

# Piping and Suspended Systems

## Innovative Solutions

AREVA's Civil and Layout experts have been engaged in secondary piping design and support since the earliest days of commercial nuclear power. We have been actively involved in every major issue facing the nuclear industry, such as GL79-14 reconciliation and GL2008-01. Teamed with our NSSS experts, we bring together design and analysis capabilities that break down the traditional barriers between Nuclear Steam Supply System (NSSS) and Balance of Plant (BOP) vendors. In addition, we can team with our Metrology group to provide configuration input in instances where existing plant drawings or models lack the information.

Our capabilities are unsurpassed. We use a suite of analytical tools to bring innovative solutions to unique problems, including SUPERPIPE, one of the most sophisticated production-oriented piping analysis tools available in the nuclear industry today.

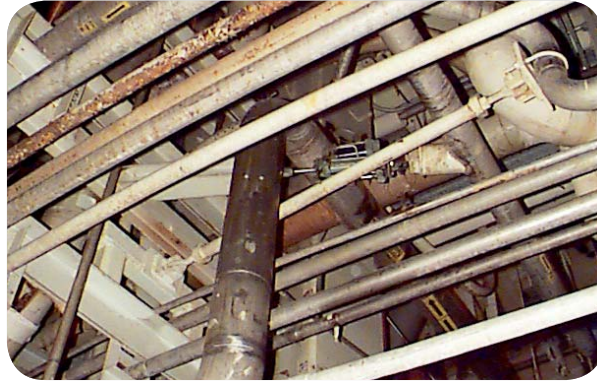
## Project Experience

AREVA engineers have performed stress analysis at various utilities to reduce maintenance costs and improve operational flexibility. For example, piping reanalysis on a main steam system resulted in snubber reduction of 75 percent.

AREVA is committed to help keep your plant online safely and reliably. With U.S. market leadership and global resources, AREVA delivers integrated engineering solutions to improve your plant performance.

## Cost-Effective & Focused Approach

AREVA stands ready with comprehensive services to apply the proper mix of solutions to bring maximum advantage for minimum cost. And we don't stop there. You can count on us to assist with follow-up questions that may arise — we're here for the long haul.



## Path to Resolution

Our overall approach is an active collaboration with your staff to identify the best resolution path in the least amount of time. We focus on practical, long-term solutions that are compliant with national standards and your design basis. Our technical and project management resources are flexible and responsive to your needs and sensitive to the demands of plant operations.

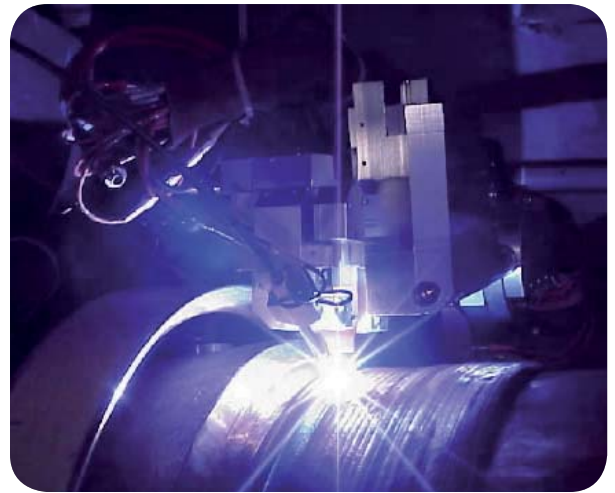
At AREVA, we employ lessons-learned from projects all over the world, helping to shorten project time and maximize resources. We approach each project with decades of experience as an advocate for the nuclear industry. Every day, companies look to AREVA to help provide safe, clean and affordable nuclear energy for years to come.

## Features and Benefits

- Comprehensive PWR and BWR experience
- Full-scope capabilities
- Strong project management processes
- Access to AREVA's broad international experience

## Technical Capabilities

- B31.1, B31.3, B31.7, ASME III Class 2 and 3, AISC
- Well-versed in several analytical software packages, such as SUPERPIPE, AutoPIPE and many others
- Nuclear and non-nuclear piping and supports
- Transient event evaluations including seismic, hydrodynamic loads, water hammer, and fluid stratification
- High Energy Line Break (HELB) evaluations
- Operability evaluations using non-linear analysis
- Vibration analysis and mitigation
- Degraded condition evaluations such as wall thinning due to erosion corrosion or flow accelerated corrosion
- Design and repair of buried piping



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