How a major utility enhanced operational excellence by standardizing nuclear applications and processes across an entire fleet

Nuclear industry customer success story
The client

The customer is a major North American utility with substantial nuclear generation capabilities, operating across four US states and serving nearly three million customers.

The challenge

Nuclear generation companies are faced with difficult realities: decreased budgets, aging workforce, higher demands, intense competition, increased pressures from regulators and aging plants. As a major nuclear generation organization, this customer needed to enhance its business performance by lowering production costs while still ensuring consistent and safe operation of its fleet. The nuclear fleet was committed to delivering a plentiful supply of dependable electricity, within a culture of safety and outstanding customer service, while maintaining fiscal responsibility.

Recognizing the need to integrate its enterprise asset management (EAM) with plant operations and maintenance applications used across the fleet, the customer sought to partner with a trusted advisor that had deep mission-critical industry expertise, a proven nuclear generation software portfolio, and a legacy of safety.

The solution

This customer required a flexible, extensible, integrated software solution and technical infrastructure that takes advantage of current technologies, as well as the scalability and robustness to address the needs of 10,000+ users. After careful consideration, the customer selected the ABB Ability™ Asset Suite portfolio, a unified solution that includes EAM, shift operations management (eSOMS), and equipment reliability (ER) management. Asset Suite is a key tool to optimize critical business processes, provide a model for continuous improvement across its nuclear fleets, and ensure safety for its workers and the environment.

Steeped in decades of experience in managing nuclear plants around the world, the Asset Suite solution included functionality to support:

- Work and asset management
- Equipment reliability
- Operator logs and rounds
- Clearances
- Supply chain
- Long-term asset planning
- Plant health analysis

The results

As a result of implementing Asset Suite, the customer has standardized work management practices across its fleet and greatly reduced the number of applications being supported for nuclear operations. Not only does the Asset Suite portfolio span the breadth of processes that were previously handled by many separate applications, it also provides inherent integration – lowering the utility’s IT costs and boosting business results.

The Asset Suite solution drives best practices in “big ticket” areas such as an integrated work order package preparation and supply chain. By improving work package preparation in terms of quality and speed, the utility was able to hit its cost targets.
reduction targets, while being responsive to maintenance needs and mitigating delays and errors. With a special focus on supply chain processes – especially those relating to purchase requisition approval, award and purchase order transmission – the customer reduced inventory and streamlined spending, by increasing the level of automation in the supply chain for consumables and q-level 3 and 4 materials.

With this integrated approach to system design, the customer is set up to realize additional benefits such as process efficiency, effectiveness, and integration gains that can be recognized through a review and optimization of business processes. Examples of this are PdM/PM processes, action tracking consolidation and document verification for use.

By concentrating on establishing best business practice models with a focus on continuous improvement, the customer was able to:

• Support equipment reliability improvement initiatives by managing and optimizing maintenance activities and supporting robust implementation of work week and outage planning activities
• Improve configuration management by streamlining the design, approval and engineering change processes
• Optimize work management by ensuring a balance between the critical work required to optimize plant performance, and available resources consistent with plant operating status
• Enable effective business planning by incorporating all of the key decision criteria for planning work in its plants and allowing for a multi-year outage planning horizon that can easily change to accommodate its changing needs and priorities
• Enable an integrated, process-centric, intuitive user experience across the nuclear business process while ensuring regulatory compliance
• Support corrective action by enabling workflows integrated with the work and task assignment process to support its safety-conscious work environment – identifying and correcting potential problems, along with maintaining the associated documentation and audit trail
• Ensure a safety culture for its workers and the environment

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Why ABB

ABB serves as a strategic partner to the nuclear industry with performance-based asset management strategies that have been in place for decades. ABB specializes in nuclear software and has the largest customer base in the world: Over 98% of all nuclear power plants in North America and over 50% worldwide run ABB software. In fact, ABB Ability Asset Suite was crowned the 2018 winner of the World Nuclear Exhibition’s Operational Excellence Award in the “large companies” category.

ABB provides complete and total support for the strategic goals of nuclear operators, including:

• Safety
• Operational excellence
• Long-term asset management
• Proud and professional workforce
• Cost-effective operations
• Regulatory and stakeholder confidence

ABB continues to invest in and evolve its portfolio to drive value in nuclear power generation.

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“Our mission in nuclear generation is to produce electricity safely, reliably and cost-efficiently while protecting public health and safety. Providing a common foundation of business processes for over 10,000 users – based on ABB’s time-tested solution set – is helping ensure that we achieve this mission.”

– Senior executive, major North American utility