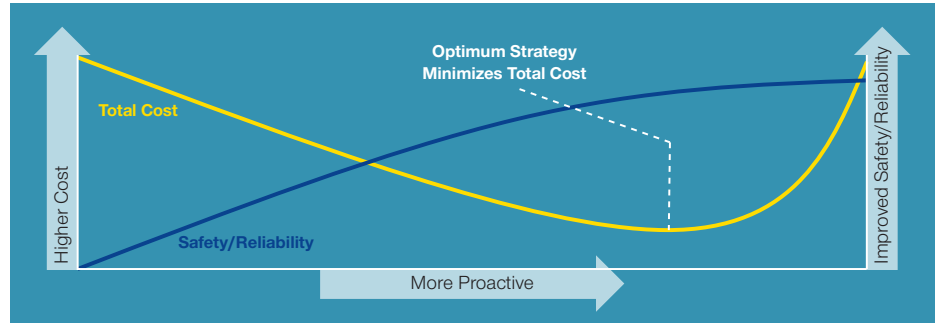


MAESTRO — Life Cycle Management



Proven Tools for Steam Generator Maintenance

AREVA is working with customers to manage steam generator (SG) secondary side deposit inventory. MAESTRO is our integrated software tool designed to guide the engineering approach. Combined with deposit mapping analysis to determine the deposition trend or to provide advance information for future maintenance planning, these tools are powerful allies for implementing highly effective SG life cycle management strategies.

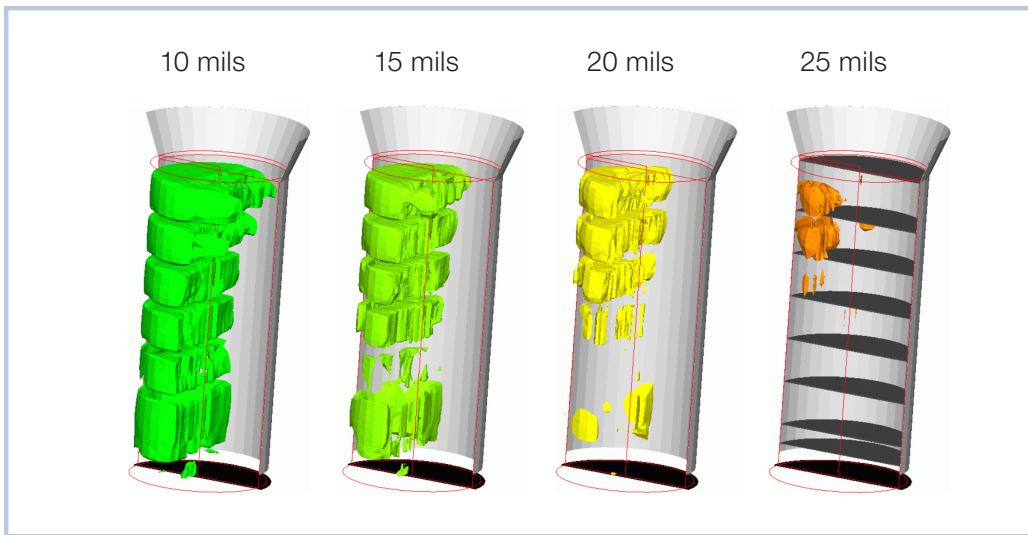
Comprehensive Strategies to Enhance Life Cycle Management

Each SG life cycle management strategy is a selected combination of mitigation techniques, which will uniquely affect SG tube deposit evolution and in turn, may affect SG tube plugging, heat transfer effectiveness, SG pressure, and ultimately, plant power production. The MAESTRO software evaluates competing strategies individually, as well as relative to a base case, to quickly identify an optimum strategy in terms of net present value.

Deposit mapping is a non-invasive technique for imaging the deposit accumulation within a steam generator using bobbin coil examination eddy current data. The initial deposit mapping work covered only the accumulation on the tubing free span between the SG tube support plates. In 2008, our expert teams expanded the analysis to include blockage evaluation of deposition within broached tube support plate structures, an important service to maximize safety.

Features and Benefits

- Provides optimum maintenance strategies for component life
- Uses plant thermal performance data, tube degradation, and other plant data
- Incorporates typical SG maintenance and remediation strategies
- Provides an economic output using a Net Present Value approach
- Identifies the correct time to perform various activities at the least cost and maximum economic benefit
- Provides ability to quantify steam generator loading with mapping data



Deposit Mapping

- Secondary side deposit mapping is an MRI for steam generators
- The only method of tracking and trending the distribution of SG deposits throughout the tube bundle
- Provides critical information for effective SG condition management
- A vital tool in the MAESTRO toolbox

Other MAESTRO Tools

- Tube support flow blockage monitoring
- Free span deposit accumulation over time
- Modeled steam pressure
- Current Net Present Value relative to alternative case

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