

IN THE PUBLIC UTILITIES COMMISSION
FOR THE
COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS

**Petition of the
Commonwealth Utilities Corporation
For Rate Relief in its Power, Water and
Wastewater Utilities**

Docket No. 25-

CUC's Testimony of:

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Subject: Testimony as to the Reasonableness of Proposed Power, Water and Wastewater Rate Plan

Transmittal Date: October 31, 2025

**Prefiled Testimony of
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Section I – Introduction and Background

Q. Please state your name, position, and the purpose of your testimony.

A. My name is Lee Lieto, I am Power Division T&D Manager -Saipan for the Commonwealth Utilities Corporation (CUC).

My name is Jonathan Camacho, I am Engineer II Power Division T&D

My name is Magdaleno Baclay, I am Renewables Engineer

My name is Alvin King, I am Resident Manager, Rota

My name is Evelyn Manglona, I am Resident Manager Tinian

We are testifying on behalf of CUC's support of CUC's request for an increase in electric rates.

The purpose of our testimony is as follows:

- to explain current conditions on CUC's three island distribution grids (Saipan, Tinian, and Rota),

- to identify near-term operational risks associated with rising distributed energy resource (DER) penetration, particularly under a revised Net Energy Metering (NEM) framework
- to justify specific FY2026 distribution investments that will enable safe DER growth and reliable integration of forthcoming utility-scale Solar plus Battery Energy Storage Systems (Solar+BESS).

We will also outline a pragmatic implementation plan and metrics for accountability.

Q: What are the key requests you are asking the Commission to approve?

A. We request CPUC approval of the following:

- targeted grid-modernization and distribution upgrades that directly mitigate high-penetration DER risks
- interconnection standards and telemetry that align with revised NEM and IEEE 1547-2018 requirements
- cost-recovery mechanisms—including use of federal cost-share opportunities—that keep CUC's system reliable and affordable while enabling customer and utility-scale solar growth.

Q: Please provide an overview of CUC's three-island distribution systems.

A. We would characterize the distribution systems as follows:

- **Saipan (largest, most complex):** Radial feeders with limited sectionalizing and a mix of voltage classes. On sunny days, daily load trends are beginning trough mid-day and peak in the evening. The system faces voltage rise at feeder ends, limited visibility, and constrained fault-duty margins. Rooftop PV clusters are concentrated on specific feeders. This decline in load during the day will continue to increase on sunny days as the new large government solar facilities are connected to the grid.
- **Tinian (smaller, concentrated load nodes):** One substation with long laterals; voltage regulation and vegetation management are ongoing concerns if DER increases.
- **Rota (smallest, most isolated):** One substation with long rural runs and limited switching options; transformer loading and reliability are highly sensitive to localized backfeed.

- **Common gaps across islands:** Sparse SCADA/feeder telemetry, minimal line sensors, legacy protection designed for one-way power flow, and hosting capacity that is not measured with time-series data. These gaps drive uncertainty and risk as DER grows.

Q: What operational risks arise under a revised NEM scenario with high rooftop-PV penetration?

A. We would characterize the operational risks as follows:

- **Net-load volatility (“duck curve”):** Steep evening ramps increase thermal cycling and wear on diesel generators.
- **Voltage regulation stress:** Reverse power flow, end-of-line overvoltage, and excessive tap-changer operations.
- **Thermal backfeed:** Service-transformer and secondary conductor overloads during high export periods.
- **Protection/coordination challenges:** Lower DER fault current, evolving trip/ride-through per IEEE 1547-2018, and potential miscoordination without modern relays and settings.
- **Power quality:** Cloud-driven PV variability can cause flicker; harmonic aggregation may appear in PV clusters.
- **Visibility/control gap:** Without interval telemetry and feeder sensors, constraints are detected late and export settlements can be inaccurate.

Q: Please justify the Saipan FY2026 distribution budget items and explain how they address high-DER risks and Solar+BESS integration.

A. We present the following in support of the FY 2026 distribution budget items:

General & Administrative (within a \$0.80M envelope):

- **34.5-kV underground cable testing (\$50k):** Verifies subtransmission integrity prior to sustained BESS exports and reverse power flow.
- **Transformer oil sampling—PP1 & Waterloo (\$10k):** Monitors asset health as units support VAR exchange and cycling.
- **Power Factory analysis license (\$20k + \$3k/yr support):** Conducts feeder hosting-capacity, loss, contingency, and protection studies consistent with 1547-2018; foundational for setting export caps and fast-track screens.

