ABB Ability™ Asset Suite ER
Performance optimisation for power generation.
Reliability-centred maintenance to extend the life of critical equipment

Industry challenges
The rapidly falling cost of wind and solar energy in recent years is disrupting business models of established utilities, and threatening the economics of nuclear and conventional power generation. Without new capital investments or governmental policy to support replacement of aging infrastructure, older fleets are increasingly being operated beyond their rated working life.

In this operating environment, effective inspection and maintenance practices are essential to manage aging assets, detect potential problems before they occur, and ensure that plants can still be operated safely well beyond their original design life.

The solution
Asset Suite ER (Equipment Reliability) helps you leverage the increasing availability of real-time sensing and monitoring data to increase operational intelligence and optimise predictive maintenance programs. Asset Suite ER was specifically designed to complement enterprise asset management (EAM) systems in support of Institute of Nuclear Power Operations’ (INPO) AP-913 equipment reliability engineering processes. In combination with maintenance and enterprise data, Asset Suite ER can proactively predict, prioritise and prescribe actions to mitigate potential risks, increasing uptime, safety and total return on capital investments.

Benefits
• Improve plant and equipment reliability by integrating the right data at the right time
• Standardise performance engineering processes along industry best practices, across the enterprise
• Improve communication and sharing within the organisation
• Capture engineering knowledge for seamless personnel transitions
• Facilitate efficient process changes that satisfy both IT and business process requirements
Core capabilities

Asset Suite ER’s seven adaptive modules each address specific equipment reliability process elements. Together, they complement the enterprise asset management system to provide a seamless equipment reliability platform.

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<th>Module</th>
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| IQReview   | Facilitates preventive maintenance optimisation with asset classification, maintenance templates and integrated basis optimisation workflows  
• Pre-load maintenance templates based on standards from Electric Power Research Institute (EPRI), Nuclear Energy Institute (NEI) and other standards organisations  
• Bulk evaluation and classification of components based on criticality, duty cycle and operating environment  
• Central management of preventative maintenance change requests (PMCR) including tracking, routing, approvals and implementation                                                                                                               |
| SystemIQ   | Automates system health reporting and improves accountability for system health improvement plans  
• Automated data aggregation – system engineers can review and approve data automatically gathered from multiple sources instead of manually collecting and compiling them  
• Wider availability of system data with standardised and consistent integration points for data queries  
• Increase visibility and awareness of system health and related process statuses with increased reporting frequency                                                                                                      |
| ProgramIQ  | Automates engineering program and component health reporting  
• Automated data aggregation – program engineers can review and approve data automatically gathered from multiple sources instead of manually collecting and compiling them  
• Create a self-service environment for data queries with standardised and consistent integration points  
• Increase visibility and awareness of program health and related process statuses with increased reporting frequency                                                                                                                         |
| PlantIQ    | Collects, stores, and reports the critical information that drives a condition-based maintenance program  
• All predictive maintenance results are consolidated in a single application, eliminating the need to use multiple applications to get a full picture of equipment health  
• Automatically query multiple maintenance databases to import test results, eliminating manual data entry  
• Increase data accessibility with easy enterprise-wide deployment and user friendly interface  
• Personalise information displayed and configure alerts received by each user so that real-time, critical information is not overlooked  
• Integration with maintenance, operations, engineering, work control, etc. programs so corrective actions can be routed to the right people                                                                                           |
| LTA Manager| Facilitates the process of capturing long-term asset (LTA) management issues, review and decision making by the plant health committee, and budgeting and reporting at a site and enterprise level  
• Personalise information displayed, allowing users to focus on issues and actions in their area of responsibility  
• Automate data aggregation and report generation for long-range planning meetings  
• Centralised database maintains a ‘single source of truth’ and prevents duplicate entries                                                                                                                                            |
| MRule Manager| Facilitates the management and implementation of various legal requirements and guidelines in the nuclear industry  
• Supports Nuclear Regulatory Commission’s (NRC) Maintenance Rule Program and 10 CFR 50.65  
• Supports Nuclear Energy Institute’s (NEI) NUMARC 93-01 Rev 4  
• Supports Mitigating Systems Performance Index (MSPI) & National Fire Protection Association (NFPA) 805 scoping, event evaluation, performance monitoring, (a)(1) evaluation & tracking, (a)(2) assessment  
• Consolidate records for review and scoping processes, eliminating file management and data synchronisation issues  
• Self-service environment improves the visibility and accessibility of maintenance rule data and reports  
• Automatic screening of corrective records to identify maintenance rule functional failure (MRFF) and provide immediate notifications  
• Automatic screening of operator logs to track unavailability-related events                                                                                                                                                    |
| ER Dashboard| Provides a single interface for measuring ER program performance by integrating information across connected enterprise sites  
• Displays key performance indicators for each major ER area including asset classification, preventative maintenance template management, component health, system health and life cycle management  
• User-configurable gadgets and dashboards allows each user to track information that is most useful to them  
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