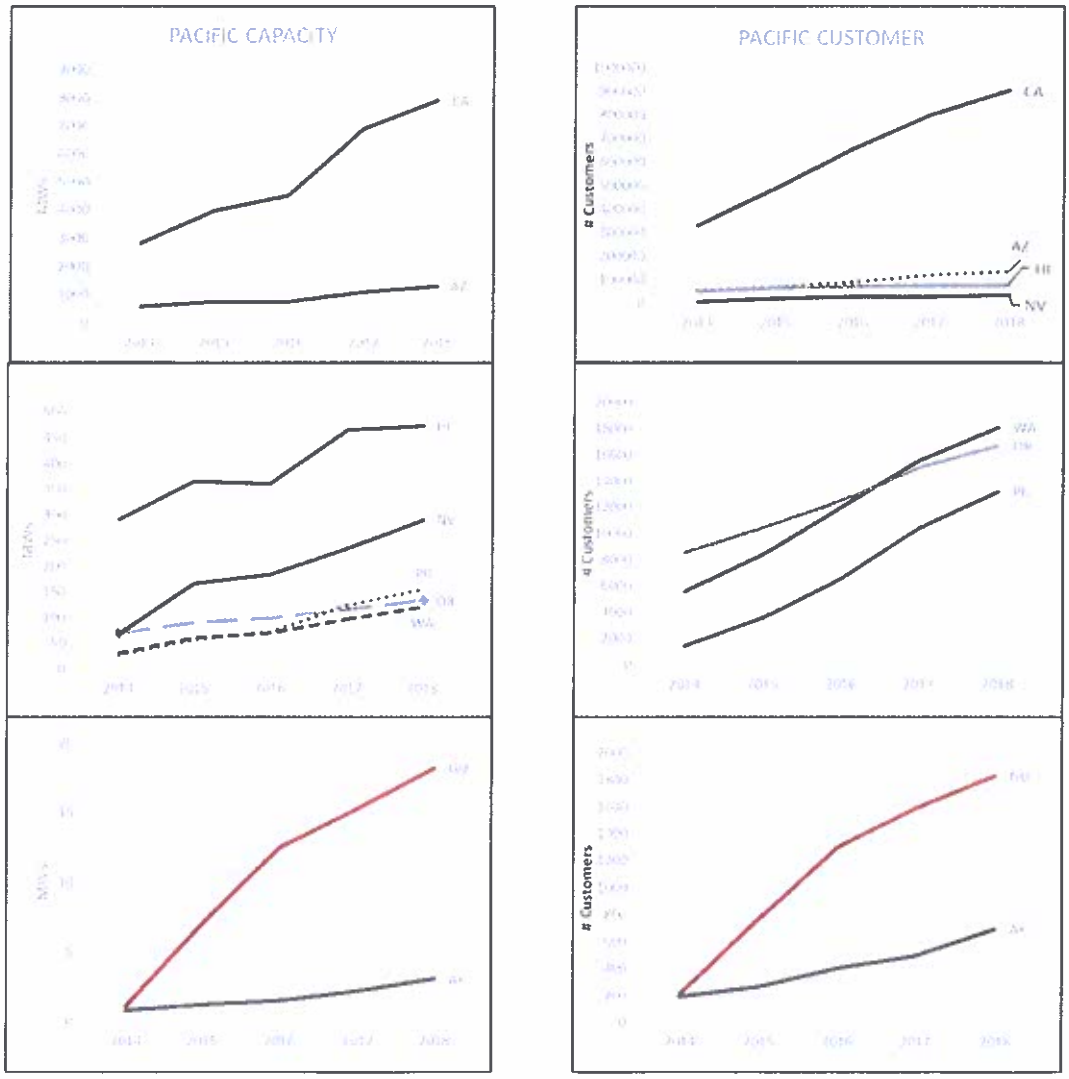


Figure 6. Pacific Region Net Metering System Capacity and Customer Growth[41]

[41] Data provided from the NC Clean Energy Technology Center, *50 States of Solar Q3 2018 Quarterly Report*, NC Clean Energy Technology Center, October 2018.

Table 5 below shows the system and aggregate capacity limits for each state in the Pacific Region. Tables showing this information for the other four regions can be found in Appendix A.

Table 5. System and Aggregatge Capacity Limits (Pacific Region) [42,43]

State	System Capacity Limit	Aggregate Capacity Limit
WA	100 kW	0.5% of utility's 1996 peak demand
OR	• PGE and PacifiCorp customers: 2 MW for non-residential and 25 kW for residential • Other customers: 25 kW for all customers	Discretionary cap: 0.5% of utility's historic single-hour peak load
CA	• 100% of customer's annual load • 5 MW for systems operating under the bill credit transfer program authorized by Public Utilities Code 2830; system must be owned by, operated by, or on property under the control of, a local government or university	N/A
NV	Lesser of 1 MW or 100% of the customer's annual requirements for electricity	80 MW for Assembly Bill 405 net metering
AZ	No capacity limit specified, but system must be sized to meet part or all of customer's electric load and may not exceed 125% of customer's total connected load	No limit specified
AK	25 kW	1.5% of average retail demand
HI	• 100 kW for HECO, MECO, HELCO customers • 50 kW for KIUC customers	Separate limits exist for each island and each of the two tariffs
PUERTO RICO	• 5 MW for non-residential connected to transmission or sub-transmission lines per Act 103 of 2012 • 1 MW for non-residential connected to distribution lines; 25 kW for residential	No limit specified
GUAM	25 kW	1,000 customers

Summary

Investigating the trends within each region highlights the various stages of net metering development and penetration across the states. While it is true that states with the highest penetration levels have made modifications to their net metering tariffs or have

[42] Puerto Rico and Guam are U.S. Territories.