- **Telemetry fees for meters (\$200k):** Enables interval export reads and communications essential for NEM settlement, feeder visibility, and FAC accuracy.
- **Training (SEL protection, ESRI, Solar Energy Intl., PLT):** Builds local capability for modern protection settings, switching, GIS-guided patrols, and field safety.

Supplies (safety & productivity):

- **High-voltage gloves (\$50k), reel trailer (\$20k), pulling blocks (\$9.6k):** Supports safe, efficient reconductoring and hardware change-outs on PV-dense laterals.

Maintenance & System Improvements (\$3.31M total):

- **Annual materials (\$2.07M):** Poles, conductors, meters, and hardware to accelerate corrective work on emerging DER constraints and maintain storm readiness.
- **Defective hardware replacement: Single-phase laterals (\$300k) and 3-phase feeders (\$500k)** reduce hot-spot failures under two-way flows.
- **Power transformers (PP1 & Waterloo, \$290k):** Radiator/gauge renewal and leak repair to ensure reliable temperature control under new cycling patterns.
- **LTC panel replacement—Waterloo (\$150k):** Replaces 1998-vintage controls prone to mis-regulation with reverse power; supports Volt/VAR optimization with BESS.

Capital Outlay (\$1.3M):

- **Fleet garage (\$170k):** Corrosion control to improve fleet availability for outage response and DER tie-ins.
- **Hydro-mower (\$50k):** Improves vegetation management along export corridors and long laterals.
- **CUC share of DOE-BIL Grid Deployment grant (\$1 million cost-share, T&D Share is \$162.5k):** Leverages federal funds for resilience and visibility upgrades essential to BESS dispatch and curtailment management.
- **Link to Solar+BESS (Saipan):** These investments prepare substation and feeder health (testing, LTC refurbishments), provide analytics (PowerFactory), and establish telemetry for grid-forming or fast-frequency response BESS at the point of interconnection (POI) with transfer-trip and Volt/VAR coordination.

1
2 **Q: How do the Tinian line items support a high-DER NEM and a utility-scale Solar+BESS**
3 **POI?**

4 **A. They are supported as follows:**
5

6 **General & Administrative Highlights:**

- 7 • **Travel & training (\$75k):** Field certifications (APPA) and joint ops with Saipan crews to
8 implement 1547 settings and safe switching.
- 9 • **Vegetation clearing (\$50k):** Targeted rights-of-way (ROW) work to reduce PV-feeder faults
10 and improve voltage control on long laterals.
- 11 • **Freight & Handling and Heavy Equipment Rentals** Tinian has limited on-island vendors for
12 heavy equipment and the need to ship to & from Tinian.
- 13 • **Maintenance and System Improvements (\$150K.)** Upgrade Feeder 2 distribution system
14 voltage from 4160KV System to the 13.8KV System

15
16 **Maintenance (\$300k):**

- 17 • Critical materials and annual programs for poles, meters, streetlights, pole maintenance, new
18 installs, and typhoon restoration reserve—keeping feeders NEM-ready and BESS-ready.

19
20 **Capital Outlay (\$1.13M):**

- 21 • **Renovations for buildings/substation/warehouse and heavy-equipment parking (\$725k):**
22 Hardens facilities that underpin outage response and interconnection construction.
- 23 • **Auger truck, riding mower, field safety equipment (\$300k):** Core construction plant for pole
24 sets, reconductoring, and vegetation control.
- 25 • **Office furniture/fixtures (\$5k) and utility trucks (\$100k):** Baseline support for sustained field
26 tempo.
- 27 • **Link to Solar+BESS (Tinian):** These investments ready the POI (e.g., switchgear bay,
28 protection tuning, ROW access). Stock, fleet, and facilities upgrades shorten interconnection
29 timelines and reduce curtailment risk.

