



**PROJECT PROFILE:
NUCLEAR**



RIAM Aids Testing, Maintenance in Feedwater System

Integrity Management

Situation

When the STP Nuclear Operating Company (STP) made the decision to implement a preventive maintenance optimization cost-benefit-risk decision analysis for its feedwater system, specialists from ABS Consulting suggested applying risk-informed asset management (RIAM) to assist in the analysis.

Approach

Over the past several years, engineers from STP and ABS Consulting have worked closely to develop a process and associated software for RIAM of nuclear power plant facilities. RIAM is a probabilistic cash flow or value stream model for a target facility or fleet of facilities that applies risk assessment tools and techniques to physical and financial asset management. The process applies a tiered set of models and supporting performance measures to support decisions affecting the allocation and management of plant resources.

Result

The feedwater system portion of the client balance-of-plant availability model was expanded to feedwater component failure modes at the plant tag number level. RIAM helped identify ranked critical items lists of feedwater system equipment, following an updated Electric Research Institute preventive maintenance model approach. Relational database methods were applied to FMEA and to link preventive maintenance activities to component failure modes. Results helped address system testing and preventive and corrective maintenance.

Benefits

To date, RIAM has been applied using projected long-term profitability and predicted net present value as the key overriding or guiding performance indicators, with nuclear safety used as decision constraint performance metrics. The client expanded the preventive maintenance optimization approach throughout its balance-of-plant availability systems.