framatome

Steam Generator Automated ET Data Analysis System

AIDA Integrated Data Analysis Platform

AIDA is capable of fully automatic as well as manual analysis of bobbin, rotating and array probe eddy current (ET) data. It provides automated reports and unambiguous results, reducing time and personnel required.

Challenge

Steam Generator (SG) tube inspection at nuclear sites requires comprehensive data analysis for many attributes that include: flaw detection, noise monitoring, identification of manufacturing anomalies, changes and degradation of internal components which support the tube bundle, and deposit mapping. To accomplish inspections with confidence, a structured approach and an experienced application of qualified algorithms is required.

Solution

Developed by the global resources of Framatome, the AIDA auto analysis system is the synergy of three independent tools. AIDA is a proven solution for the toughest challenges and can be used in any configuration of dual and single pass analysis. AIDA is fully qualified through the EPRI AAPDD with multiple independent and documented algorithms for bobbin (four different methods), array (two different methods), rotating (two different methods) and most recently history data compare.

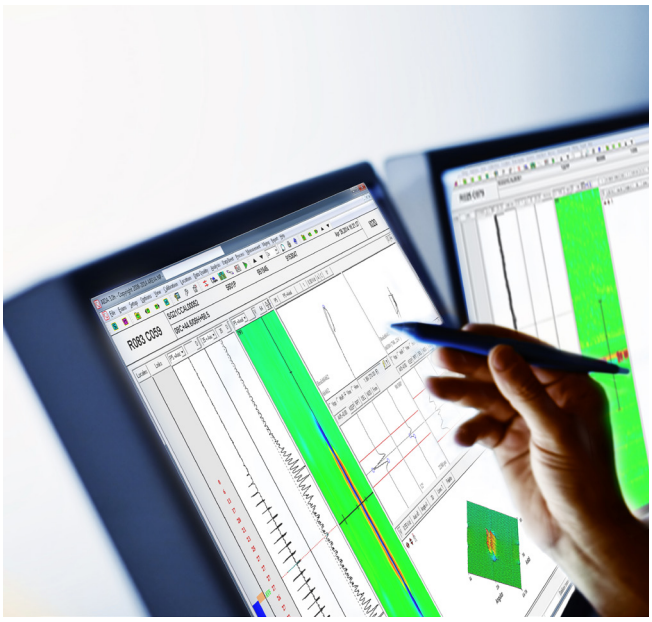
Proven results 150 times over
AIDA has been deployed more than 150 times at more than 57 nuclear units in the past 19 years. Its high probability of detection (POD) and low false-call rate performance is significantly above industry requirements, standards and practices. AIDA has a growing international presence at all EDF plants in France as well as plants in Germany, Switzerland, Belgium, Netherlands, Finland, South Africa, the United Kingdom and multiple steam generator tube manufacturers around the world.

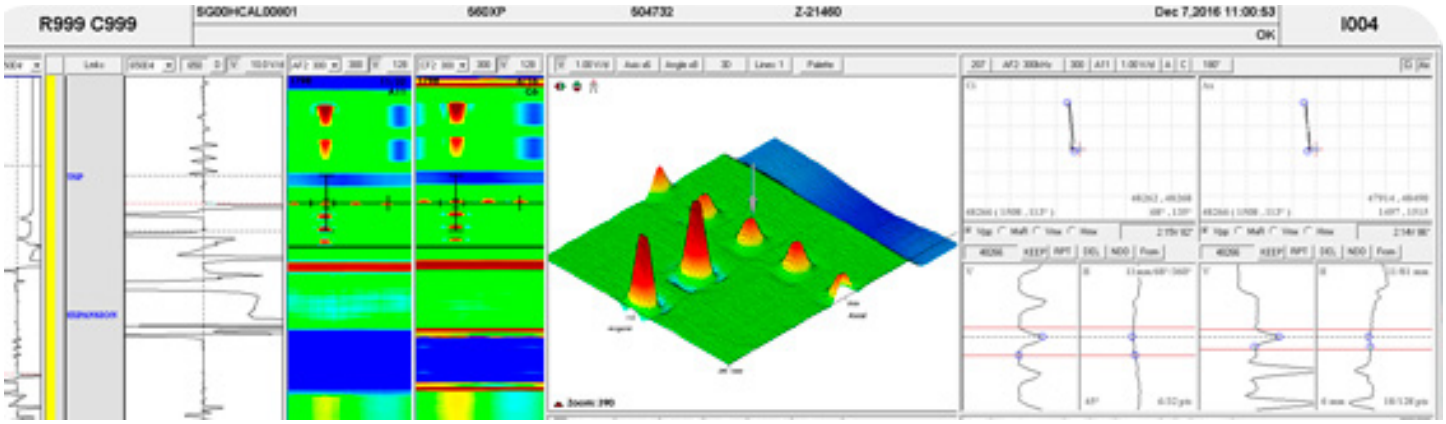
Customer benefits

- Faster analysis: only one-to-two seconds per tube
- Reduce cost by using typically one third of the crew needed for the manual analysis
- Comprehensive analysis is tailored to your specific steam generator configuration
- EPRI Rev. 8 compliant for multiple algorithm single integrated automated analysis
- EPRI Rev. 8 compliant for noise measurement and monitoring
- Use of history data compare to automatically recognize change and aid the data review cycle
- Proven full-tube coverage and documented accurate application of techniques
- Configuration that applies diverse redundancy at every step for improved defense in depth
- Enhance safety by tracking previous indications to evaluate growth; alerting the licensee to any significant changes in SG condition
- Real-time data quality verification reducing overall time and providing an additional safety layer
- Analyzes full-length array probe data with no delays in analysis time or transfer from site to remote analysis facilities
- Correlates bobbin and array results for seamless resolution of TSTF-577 inspections

Fully adaptable with options

- Multiple independent algorithms are generically qualified to EPRI and industry standards and configured specifically for the model SG to be inspected — providing a full solution for dual and single pass analysis.
- AIDA addresses industry operating experience with dedicated methods for flaw detection and characterization, growth assessment through historical comparison, deposit mapping, anti-vibration bar (AVB) mapping and integrity of internal structures.
- AIDA employs redundant calibration, location and detection algorithms to perform fully automated analysis, producing several reports simultaneously.
- AIDA results are fully compatible with other applications and can be integrated and used by other methods and techniques.
- Advanced features include innovative tube ID verification process to compare current ET signatures with historical data enabling an additional layer of tube ID verification — independent of any robotic parameter.
- AIDA can be tailored to automatically identify any other condition that may exist in the SG such as the existence of high residual stress tubes, anomalies in the tube expansion regions, tube-to-tube proximity, AVB misalignment – performing these tasks in parallel with the degradation analysis or separately.





Your performance
is **our** everyday **commitment**

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