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Capacity Risks in St. Thomas-St. John Could Persist Until December; Generation Shortfall Continues to Drive Power Rotations, WAPA Says

Knight said WAPA is short 4 MW during midday peaks and 8 MW in the evening, with Units 15 and 23 offline, Unit 27 below capacity and Wartsila engines sidelined; new generation could ease St. Thomas-St. John rotations by December if timelines hold up.

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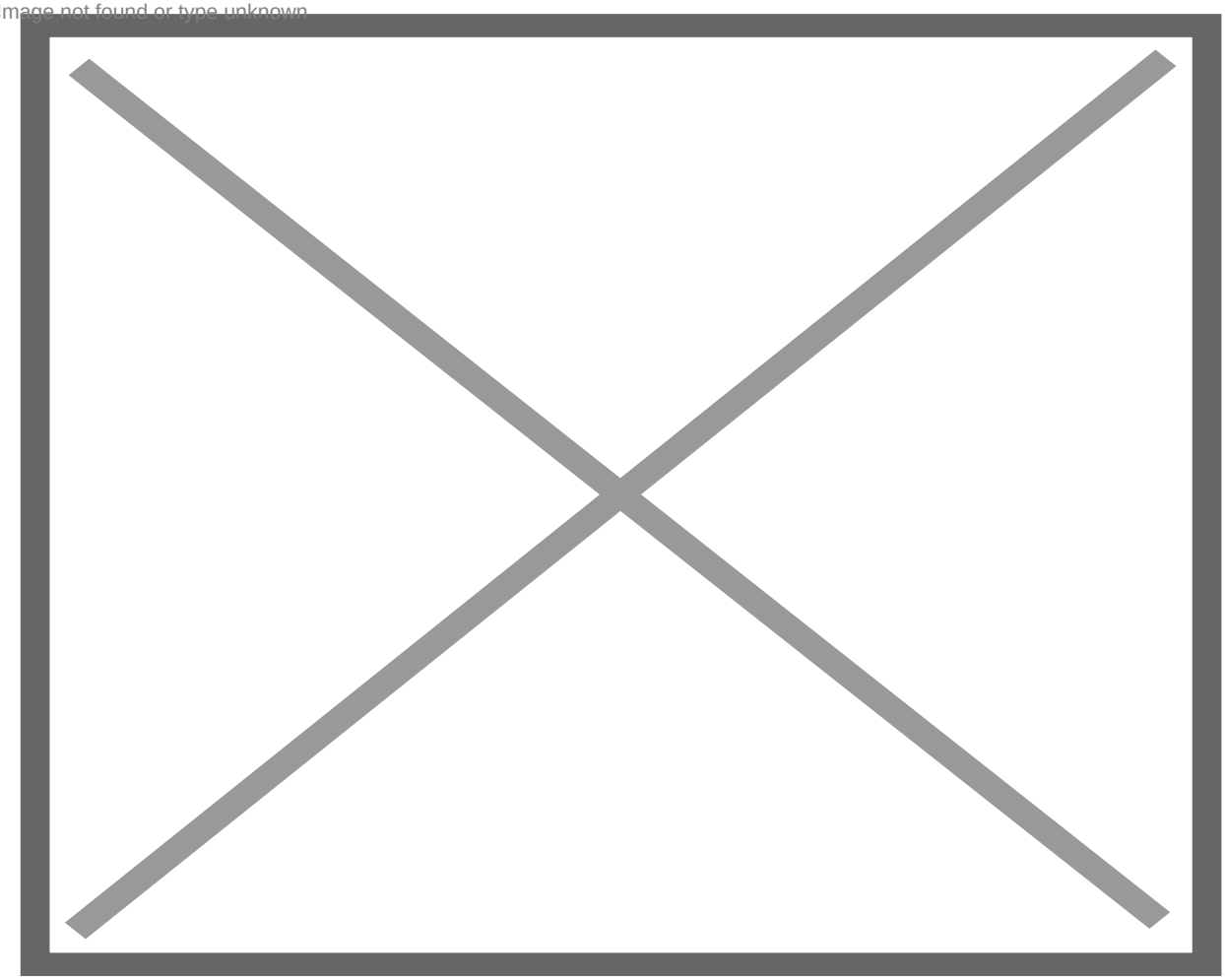

The Randolph Harley Power Plant in St. Thomas, USVI. **By. ERNICE GILBERT, V.I. CONSORTIUM.**

The V.I. Water and Power Authority says ongoing power rotations in the St. Thomas-St. John district are being driven primarily by a shortage of generation capacity, with multiple units at the

Randolph Harley Power Plant offline or operating below full output.

WAPA Executive Director Karl Knight updated the authority's board during a special meeting on Thursday, explaining that recent transmission problems have been addressed quickly, but the district remains exposed because there is not enough reserve generation when equipment fails.

