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NETL NEWS

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NETL Researcher Honored with 2013 Federal Laboratory Consortium Award

Albany, Ore. — Dr. Paul King of the National Energy Technology Laboratory (NETL) has been awarded a Far West region Federal Laboratory Consortium (FLC) award for Outstanding Technology Development for his work on [*Arc Position Sensing Technology*](#).

Vacuum arc remelting (VAR) is the primary method for melting and refining specialty metals for aerospace and other advanced applications, but defects in the ingots produced can cause catastrophic failure in their end use. Previously, deleterious operating conditions could not be identified during furnace operations, so ingot manufacturers had to perform extensive and costly testing on all ingots after they were melted and withdrawn from the furnace.

NETL's arc position sensing (APS) technology allows operators to digitally monitor arc location during melting, identifying deleterious operating conditions quickly and avoiding known conditions that may lead to defect formation. Viewing electric arcs with APS provides quality control critical for safety and reduction of defects and also could lead to the production of materials with stronger chemical and mechanical homogeneity. This technology helps increase yield in the specialty metals and alloys used in aerospace, chemical, energy, food processing, marine, medical, military, and other industries.

The FLC—a nationwide network of federal laboratories—selected three NETL technologies to receive regional awards for excellence in technology development or transfer. These yearly awards, presented by several regional divisions of the FLC, support the efforts of its members and potential partners to transfer their technologies to the marketplace as assets to the national economy and benefits to society.

Dr. King is NETL's business development manager. He grew up in Seattle, Wash. He earned a B.S. in applied mathematics from Western Washington University (Bellingham,

Wash.) and an M.S. in applied mathematics and a Ph.D. in structural engineering from Oregon State University (Corvallis, Ore.). Dr. King lives in Albany, Ore.

NETL is a U.S. Department of Energy national laboratory that produces technological solutions to America's energy challenges. For more than 100 years, the laboratory has focused on developing tools and processes to provide clean, reliable, and affordable energy to the American people. Three NETL research sites—Albany, Ore., Morgantown, W. Va., and Pittsburgh, Pa.—conduct a broad range of energy and environmental research and development activities that support DOE's mission to advance the national, economic, and energy security of the United States.

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