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## PRESS RELEASE

### AREVA Awarded Three Patents for Nuclear Energy Innovations

**CHARLOTTE, N.C., March 23, 2017** – AREVA NP recently received three patent awards for employee-developed innovations that solve unique problems faced by the nuclear energy industry. The patents address invention in the fuel operation as well as anticorrosion and maintenance tooling fields.

“Success in a technical industry like ours is grounded in a culture of innovation and creativity,” said Marty Parece, Chief Technology Officer at AREVA Inc. “AREVA NP’s reputation for solving unique customer problems can be attributed to our employees. We are proud to have people who are creative problem solvers always looking for new ways to help our customers and the industry achieve operational excellence.”

The first innovation helps improve the safety of fuel operation. Patent No. 9,478,319 describes a new method to evaluate the effect of platinum deposits that accumulate on boiling water reactor (BWR) fuel pins. This technique was in development for six years by John Riddle, technical consultant for AREVA NP, Dr. Mike G. Pop, a retired materials and chemistry expert with AREVA, and Carola Gregorich with the Electric Power Research Institute (EPRI). The team’s innovative method exceeds current EPRI fuel risk assessment requirements.

The second innovation mitigates primary water stress corrosion cracking (PWSCC) in a pressurized water reactor (PWR), reducing plant costs and minimizing risks to nuclear fuel residing in the reactor’s core. Patent No. 9,280,688 describes a method that applies low concentrations of zinc to reactor coolant to mitigate PWSCC. This innovation also includes a technique for evaluating and predicting the treatment’s effectiveness. It was awarded to Steve Fyfitch, a technical consultant and fellow in the AREVA NP materials group, and Brian Lockamon, principal engineer at AREVA NP’s Installed Base Business Unit in the United States.

The third innovation enhances an existing tool for safe operation in a BWR. It improves a tool used to properly position parts inside a nuclear core. Both the original tool’s patent and the improvement are credited to former AREVA NP engineer Jason Cocke. He developed an enhancement to the BWR reactor core shroud head bolt retainer tool. The current patent award, Patent No. 9,393,680, is for technical improvements to this existing tool.

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#### MORE ABOUT AREVA

AREVA in North America (AREVA Inc.) combines U.S. and Canadian leadership to supply high added-value products and services to support the operation of the commercial nuclear fleet. Globally, AREVA is present throughout the entire nuclear cycle, from uranium mining to used fuel recycling, including nuclear reactor design and operating services. AREVA is recognized by utilities around the world for its expertise, its skills in cutting-edge technologies and its dedication to the highest level of safety. AREVA Inc.’s employees are helping build tomorrow’s energy model: supplying ever safer, cleaner and more economical energy to the greatest number of people. Visit us at <http://us.areva.com> or follow us on [Twitter: @AREVAus](https://twitter.com/AREVAus).

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AREVA NP continually invests in its culture of innovation, actively supporting its project teams' development of innovative and cost-efficient solutions to enhance its utility customers' nuclear energy operations. To date, AREVA NP has been awarded more than 260 patents, which are credited to more than 400 AREVA inventors in the United States.



*Wanda Wade, administrative assistant, (on left) and Marty Parece (on right) presented 2016 patent awards to (left to right) Dr. Mike Pop, John Riddle and Brian Lockamon, at a December luncheon held in their honor. (Not pictured: Carola Gregorich, Steve Fyfitch and Jason Cocke)*

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