Mr. Knight said the most recent issue involved an "incident" with Feeder 13, the transmission line serving the eastern side of St. Thomas. "That issue was resolved during the course of the day," he said.

However, WAPA is still managing "concurrent" issues, including a fault on the transmission line between St. Thomas and St. John that resulted in an outage. While those issues are being addressed and resolved within hours, Mr. Knight said they are not the central challenge.

"The main issue that we're faced with today is loss of generation capacity and sufficient generation capacity," he explained.

Mr. Knight told board members that two generators at the Randolph Harley Power Plant are completely offline: Units 23 and 15.

"Unit 15 has been down since the incident back in March, where it failed unexpectedly. We are still working on getting a resolution to that issue," he disclosed.

Meanwhile, "Unit 27 has been operating, but it has not been operating at its full rated capacity."

WAPA is also dealing with problems involving its Wartsila engines. "There are two Wartsila engines offline right now," Mr. Knight said.

One engine had been taken down for repairs to its turbocharger system, while the other had been experiencing oil leaks.

"Wartsila technicians are in the plant," Mr. Knight told the board. "They've been in the plant since at least Saturday, working alongside our mechanics to try and resolve those issues."

He said one of the units was recently restarted, but the repair did not fully resolve the problem. "The underlying issues are still there," Mr. Knight said. "So in order not to damage the new equipment that we just repaired, we've taken it back offline."

The number of sidelined units means "there are points in time throughout the day when we're short of capacity," requiring ongoing power rotations, Mr. Knight explained. He said heavy plumes of Sahara dust have also reduced the effectiveness of solar farms, lowering the amount of daytime capacity available to meet demand.

Mr. Knight identified the "critical path to repairs" as restoring Unit 27 to "full rated capacity." That requires replacing a faulty fuel valve.

"We're expecting to be able to make the installation of that part over the weekend," he said.

That work will require a "prolonged outage" so the generator can be safely shut down and allowed to cool before the valve is replaced. Once that repair is completed, Mr. Knight said WAPA expects some improvement.

“We’re relatively confident that once that repair is complete, we can get back to a relative mode of normal operations,” he said.

Mr. Knight also addressed what he described as a “misunderstanding or misstatement” by a local newspaper, saying WAPA does not expect to continue power rotations for the next three months.

“That is certainly not our expectation or anticipation at this point in time,” he said.

However, Mr. Knight acknowledged that the district remains vulnerable until more generation returns. “Until we get back one or more of the gas turbines, we’re going to be in a predicament where the failure of any unit at any time for any reason could trigger a load shedding event.”

WAPA does not currently have enough reserve capacity to maintain power across the entire district when units go offline, he said. “We don’t have a lot of room for equipment malfunction without having to shed.”

The three-month timeline, according to Mr. Knight, refers to the estimated timeframe for bringing at least one turbine, “most likely Unit 15”, back online. Until then, he said the situation will remain “touch and go.”

Parsing his words carefully, Mr. Knight said that while “we’re not predicting rotations, we are basically saying that this is a possibility” as rising temperatures increase demand on the grid.

“It is still a precarious situation,” he acknowledged.

Chief Operating Officer Lemuel Lavinier estimated that WAPA is currently facing a 4 megawatt gap between capacity and demand during midday peak hours. That gap increases to an 8 megawatt shortfall during the evening peak.

Board member Hubert Turnbull noted that the Wartsila engines currently offline are two of the newer dual-fuel machines, which are not currently covered by an operations and maintenance agreement between WAPA and Wartsila. Mr. Knight said he believes such an agreement may be “days away.”

Mr. Turnbull also questioned why WAPA could not procure an additional 15-megawatt generator to close the gap between current capacity and demand, similar to the emergency units currently being sourced for St. John.

Mr. Knight said once the emergency units are installed on St. John, they “would fill the gap, and we would not have to rotate.”

An additional 2.5 MW Caterpillar engine will also be installed. WAPA is “looking at as a black start engine, but that also adds two and a half megawatts of capacity,” Mr. Knight said.

Once those units are operational, WAPA expects to have 12.5 MW of additional capacity available. The authority is also procuring a 15 MW gas turbine through the prudent replacement contractor.

Mr. Knight said a cost-benefit analysis determined that it "made no sense to lease or rent a unit as we’ve done in the past,” and that additional generation capacity will instead come from units WAPA is purchasing outright.

“Some time in the fourth quarter of the calendar year we expect to have the installation of that generator,” Mr. Knight said of the 15 MW unit.

Based on the current timelines for the additional generators to arrive and be placed into operation, Mr. Knight told board members he expects WAPA to be in a stronger position by the end of the year.

“I should be reasonably comfortable that we won’t be in a capacity shortfall scenario come December,” he said. “I am reasonably comfortable that we won’t be facing the same scenario we’re facing now, six months from now.”