

TESTIMONY OF JOE'LLE WEBSTER
DIRECTOR OF GRANTS MANAGEMENT OF THE
VIRGIN ISLANDS WATER AND POWER AUTHORITY
TO THE COMMITTEE ON DISASTER RECOVERY, INFRASTRUCTURE AND
PLANNING
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Good day, Honorable Marise James, Chair of the Committee on Disaster Recovery, Infrastructure and Planning, members of the Committee, other Honorable Senators present, and the listening and viewing audience.

I am Joe'lle Webster, Director of Grants Management for the Virgin Islands Water and Power Authority (“WAPA” or “the Authority”). Joining me today are members of the Authority’s team: Mr. Noel Hodge, Chief Engineer, Water Systems, Mr. Vernon Alexander, Director of Special Projects, and Mr. Maxwell George, Director of Project Management.

Madam Chair and distinguished members of the Legislature, thank you for the opportunity to testify today on the progress of the Virgin Islands Water and Power Authority’s federally funded recovery and resilience projects—those planned, ongoing, and completed. As we all recall, the Authority’s infrastructure suffered catastrophic damage during Hurricanes Irma and Maria, contributing to an estimated \$11 billion in total damages across the territory, including severe damage to the generation units at both the Richmond Power Generation Plant on St. Croix’s north shore and the Randolph Harley Power Generation Plant on St. Thomas’s south shore. In the years since, WAPA has developed and begun implementing a comprehensive roadmap toward a more resilient, efficient, and sustainable power system. This effort is guided by our mission to strengthen power generation, transmission, and distribution systems while ensuring that Virgin Islanders receive reliable, affordable, and modern energy services.

Completed Projects

Among the major accomplishments in recent years is the completion of the purchase of the propane terminals at both the Randolph Harley and Estate Richmond power plants as of July 2024. This \$145 million investment, funded through the Community Development Block Grant-Mitigation program, provides the Authority with the flexibility to purchase fuel on the open market at competitive prices. This change allows the Authority to strengthen operational efficiency and financial stability. WAPA has also completed several undergrounding projects funded through the Federal Emergency Management Agency's Public Assistance program. These projects are crucial for hardening our transmission and distribution infrastructure. By placing key lines underground, the Authority has reduced the potential for storm-related damage and significantly shortened the restoration period for customers following major weather events.

Ongoing Projects

The Authority's work continues with several critical projects currently underway. One of the most visible and transformative efforts is the territory-wide installation of composite poles, also funded through FEMA's Public Assistance program. These hurricane-resistant poles are rated to withstand winds up to 250 miles per hour and are essential to strengthening the power grid. As of this testimony, installation is approximately 96 percent complete on St. Croix, 94 percent on St. Thomas, including Feeder 13 bypass at 80 percent complete, and 87 percent on St. John. Once fully completed, this project will greatly reduce system vulnerability and speed up post-storm restoration.

Alongside this initiative, multiple undergrounding projects are in active construction. On St. Thomas, work on Feeder 5A, which serves the Randolph Harley Power Plant, Lindbergh Bay, and the airport area, is about 75 percent complete. On St. Croix, undergrounding along Feeders 8B and 9B—covering Hannah's Rest and Queen Mary Highway—is also roughly 75 percent complete and the upcoming Queen Street project, funded by the FEMA Hazard Mitigation grant program replacing overhead lines with an underground distribution system from the Richmond Substation through Christiansted. Other projects, including those in the

Container Port, Golden Grove, and Midland areas of St. Croix and in Cruz Bay, St. John, are approximately 95 percent complete. These efforts, funded through FEMA's Public Assistance program, directly contribute to our long-term resilience goals and minimize the duration of outages after natural disasters.

Resilience and Modernization Initiatives

In addition, WAPA has several initiatives underway that will transform how we deliver electricity to our communities. Through FEMA's Hazard Mitigation Grant Program, the Authority is developing microgrids on St. Croix and St. Thomas. These microgrids will combine solar generation and battery storage systems to create local power zones capable of independent operation. On St. Croix, the Western Microgrid will include an eighteen-megawatt solar photovoltaic plant paired with a twenty-megawatt-hour battery system. On St. Thomas, the Bovoni and Fortuna microgrids will feature a fifteen-megawatt, thirty-megawatt-hour BESS design. On St. John, the Coral Bay and Cruz Bay systems will integrate both solar and thermal generation. These projects, now in the design phase, will enhance grid flexibility, reduce the scale of outages, and ensure communities retain power during emergencies.

