



Jefferson County
Public Utility District

February 2025

The Case of the Vanishing Voltage

While most PUD employees enjoyed the day off, Line Superintendent, Michael Smith, and members of his crew spent MLK Day driving around Marrowstone investigating a phantom blip.

Multiple reports had come in that power on the island was flickering. Not unusual during storms, but the sky was clear, and the wind wasn't blowing. Smith's crew looked for branches on the line regardless. Sometimes the freeze thaw cycle of sunny winter days can lead to a falling tree, or a damaged limb dropping on a nice day. No luck. The lines were clear.

There was another clue, though. The timing of the flicker. Instead of the clustered power blinks that might be experienced when a branch falls on the line, the team noticed that the MLK Day blips happened on a schedule, once per hour. Just enough to send the PUD an outage alert and to reset clocks in customers' homes. Whatever was going on, it appeared to be coming from inside the wires.

Keeping the lights on for customers on Marrowstone can be challenging. Besides all the trees, the island is the literal end of the end-of-the-line for PUD service. By the time PUD power makes its way down Flagler Rd and out to customers at the very north end, it can get a little tired. The more accurate way to describe tired power is low voltage.

Voltage is often compared to pressure. Too much pressure or voltage will cause electronics to burn or break. Too little voltage will cause lights to flicker or dim, or devices to shut off unexpectedly.

PUD Substation Chief, Jesse Bridges (left) and Line Helper Savanna Hoffmann, prepare a new regulator for installation. This oil-filled, 2,750lb device is one of three regulators tasked with normalizing voltage on the island. Each regulator costs approx \$70k and can take up to 2 years to receive.

New AMI meter and substation SCADA data, which acts as the utility's nervous system, allow PUD staff a near real time voltage view on the line. And sure enough, voltages were too low on the north end of Marrowstone. But low voltage alone didn't explain the clockwork nature of the blip.

Back in the office on Tuesday, Smith discussed the issue with the Substation team. After reviewing the system logs, they realized the problem came from the very device that was used to improve the voltage on the island, the voltage regulator.

Regulators quietly work 24/7/365 ensuring the voltage customers receive stays within a safe, usable range. One of the three regulators (one per phase on the 3-phase lines supplying the island) had failed. The blip was caused by the device's control system attempting to manually reset once per hour.

The solution? Replace the regulator. Luckily, there was a spare in stock.

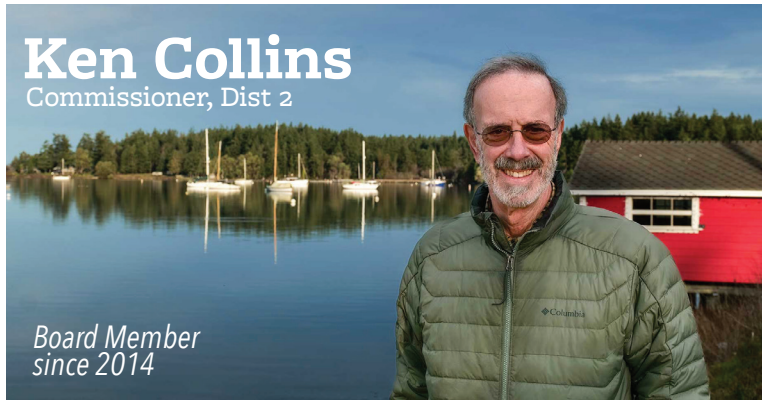
Replacing the regulator required a 3-hour midday outage to the entire island. The substation and line crews collaborated to get it done. Just in time for dinner, power was restored, voltages improved, and the case was closed.



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Ken Collins

Commissioner, Dist 2



Board Member since 2014

It is a truism that none of us are irreplaceable.

Still, it is with considerable sadness that I now write about Kevin Streett's planned retirement on or around June 6th of this year. Kevin Streett was the first employee hired to manage the electrical division of Jefferson PUD when the community took possession of an aging and somewhat neglected infrastructure. While the Commissioners

of the PUD were responsible for policy decisions, it fell to Kevin to hire the crew and make the critical operational decisions.

Kevin came to Jefferson PUD with a wealth of technical knowledge and experience. Initially, he maintained tight control of the crew, which somewhat loosened over time. One of the changes I observed in the decade that we worked together was his development as a manager, becoming more flexible and empathetic.

One example of this was his recognition of the need for training and development opportunities for PUD staff. Another example was his gradual acceptance of Jefferson PUD getting into the broadband business after being initially resistant but then recognizing both the necessity and opportunity. However, what I will miss most about working with Kevin is his fundamental decency, honesty and humility.

Meter Project Nearly Complete!

After nearly 3 years, \$4M, and 20,000 meter exchanges, Jefferson County PUD is on the cusp of completing its transition to AMI. As of the end of January, only 300 meters remained to be changed.

AMI stands for Advanced Metering Infrastructure. The PUD's new meters can send and receive signals, allowing for remote read and shutoff. The meters send their usage data every 15 minutes, and the additional data can help the PUD and its customers better track and control electric supply and demand.

As told in the cover story, the new AMI meters report voltages and current, helping crews remotely diagnose problems in the field. Over the next few months, PUD staff will be working to optimize the meter software and enable features like prepay.



Metering Technician Corey Fletcher, attaches an anti-tamper tag to a new Vision meter. The meter pictured is part of a meter bank—a group of meters clustered together to serve separate units in a multi-tenant building.

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1,000
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Streetlights



10,446
Total Number of
Distribution Poles

7,976
Total Number of
Transformers



PUD regular Board meetings are held at 4pm on the first and third Tuesday of each month.

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Your Thoughts, Please!

Jefferson County and partner JeffCo Aquatic Coalition (JAC) need your input to help shape the vision for a new aquatic center in the heart of our community. Your feedback is essential!

Please complete our 5-minute survey



Scan the QR code
with the camera
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What should a new Jefferson County Aquatic Center include?

Jefferson County & partner Jeffco Aquatic Coalition are surveying residents and visitors to learn more about features and programs-aquatic & non-aquatic-they would likely use in a new facility.

This is a chance for you to help guide decisions and state your priorities-whether for a pool or other community benefits.

Learn more:

jeffcoaquaticcoalition.org



Questions?

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