

Platte River Power Authority Chooses 3M ACCR To Boost Capacity on Key Line Serving Northern Colorado

Utility Is Latest to Deploy Heat-Sag-Resistant 3M Aluminum Conductor Composite Reinforced to Help Avoid Transmission Bottlenecks

The commercial use of 3M's revolutionary heat-sag-resistant overhead conductor, which can carry more than twice the power of conventional lines of the same diameter, continues to grow.

Platte River Power Authority, owned by and serving four Colorado communities north of Denver, said it will install the 3M Aluminum Conductor Composite Reinforced (ACCR) as a replacement conductor on a key three-mile segment of a line that links Fort Collins and Loveland, to ensure adequate transmission capacity during summer peak demand hours. Installation is scheduled for May.

Platte River's 3M ACCR segment will be installed in Fort Collins on a line extending from the Timberline Substation southward along the Union Pacific railroad right-of-way to the Harmony Substation, according to Mike Dahl, division manager, Electric Operations at Platte River. "This is an important part of the grid between Denver and Cheyenne, and adding 3M ACCR is a way to safeguard against overloading when demand is high," said Dahl.

"We're very pleased that a growing roster of utilities large and small are recognizing 3M ACCR as a proven and ready solution to heat-sag problems that limit the capacity of conventional transmission lines, often causing constraints and bottlenecks," said Tim Koenig, director of the 3M Composite Conductor Program. "The reliability of this breakthrough conductor has been well-established in more than six years of use, in field tests and commercial applications, under every type of harsh environmental condition."

"Moreover, 3M has invested in state-of-the-art manufacturing infrastructure to stand ready as the need for new solutions to meet the demands of the power grid continues to grow," Koenig added.

In recent months, Arizona Public Service installed a 10-mile 3M ACCR line in Phoenix to eliminate a potential bottleneck; and Aha Macav Power Service, owned and operated by the Fort Mojave tribe, announced plans to install a 3M ACCR segment that will expand its service capacity in portions of California, Arizona and Nevada. The Aha Macav line will link up with Western Area Power Authority's Topac-Davis-Lake Mead line along the Colorado River, which is being upgraded with 3M ACCR conductor.

The 3M ACCR was developed with the support of the U.S. Department of Energy, which tested the conductor at its Oak Ridge National Laboratory (ORNL) in Tennessee, and with early contributions by the Defense Advanced Research Projects Agency. The ORNL tests demonstrated the conductor's integrity after exposure to temperatures even higher than the rated continuous operating temperature of 210 degrees Celsius, which provides a significant safety factor. Since 3M ACCR is based on aluminum, it is not adversely affected by environmental conditions, such as moisture or UV exposure, and it has the durability typically associated with aluminum-based conductors.

3M ACCR's strength and durability result from its aluminum oxide (alumina) fibers, which are embedded in the high-purity 3M aluminum matrix core wires, utilizing a highly specialized and patented process. The constituent materials are chemically compatible with each other and can withstand high temperatures without adverse chemical reactions or any appreciable loss in strength.

3M holds 14 patents on this new technology. 3M ACCR 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. In addition, 3M ACCR was one of the technologies that President George W. Bush viewed during a recent visit to 3M. The *Business Week* – Boston Consulting Group 2006 survey ranked 3M as the third most innovative company, behind Apple and Google.

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

About Platte River Power Authority

Platte River Power Authority generates and provides reliable, low-cost and environmentally responsible electricity to its owner communities of Estes Park, Fort Collins, Longmont and Loveland, Colo., for delivery to their utility customers. Platte River's facilities are located along the Front Range and northwestern Colorado in addition to near Medicine Bow, Wyo. For more information about Platte River, visit www.prpa.org.

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3M Public Relations Colleen Horn Harris, 651-733-1566 <http://www.3m.com/PressContact> LVM Group Inc. Bob Ruman, 212-499-6567 bob@lvmgroup.com James T. Kimer, 212-499-6571 james@lvmgroup.com Platte River Power Authority Rae Todd, 970-229-5255 cell: 970-217-1043 toddr@prpa.org

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