ALUMINUM-ALKALINE METAL-METAL COMPOSITE CONDUCTOR

CRITICAL NEED

We have all seen or heard about them – sagging or downed high-voltage power lines caused by ice and wind storms. In addition to their mediocre strength, the aluminum-wrapped steel core in conventional power lines is also inefficient at conducting electricity.

TECHNOLOGY VISION

Ames Laboratory scientists have developed a method to produce an aluminum matrix wire composite with reduced density that adds strength to high-voltage wires while helping them retain maximum electrical conductivity at ambient and elevated temperatures.

POTENTIAL IMACT

Taking advantage of simple and conventional manufacturing methods, industry could produce high-voltage power lines with high electrical conductivity and strength using low cost materials. Stronger cables could also reduce the number of towers needed to hold power lines.

CMI Critical Materials Institute
AN ENERGY INNOVATION HUB

AMES LABORATORY
Creating Materials & Energy Solutions
U.S. DEPARTMENT OF ENERGY

Iver Anderson
Ames Laboratory scientist

For more information please contact:

Innovation Partnerships Program
ipp@ameslab.gov

ALUMINUM-ALKALINE METAL-METAL COMPOSITE CONDUCTOR

CRITICAL NEED

We have all seen or heard about them – sagging or downed high-voltage power lines caused by ice and wind storms. In addition to their mediocre strength, the aluminum-wrapped steel core in conventional power lines is also inefficient at conducting electricity.

TECHNOLOGY VISION

Ames Laboratory scientists have developed a method to produce an aluminum matrix wire composite with reduced density that adds strength to high-voltage wires while helping them retain maximum electrical conductivity at ambient and elevated temperatures.

POTENTIAL IMACT

Taking advantage of simple and conventional manufacturing methods, industry could produce high-voltage power lines with high electrical conductivity and strength using low cost materials. Stronger cables could also reduce the number of towers needed to hold power lines.

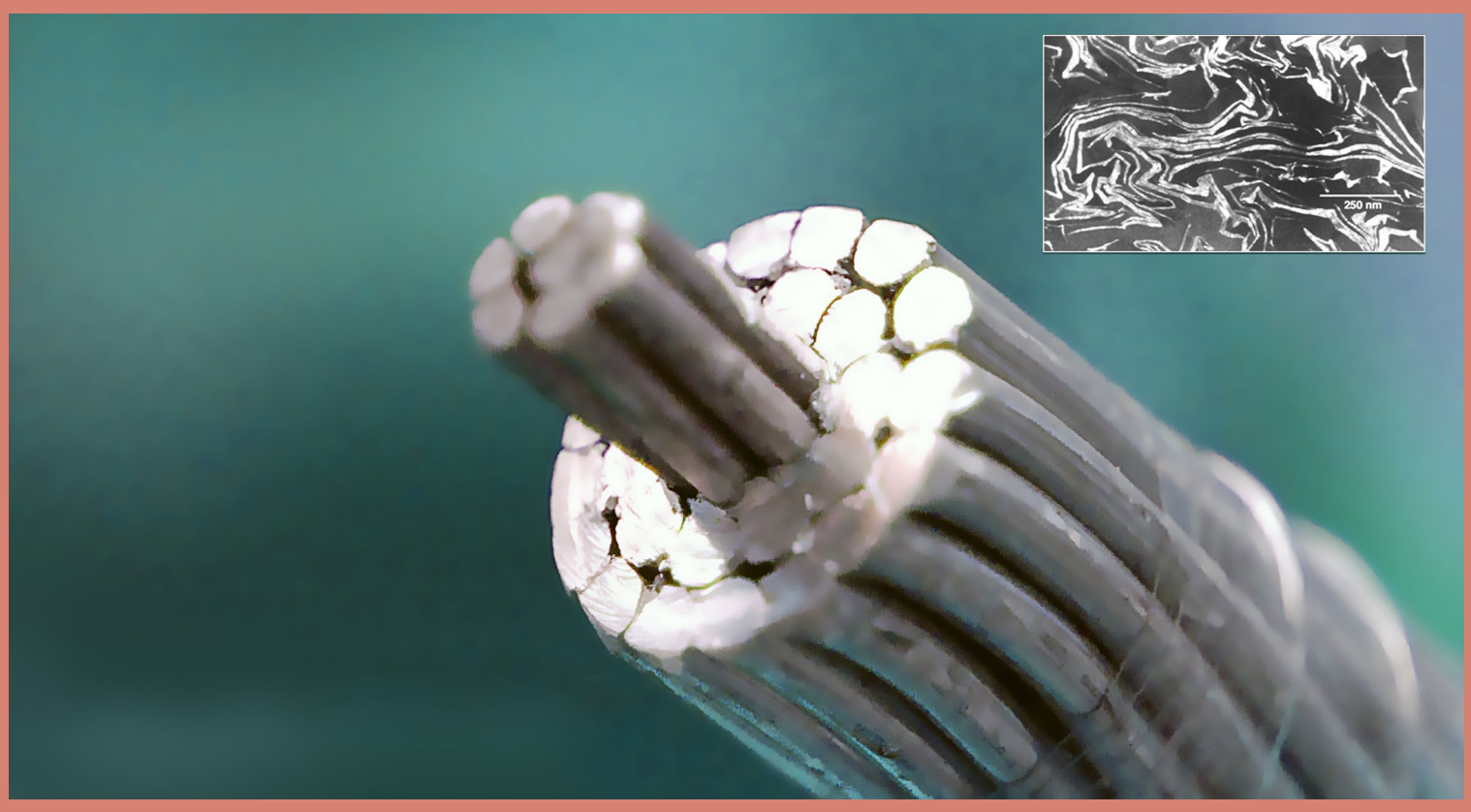
CMI Critical Materials Institute
AN ENERGY INNOVATION HUB

AMES LABORATORY
Creating Materials & Energy Solutions
U.S. DEPARTMENT OF ENERGY

Iver Anderson
Ames Laboratory scientist

For more information please contact:

Innovation Partnerships Program
ipp@ameslab.gov



ALUMINUM-ALKALINE METAL-METAL COMPOSITE CONDUCTOR

ALUMINUM-ALKALINE METAL-METAL COMPOSITE CONDUCTOR