

# Digital Protection and Security Solutions

Did you know...AREVA provides a diverse portfolio of digital, cyber and physical solutions that help utility teams meet regulatory requirements while saving money? And we understand that the real success is in an ongoing relationship – one where we work together to make the right decisions for your plant and Deliver the Nuclear Promise.

## Critical Digital Asset (CDA) Assessments

AREVA can provide turnkey or supplemental support for critical digital asset assessments, cyber security engineering modifications and Cyber Security Plan (CSP) implementation and ongoing maintenance, Milestone 8 readiness, and cyber incident response. You can benefit from the deployment of team members within our engineering organizations, which have a proven track record for cyber security engineering and bring to bear all the lessons learned and best practices from previous engagements.

## NRC Milestone 8 Readiness Assessments

AREVA employs its expertise and industry cyber experience to determine if site implementations will fully meet NRC regulation by the required implementation date. Our team quickly evaluates site and corporate approaches and progress. Approaches are validated against NRC requirements and industry standards and progress is assessed for the highest risk areas to determine whether the team is on track for completion by the deadline. The readiness assessment is completed early and AREVA works with the site team to determine actions for closing gaps and/or reducing scope to save money, where appropriate. AREVA also performs pre-NRC inspections of completed implementations, identifying remaining gaps with a focus on reviewing CDA alternate control justification.

## Critical Digital Asset Assessments

AREVA couples engineering expertise with a pragmatic approach to assess your critical digital assets and mitigate security gaps. Additionally, as part of a Milestone 8 readiness assessment or required periodic program maintenance, AREVA can verify the ongoing validity of your approach and recommend changes where needed.

## Plant Modifications

AREVA's expert engineers leverage our robust engineering and design processes to execute plant modifications. You can be confident that the AREVA team is capitalizing on our extensive knowledge and lessons learned from similar work scopes across the United States and abroad. AREVA is renowned for optimizing digital modifications to improve performance, generate efficiencies and Deliver the Nuclear Promise. AREVA achieves engineering excellence by focusing on safety, quality, performance, and delivery.



## Regulatory Affairs Support

AREVA can provide industry-recognized regulatory affairs support to ensure the successful outcome of NRC cyber security interactions and inspections. AREVA's offering includes:

- Periodic regulatory assessment of CSP implementation efforts using a defined regulatory and inspection support model.
- Proactively entering identified gaps into the CAP prior to NRC inspection.
- Communication training for utility staff prior to NRC inspection to improve communications with inspectors.
- NRC inspection support, either as a primary interface or in a supporting role to ensure that the CSP is well represented.
- Developing response, remediation, and recovery plans for NRC inspection findings.
- A diverse project team whose members bring a wide range of experience including digital plant modifications, design engineering, security, information technology, and regulatory affairs.

## Verification and Validation (V&V)

Verification and Validation (V&V), a technical discipline of systems engineering, provides an objective assessment of the products developed during the system development lifecycle process. Digital instrumentation and controls (I&C) equipment requires additional design and qualification approaches above and beyond analog control systems. To obtain high confidence in digital software quality, rigorous V&V processes are established based on guidance provided by NRC requirements.

AREVA's full scale V&V fulfills the requirements of Appendix B to NRC Regulations, 10 CFR Part 50 and IEEE Std 1012-2004 as endorsed by NRC Regulatory Guide 1.168 revision 2 (2013). AREVA's independent Verification and Validation (V&V) department provides the V&V qualification activities for AREVA's TELEPERM® XS, third party vendors' equipment, provides independent assessments of software development programs (i.e., V&V, software quality assurance (SQA), software safety, software configuration management, cyber security) for third party vendors or nuclear utilities.

The services provided by AREVA's V&V department includes software V&V for analysis, program evaluation, independent reviews, audits and inspections, quality assessments, validation (testing) of software products, and the overall digital I&C equipment testing (software and hardware integration testing, and factory acceptance testing, and site commissioning and startup testing).

## Physical Security

AREVA has the expertise and experience across the U.S. nuclear fleet to help your team evaluate and mitigate your physical security risks. We can help assess and recommend changes and improvements that meet requirements while saving you money to help Deliver the Nuclear Promise. AREVA's team can help you in areas such as:

- Security assessment
- Insider mitigation program
- Blast analysis (design basis explosives)
- Vehicle barrier system evaluation and design
- Commercial aircraft impact analysis (physical damage and mitigation systems)
- Intrusion detection system evaluation and design
- Security lighting system evaluation and design
- Security computer system evaluation and design
- CCTV system evaluation and design
- Security power system evaluation and design

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- Adversary pathway analysis
- Adversary timeline analysis
- Delay feature evaluation and design
- Access control system evaluation and design
- Defensive plan effectiveness evaluation
- Security response computer modeling
- Security manpower evaluation and planning
- Ballistic shielding evaluation and design
- Target set generation and/or review
- Security communication systems review and upgrades

## AREVA's Unique Offering

We combine a unique blend of engineering expertise with equipment and system knowledge, rigorous project management experience and regulatory expertise — all driven to reduce risk while saving time and money. The combination of nuclear steam supply system, OEM engineering and field service capabilities with secondary-side expertise allows AREVA to deliver a total-plant perspective.

With customer-focused innovation, AREVA can deploy the technology and resources to lower your total cost and improve your facility's performance. We pledge uncompromising support for the long haul as you realize your vision for highly reliable, high quality and safe energy operations.

AREVA is a proven cyber engineering and physical security partner — bringing a holistic engineering perspective to ensure cost-effective protection and regulatory compliance. We offer:

**The Expertise You Require:** The AREVA team comprises industry-recognized experts in nuclear plant engineering, security (cyber/physical), SQA, V&V, and regulatory affairs.

**A Pragmatic and Cost-Effective Approach:** Our diverse capabilities enable us to take a holistic approach to cyber security plan implementation, ensuring that you can fully leverage existing plant protections and integrate only those necessary while minimizing disruptions to plant operations.

**A Single Point of Accountability:** AREVA delivers a comprehensive suite of proven digital and security solutions focused on minimizing total cost of ownership — Delivering the Nuclear Promise.

**A Proven Team Member:** The AREVA team provides digital solutions, cyber security and physical security support across the U.S. and international nuclear fleet. We have earned a reputation for operational excellence. We bring to bear all the lessons-learned and best practices developed over time to each new engagement.

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