



Register for our newsletter

[Click here for more details](#)

AEP deploys Amperion's broadband power line carrier technology

ARTICLE | TUE, 2011-08-30 13:58 | BY CATHERINE VIOLA

American Electric Power (AEP), one of the US's largest utility companies, has chosen Amperion's broadband power line carrier (B-PLC) technology for line protection applications and substation communications in its high voltage (HV) 69kV sub-transmission network.

The utility, which along with Cisco Systems and Redleaf Ventures co-founded Amperion in 2001, plans to use B-PLC to replace pilot wire technology in 69kV HV line protection and control applications. AEP began commercial rolling out the technology during summer 2011, in a project that will also see electro-mechanical relays upgraded with digital solid-state relays from two unnamed suppliers.

Amperion developed the solution in response to a request from its parent AEP in 2006 for a lower-cost alternative to fibre for pilot wire replacement. The vendor estimates that B-PLC can be deployed for around a tenth of the cost of fibre. In addition, the technology can be installed without having to disrupt service or wait for permits, which accelerates roll-out.

AEP will also use B-PLC over 69kV transmission lines for substation communications, to support SCADA and substation automation. For substation backhaul, data rates of up to 15 Mbit/s can be achieved over distances of five miles. When deployed for line protection purposes, the system is adapted to promote low latency and jitter over bandwidth.

We say

Amperion, which holds multiple patents for PLC technology, appears to have found a sweet-spot for its technology. It is the only broadband PLC vendor we know of that offers a broadband solution for the HV transmission network, where it targets specifically sub-transmission lines of 138 kV and below. By contrast, other broadband PLC vendors, such as Germany's Power Plus Communications, are focusing on smart grid applications in the medium and low voltage networks.

In the HV sub-transmission network where Amperion is playing, the main technology competitors are traditional narrowband PLC, which has bandwidth limitations, or fibre, which is uneconomical to install. By targeting the gap between PLC and fibre, Amperion has come up with a cost-effective, and higher-bandwidth solution that should prove attractive to utilities in North America and beyond.

About the Author »



Catherine Viola

Senior Analyst

RELATED TERMS: [Content](#) [News Analysis](#) [Communications](#) [Companies](#)