

System Re-Engineering for Instrumentation and Control



For Instrumentation and Control systems upgrades, AREVA can work with you to determine an optimum solution to meet your needs. With global systems experience and plant knowledge, AREVA provides re-engineering of safety and non-safety analog and digital systems to address obsolescence and maintain safety and reliability.

Major Instrumentation & Control Upgrades

For large Instrumentation and Control systems, operators may choose the path to re-engineer analog systems due to cost or regulatory uncertainty, including how the regulator defines digital and re-engineering in terms of common cause failure, cyber security and defense in depth.

Designed to replace obsolete components, re-engineered systems require specialized expertise to integrate digital and analog components. In some cases, re-engineering the analog system is necessary to meet the facility's unique requirements.

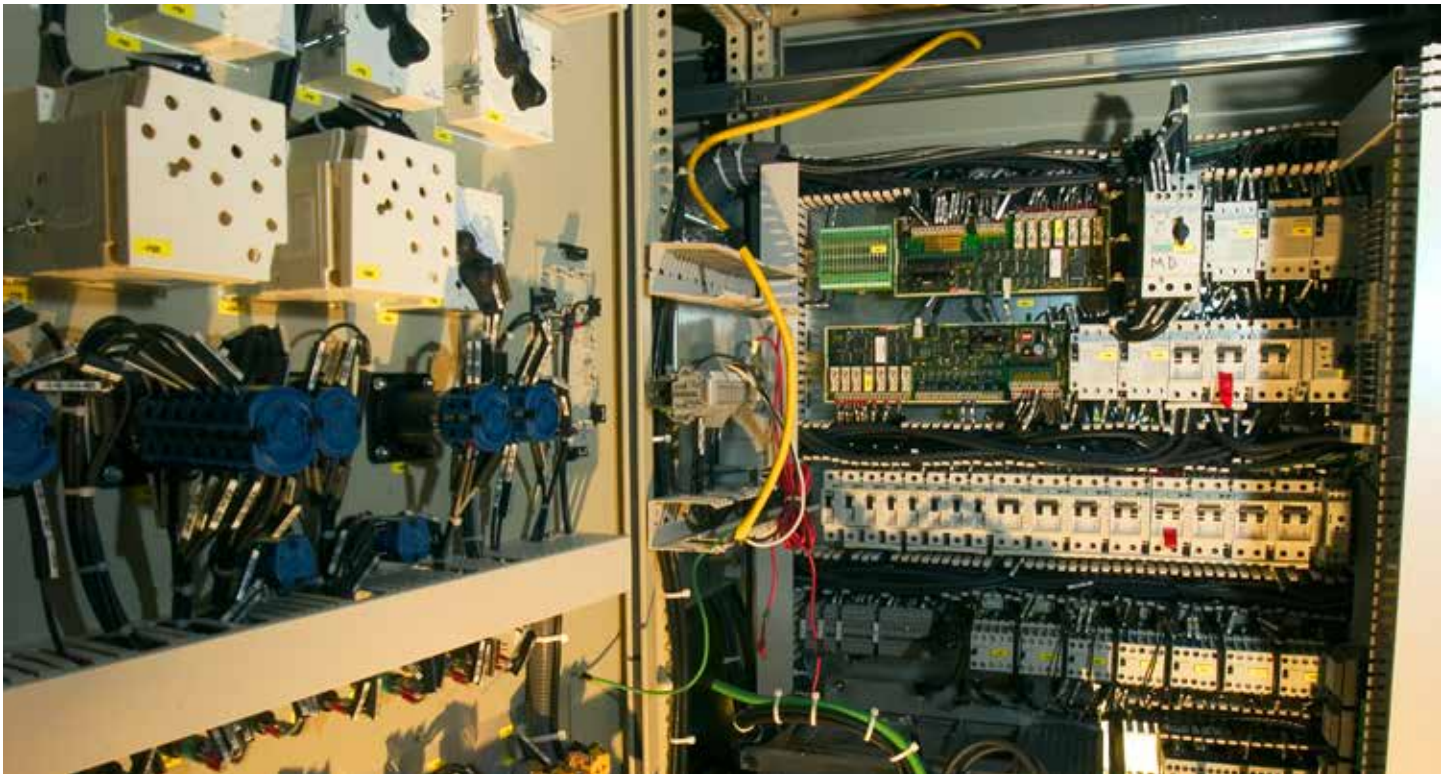
Small Safety and Non-Safety Instrumentation & Control

For obsolete small safety and non-safety related I&C systems, AREVA is a leader in re-engineering systems to meet site-specific needs for a design that delivers the same capabilities. Our approach offers system enhancements where desired to increase performance and reliability to extend plant life and reduce operating costs.

AREVA recently re-engineered an off-gas system control for a U.S. nuclear power facility. The off-gas system is designed to remove hydrogen and other gases from the primary reactor coolant system, which transfers heat from the reactor to the turbine. Along with integrating digital and analog control components based on the facility's unique requirements, the new re-engineered system was customized to improve the way operators interpret and manipulate the controls for improved safety performance.

Features and Benefits

- Leverage our plant design, re-engineering expertise and operation experience to define optimum solution
- Our solutions are aligned with your goals for safe, cost-effective operation
 - System designs reduce need for technical expertise
 - Systems include streamlined maintenance and periodic testing requirements
 - AREVA team approach allows for desired system functionality and effective development efforts to be identified early in design phase
- Solutions mitigate risk of loss-generation time and can provide features such as:
 - Triple redundant logic features for fault tolerance
 - Built in test features
 - HMI based local or remote displays for system status and diagnostics
 - No Single-Point Vulnerabilities (SPVs) or common-mode failures
 - Simple modular construction with short Mean Time To Repair (MTTR)
- Systems are built and supported in Lynchburg, Va.
- Long-term system support
 - Key components have product lifecycles that reach well into the future
 - Nuclear Parts Center in Lynchburg, Va. offers spare storage solutions for the life of the plant



As a total obsolescence provider, AREVA offers a complete solution:

- I&C experts prepared to evaluate and identify solutions
- Long-term support with spare parts through our Nuclear Parts Center
- Item equivalency through our Integrated Procurement Solutions, including commercial grade dedication at AREVA's Technical Center in Lynchburg, Va.
- Re-engineering if a design change is preferred to improve system performance and reliability
- Reverse engineering including safety-related cards and analog platforms
- AREVA's engineering arm to assist with design change packages

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AREVA will work with you, leveraging our plant design and operation experience, to define the optimum solution to lower your risk so you can continue to operate safely and cost-effectively.

Our Mission:

To provide the best engineering resources to deliver safe, world-class project performance, total cost certainty, and a partner committed to excellence in engineering projects. We strive for operational excellence by focusing on safety, quality, performance and delivery of innovative products and reliable solutions to meet your needs.

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