

Alabama Power Co. Chooses 3M's New High-Capacity Conductor; Unit of Southern Co. to Install 3M Aluminum Conductor Composite Reinforced to Boost Transmission Capacity on Existing Line

Alabama Power Co., which supplies electricity to 1.3 million homes, businesses and industrial facilities, will become the third major utility to install 3M's breakthrough electricity conductor, the 3M aluminum conductor composite reinforced (ACCR). The 3M ACCR is a new type of metal overhead line that can double the transmission capacity of conventional conductors of the same diameter without requiring new towers or any visual changes.

The 3M ACCR will replace a key 10-mile (16-kilometer) line in northeastern Alabama. The change is being made because the existing conductor would be at capacity for certain contingencies resulting from the addition of new generation during summer peak loads beginning in 2008. Installation of the 3M ACCR is expected to begin in January 2006.

The new 3M conductor, which is heat-sag resistant, was developed to reduce the potential for thermally constrained transmission lines that increasingly have plagued electricity grids in recent years causing brownouts and blackouts across the country. In addition, the 3M ACCR provides the industry with a metal overhead conductor solution.

Alabama Power, the second largest unit of Southern Co., supplies energy to two thirds of the state. Its selection of 3M ACCR to improve capacity on a key line follows similar decisions by Xcel Energy for a 10-mile line in Minnesota and the Western Area Power Administration for an 80-mile line along the Colorado River in Arizona. 3M expects to announce additional sales of the conductor to utilities around the nation in the coming months.

"The use of the 3M conductor for this project allowed us to avoid the replacement of 22 transmission structures and the installation of eight additional structures," said Andy Wallace, transmission line manager for Alabama Power. "This will significantly reduce our construction time frame and allow the line to be taken out of service for this project without impacting the reliability of our grid."

Tracy Anderson, 3M project manager for the 3M ACCR, said interest in the new conductor "is building quickly as a cost-efficient and reliable way to relieve many of the national grid potential bottlenecks. Before bringing this product to market, we devoted four years to rugged, extensive field testing with several utilities and the Department of Energy under virtually every conceivable atmospheric condition. The 3M ACCR met every expectation."

Anderson noted that the first two purchases of the 3M ACCR were made by utilities that participated in the field testing for installation in areas subject to extreme weather conditions. "That is a powerful endorsement of the product's performance," he said.

The 3M ACCR contains a multistrand core of heat resistant aluminum matrix composite wires. The conductor retains its strength at high temperatures and is not adversely affected by environmental conditions. Its lightweight and reduced thermal expansion properties are what enable installation on existing towers with no requirement for visual changes to a line or additional rights of way.

In addition to the Department of Energy and the utilities that field tested the 3M ACCR, 3M retained the National Electric Energy Testing, Research and Applications Center at the Georgia Institute of Technology to test the

conductor during development.

The 3M ACCR's technology has been recognized by R&D Magazine with an R&D 100 award as one of the most technologically significant products introduced into the marketplace and by the Minnesota High Tech Association with a Tekne Award for innovative development.

More information about the 3M ACCR is available at www.3m.com/accr.

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LVM Group Inc. Bob Rumerman, 212-499-6567 bob@LVMgroup.com or Andrea Harvey, 212-499-6568 andrea@LVMgroup.com or 3M, St. Paul Colleen Harris, 651-733-1566 www.3M.com/profile/pressbox/media_contacts.jhtml

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