In addition to FEMA-funded initiatives, WAPA has received critical support through multiple U.S. Department of Housing Urban Development (HUD) programs—CDBG-Mitigation and CDBG-Disaster Recovery—each targeting unique aspects of grid restoration and modernization. WAPA has also received \$35 million through HUD's Community Development Block Grant-Electrical Grid (CDBG-EGRID) program to support non-duplicative repair and replacement projects. These include the installation of a battery energy storage system at the East End Substation in Red Hook, St. Thomas, the repair and replacement of severely damaged Feeders 11 and 12, and the procurement of new transformers across the territory. Together, these projects strengthen critical infrastructure, improve efficiency, and support grid reliability.

Further, through HUD's CDBG-Disaster Recovery program, the Wärtsilä Phase II Next Generation Project is advancing with \$84 million in funding. This project is central to WAPA's

transition toward cleaner, more efficient generation, and to date, over \$77 million has already been disbursed through the Virgin Islands Housing Finance Authority (VIHFA).

St. Thomas and St. Croix Prudent Replacement and St. John Emergency Generation

Projects at both plants were established to repair generator units 10, 11, 17, 20, 21, 24, 9B, 13, 14, 15, 18, 23, and 23GT following disaster impacts, with initial combined estimates of roughly \$896,000. After insurance deductions, the obligated amounts were reduced to \$0 and \$100,000, respectively. However, turbine configurations and limited secondary generation capacity prevented full inspection and repair, revealing additional hidden damages that could significantly increase project costs.

At the Randolph Harley Power Plant, the evolved proposed scope includes the removal and replacement of Unit 14, as well as the removal of Unit 12 due to its proximity. It also includes the removal and replacement of Unit 15 and its ancillary and auxiliary systems, along with the removal of Unit 21, which is closely associated with Unit 15. The age and condition of these turbines—operational since 1973 and 1980 respectively—make replacement not only justified but necessary. Replacement parts for these units are no longer available, which has compromised plant efficiency and reliability. Attempting to retrofit the units using outdated Original Equipment Manufacturer (OEM) components would be technically challenging, costly, and incompatible with newer system components. Funding in the amount of \$206,260,560 has been awarded for the Randolph Harley Power Plant project.

At the Richmond Power Plant awarded \$674,782,181, the scope of work calls for the removal and replacement of Units 17, 19, and 20, as well as the removal of Unit 10 and Unit 11 boilers and steam turbines and Unit 24 heat recovery steam generator.

At both the Randolph Harley and Richmond Power Plants, replacements will include modern ancillary and auxiliary systems such as fuel and water injection pumps, control systems (including SCADA), motor control centers, underground cables, transformers, protection relays, security lighting, and surveillance systems. These replacements are necessary due to the advanced age of the turbines, the unavailability of replacement parts, and their declining efficiency, all of which have compromised reliability.

Procurement and Project Delivery

The Virgin Islands Office of Disaster Recovery, in collaboration with WAPA, is currently soliciting proposals from qualified firms to implement these projects. The procurement process follows a Progressive Design-Build model with a Guaranteed Maximum Price, fully compliant with federal grant regulations under 2 C.F.R. Part 200. The Request for Proposal, issued in June of 2025, seeks scalable and cost-effective generation solutions in increments ranging from 7 to 15 megawatts, ensuring transparency and cost control while aligning with the Territory's broader energy goals of resilience, affordability, and sustainability.

The project's primary objectives are to:

- Replace or supplement existing generation capacity with reliable and resilient power,
- Reduce the Territory's reliance on fossil fuels,
- Improve grid resilience during and after extreme weather events, and
- Enable integration with both existing and future renewable energy and battery storage systems.

To achieve these objectives, technology options under consideration include dual- or tri-fuel internal combustion engines, aeroderivative turbines, gas turbines, solar photovoltaic systems paired with backup generation, and other firm or hybrid renewable solutions.

Implementation will take place in two phases. Phase I will focus on installing temporary as well as battery energy storage systems to restore stability and reliability to both plants while detailed engineering is completed. Phase II will involve the installation of permanent, prudent replacement generation systems and their supporting infrastructure. Additionally, WAPA and ODR are exploring opportunities for greenfield generation installations where funding allows. This approach aligns with FEMA's Continuity of Operations Plan (COOP) by enabling power restoration from alternate sites in the event of a major plant disruption.