30
31 **Q: How do the Rota line items address reliability and DER growth?**

32 **A. Reliability and DER growth is addressed as follows:**
33

- 1 • **Freight/handling & heavy-equipment rentals:** Essential logistics for poles and transformers
2 where local vendor options are limited.
- 3 • **Personnel training (PLT):** Ensures safe DER inspections, switching, and adherence to 1547-
4 2018 practices.
- 5 • **Supplies/tools replacement & vehicle maintenance:** Sustains safe repair cycles and
6 accurate metering as DER expands.
- 7 • **Capital (vehicle acquisition/lease):** Increases uptime for daily ops, storm response, and
8 DER-related callouts.
- 9 • **Link to Solar + BESS (Rota):** As the smallest grid, Rota benefits most from improved
10 logistics, vehicles, and stocked materials to interconnect and operate a grid-forming BESS with
11 conservative export caps.

12
13 **Q: How will these investments support integration of utility-scale Solar+BESS on each**
14 **island?**

15 **A.** These investments will support integration as follows:

- 16
17 • **Asset-health testing:** Validates substation and subtransmission pathways for sustained
18 export and potential black-start capability.
- 19 • **Protection & controls upgrades:** Prepare transfer-trip schemes, ride-through, and Volt/VAR
20 coordination between the plant and feeders.
- 21 • **DOE-BIL cost-share (\$1 million):** Targets communications and visibility that are critical to
22 dispatch and curtailment management.
- 23 • **Fleet/vegetation/warehousing:** Reduce construction timelines and outage exposure along
24 export corridors, improving availability and safety.

25
26
27 **Q: What is the FY2026 implementation plan for the requested capital expenditures?**

28 **A.** The implementation plan is as follows:

- 29
30 • **Q1-Q2:** Procure telemetry services; acquire PowerFactory; begin 34.5-kV cable and
31 transformer testing; procure safety gear (gloves), reel trailer, and pulling blocks; enhance
32 vegetation program.
- 33 • **Q2-Q3:** Replace Waterloo LTC panels; begin targeted feeder hardware replacements;
34 mobilize Tinian capital works (renovations, auger truck).

- 1 • **Q3–Q4:** Stock storm/NEM surge materials; complete fleet garage; deploy power-quality and
2 visibility improvements aligned with DOE-BIL scope. (Note: Fleet garage may not be
3 completed next year.)

4
5 **Q: What metrics will CUC track to demonstrate results and accountability?**

- 6 **A.** CUC will depend on a combination of voltage compliance on PV-dense feeders; On-Load Tap
7 Changer/regulator operation counts; feeder fault rates/System Average Interruption Duration
8 Index; DER interconnection cycle time; and telemetry availability. These metrics will be
9 reported periodically to demonstrate prudent use of funds and reliability improvements.

10
11 **Q: What findings are you asking the CPUC to make?**

- 12 **A.** We request that the CPUC make the following findings:

- 13
14 • That the FY2026 T&D budget items are prudent, targeted, and necessary to safely integrate
15 high-penetration DERs and to interconnect utility-scale Solar+BESS on all three islands,
16 although additional funding may be required to fully implement.
17 • That **telemetry and analytics** (PowerFactory and meter communications) are integral to a
18 revised NEM program and should be **recoverable in rates/FAC**.
19 • That approval will **enhance reliability, resiliency, and affordability**, minimizing outage risk
20 and avoiding DER moratoria while enabling sustainable growth in customer and utility-scale
21 renewables.

22
23 **Q: Do you have a concluding statement?**

- 24 **A.** Yes. The investments we describe are modest relative to the risks they mitigate. These
25 investments focus on safety, visibility, and controllability; the prerequisites for a durable revised
26 NEM and successful Solar + BESS integration. With the CPUC's approval, CUC can
27 modernize critical elements of the distribution system, leverage federal funds, and deliver
28 reliable service at just and reasonable rates while enabling the Commonwealth's clean-energy
29 objectives.

30 **Q. In closing, we have a couple of housekeeping questions. Did you prepare this**
31 **testimony and exhibits, or were they prepared under your supervision and control?**

- 32 **A.** We assisted in the preparation of this document.
33

1
2 Q. If you were testifying live, under oath, today, would you say what appears in this, your
3 prefiled testimony filing?

4 A. Yes.

5
6 Q. Does this conclude your prefiled testimony?

7 A. Yes, it does. However, we reserve the right to make any necessary adjustments during the
8 course of these proceedings.

9 **DECLARATION**

10
11 The proceeding prefiled testimony, and the exhibits referred to therein, are true and correct to the
12 best of my knowledge, information and belief. Signed under penalty of perjury.

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14 LL



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7 October 31, 2025

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