

Reduce Truck Rolls and Power Outages with a Data-driven Approach



How White River Valley Electric Cooperative Uses Data to Improve Community Resiliency



More Outages After the Storm

Several municipalities, states and companies are worried about energy reliability and community resiliency. As energy prices increase, several utilities are using a proactive approach to reduce future power outages. Specifically, using a data-driven approach to prioritize which projects will provide the best return on investment.

Some utilities are building out Distributed Energy Resources (DERs) and microgrids. However, other utilities don't have the density nor the budget to increase their system for future resiliency.

These distribution utilities are using their data with AI predictors for proactive solutions. These predictors make it easy for any size utility to reduce outages by replacing equipment before it completely fails.

This study describes how one utility uses data to support their electric memberships' energy needs.

Profile of White River Valley Electric Cooperative (WRVEC)

- Established in 1939
- 5 Counties in Missouri
- 44,000 meters served
- Covering 2,500 square miles

Chris Hamon is CEO of WRVEC. His team uses data to understand the return of future investments and maintain revenues.



Chris Hamon
CEO, WRVEC

Beau Jackson is Manager of Engineering for WRVEC. His team leverages data to prioritize their daily needs to reduce outages and increase resiliency.



Beau Jackson
Manager of Engineering,
WRVEC



A STRATEGY THAT STARTS AT THE TOP

Chris Hamon, CEO of WRVEC, explains how his team is moving towards a proactive data-driven approach.

Work Smarter, Not Harder

Mr. Hamon instructs his team to use data to “work smarter, not harder”. At WRVEC, everyone must embrace a data-driven approach.

Pick Collaborative Partners

White River Valley Electric Cooperative (WRVEC) collaborates with NRECA, Aerinet Solutions, Mapbis, and Genetica.ai to implement cost-effective data solutions. Mr. Hamon lives the cooperative mission by educating others about how WRVEC uses data to continually provide affordable, safe energy in Missouri.

Savings With AI Extends Beyond Reducing Outages

Mr. Hamon's team details how deploying AI reduces their cooperative's risk to their staff and increases revenue while decreasing costs.

A Day in the Life of WRVEC Engineering

According to the U.S. Energy Information Administration, there are more power outages from 2018-2020, compared to 2013-2015.

Beau Jackson knows that to be able to combat future outages his team must use data to prioritize future investment. During this interview, a substation went out due to severe weather.

Mr. Jackson explained that's a typical day for WRVEC. The team quickly restored the power and know the cost associated with the outage.

Measure The Issues In Order To Manage It

How did PwrMetrix help improve WRVEC's data quality?

Having confidence in the quality of the data

"Most companies have tons of data that they are not using. What PwrMetrix showed us was that some of our outage data was not clean. We cleaned up old data. By fixing the data, our predictive analytics were more accurate and allows us to be more proactive." "This is about using the tools to make better decisions and serve our members in a more cost-effective way," Mr. Jackson declare

"We are used to extreme weather and responding quickly. What we are trying to do is quantify everything we do so we can know where to prioritize our resources"

Beau Jackson

What proactive steps is WRVEC taking to stop outages?

Beau Jackson detailed how engineering is using lightning strike data to identify damaged lightning arrestors in areas where outages happened that had no probable cause.

Mr. Jackson further described their steps, "once we get the fault current and lightning strike data, then we can locate faults caused by lightning arrestors with more precision. We can also use lightning strike data to inspect and locate damaged arrestors after a storm before they eventually fail and cause an outage. This is one of our proactive and data-driven approaches to improving our system reliability and lowering incremental costs for our membership."

What were the expectations of running AI predictors?

Mr. Hamon explained "when we ran the outage predictions on the PwrMetric AI platform and it gave us the probabilities of outages for the next month, we were a little skeptical." Mr.

Hamon explained. He continued "until in the first week, after all top 5 predicted feeders went out. Literally it picked all five!"

These AI predictors don't require any type of programming or design from a software developer. Most business intelligence systems require the learner to take several classes and it takes weeks to set up before they can ever have an accurate algorithm.

What were the outcomes of having AI for your team?

WRVEC also uses the AI report to minimize outage lengths and proactively stop future outages. By doing this, they are keeping their staff actively monitoring the assets during operational hours and good weather. This saves significant costs and reduces the risk of deploying crews during non-business hours.

"We are using science and artificial intelligence to improve reliability and reduce losses of revenue during outages. Again, working smarter and not harder, and reducing incremental costs while reducing revenue losses" stated Mr. Hamon.

Any electric utility can use PwrMetric without having to rip and replace existing systems. PwrMetric doesn't require additional staff to set up or program the system. Utilities can see which assets are the most costly. The mapping system allows utilities to visualize, predict and decide their future.



SEE IT IN ACTION

Aerinet Solution's patented PwrMetrix platform integrates existing data to increase reliability and community resiliency.

- PwrMetrix provides reporting of SAIDI, SAIFI and CAIDI with just a click.
- The GIS visualizations show detailed heat maps down to the smallest element.
- The AI predictors are customized and pre-built to take the guess work out of using deep learning workflows to forecast future failures.

These features make it easy for utilities to reduce costs, outages and future risks.

Saving Thousands with Just a Click

Quickly see outage information that details which causes are causing the most outages.

Develop monthly, quarterly, annual reports for the board with just a click.

Reducing outages saves thousands of dollars. Utilities can manage the maintenance of feeders and meters during work hours and increase the energy reliability.

PwrMetrix, The Platform with a Plan

The real-time patented system shows where future resource allocation will provide the best return on investment. PwrMetrix eliminates the guesswork by qualifying the data and having accurate proven predictors.

Reducing the Need for Additional Staff

PwrMetrix's easy interface means companies don't have to invest in software developers, data scientists or disparate business intelligence systems.

Get Started Today with a demo

<https://aerinet.com/contact/>

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Images from <https://www.whiteriver.org/> For more information about PwrMetrix, please contact Tracey Klepic, VP of Marketing at Aerinet Solutions