St. John Emergency Generation and Battery Energy Storage

Unlike St. Thomas and St. Croix, the island of St. John currently has no local generation capacity and relies entirely on power transmitted via submarine cables from the Randolph Harley Power Plant on St. Thomas. This dependency creates significant vulnerability.

To address this, three Hazard Mitigation Proposals (HMPs) have been identified under Project Worksheet 60 for St. John. These include:

- Undergrounding Feeders 7E and 8E,
- The Cruz Bay Battery Energy Storage System (BESS), Frank Bay emergency generation, and Coral Bay BESS, and
- Installation of composite poles along Feeders 7E, 8E, and 9E.

The current focus is on combining battery storage and emergency generation to strengthen grid reliability and support critical loads during outages.

Each major project is in the planning stage. The first is the Cruz Bay BESS Project, which will install a 4-megawatt, 12-megawatt-hour battery system at WAPA's 7J site in Cruz Bay. The second is the Frank Bay Emergency Backup Generation Project, which will install two 5-megawatt diesel generators at the St. John Substation in Frank Bay. The third is the Coral Bay BESS and 13.8kV Switching Station Project, which will install a 3-megawatt, 12-megawatt-hour battery system and a gas-insulated switching station; this project is currently at 90 percent design and awaiting FEMA Environmental and Historic Preservation (EHP) approval. Construction for all three is expected to begin in 2026.

This comprehensive effort represents a critical step toward establishing energy resilience on St. John. By combining battery energy storage, emergency generation, and eventually solar photovoltaic systems, the island will gain the ability to maintain essential services during outages, reduce dependence on imported fossil fuels, and lower the per-kilowatt-hour cost of electricity. In alignment with WAPA's long-term strategy, implementation will prioritize the battery energy storage systems first, followed by emergency generation, and then solar installations.

Together, these initiatives—the prudent replacement projects on St. Thomas and St. Croix and the emergency generation and storage project on St. John—represent a unified, territory-wide strategy. They will provide a more resilient, reliable, and sustainable energy system capable of withstanding future disasters and supporting the Territory's long-term economic recovery and growth.

Advanced Metering Infrastructure

The Authority is also progressing with the Advanced Metering Infrastructure, or AMI Project, a major step toward modernizing the grid. In partnership with Itron as the primary technology vendor and Witt O'Brien's as project management consultant, this initiative will deploy smart meters and advanced communications networks across the territory. AMI will improve billing accuracy, enable faster outage detection, and enhance customer engagement through real-time data. Key milestones have already been achieved, including completion of network site surveys, business process workshops, and meter design approvals. The project is about to be submitted for federal Environmental and Historic Preservation (EHP) review; EHP review is needed before field deployment begins. Once implemented, AMI will fundamentally improve transparency, operational efficiency, and customer service for residents and businesses alike.

Community Impact

To date, FEMA has obligated over \$4.57 billion for recovery and resilience work for the Authority, including \$545.6 million for emergency projects and \$2.1 billion in new obligations for major undergrounding, plant upgrades, and system hardening. CDBG-DR funds administered by VIHFA have also been essential in providing the required local match for FEMA-funded projects, with approximately \$65.9 million paid directly to vendors on WAPA's behalf. These partnerships between federal and territorial agencies are vital to ensuring that every available dollar contributes to a stronger, more reliable electric system for our communities.

Our recovery work is not simply about replacing what was lost, it is about rebuilding a smarter, more efficient grid, and positioning the territory for long-term energy independence and resilience.

In addition to our Disaster Recovery projects, simultaneously, WAPA has made significant progress in renewable energy integration through the completion of power purchase agreements for two solar farms in the St. Croix district—Petronella and Hogensborg. The Petronella project provides ten megawatts of solar power divided between two sites, each paired with a two-megawatt Battery Energy Storage System (BESS). The Hogensborg project contributes twelve megawatts of solar generation and an additional four-megawatt BESS to the grid. Together, these solar farms enhance grid resilience, improve reliability, and reduce reliance on traditional fossil fuels, all while aligning with the Authority's commitment to sustainable energy for the Virgin Islands.

In summary, the Virgin Islands Water and Power Authority continues to make measurable progress in advancing federally funded disaster recovery and resilience projects. While challenges remain—particularly in coordinating match funding and accelerating implementation—the trajectory is one of progress, modernization, and resilience. WAPA remains steadfast in its dedication to leveraging every federal dollar to deliver a stronger, cleaner, and more reliable power system for the people of the Virgin Islands.

Thank you for your attention. My team and I are available to address any questions you may have at this time.