



## Manufacturing Inspections for New Nuclear Power Plants

Ensuring nuclear components meet all require

### BUSINESS CHALLENGE

Due to the increasing demand for electricity, additional new generation nuclear power plants are planned to be built, which should be reliable, have long lifetimes and generate energy at competitive costs without producing any carbon dioxide.

Also, international regulations and nuclear quality assurance systems are increasingly requiring inspections and verifications by accredited third-party inspection agencies.

### SOLUTION

#### What are manufacturing inspections for new nuclear power plants?

It is a step-by-step inspection system that verifies that the manufacturing process conforms to industry specifications. Bureau Veritas has the necessary accreditations, knowledge and expertise in all areas of nuclear plant compliance.

We have a proven track record in nuclear power technology in Asia, Brazil, the United States and Europe. Bureau Veritas was chosen as Inspection Organization for the first new generation nuclear power plant –EPR– in Finland. Inspections may be performed on the following equipment: reactors, steam generators, pressurizers, pumps, valves, heat exchangers and piping. The program includes:

- Design inspection and review of drawings.
- Procurement inspection.
- Welding procedures.
- Manufacturing inspection.
- Installation inspection.
- Pre- service inspection (PSI).

#### What are the key benefits?

- Third-party validation at each stage of the manufacturing process.
- Compliance with applicable codes, standards and safety rules • (ASME, RCC-M, local and international standards and codes).



### RELATED SERVICES

A wide offering

In addition to manufacturing inspections for new nuclear power plants, Bureau Veritas offers a wide range of related services.

- Calculations for design review
- Review of manufacturing documents
- Inspection for qualifications
- Inspection of all manufacturing sequences including procurements
- Assistance for complete piping
- Training
- Audits
- Technical support



BUREAU VERITAS

Move Forward with Confidence

### WHY CHOOSE BUREAU VERITAS?

**Recognition** ■ Founded in 1828, Bureau Veritas is the worldwide leader specialized in QHSE and social responsibility services. Certified to ISO 9001 for all of its activities throughout the world, Bureau Veritas actively participates within professional authorities, helping develop international standards and regulations.

**Knowledge** ■ Solid practical knowledge of all quality, health & safety and environmental codes, standards and regulations applicable in the nuclear industry.

**Network** ■ With a network of more than 900 offices and laboratories and over 40,000 employees in more than 140 countries, Bureau Veritas serves 300,000 customers in many different industries across the world.

**Reporting** ■ Our clients have access to a powerful web-based reporting tool, BVnet. This password-secured extranet exists in English, French and Chinese and allows clients to display and download reports, schedule follow-up visits and track the progress of findings.

### FAQ

#### What organization and skills, specific to nuclear technology, can Bureau Veritas provide?

For manufacturing of nuclear components such as primary and/or secondary ones, Bureau Veritas has set up a nuclear inspector network in Asia, Europe and the Americas. Inspectors are trained jointly with our clients. Our inspectors are qualified and knowledgeable in a wide variety of standards including ASME, RCC-M and PED.



### CLIENT REFERENCE

Bureau Veritas has earned the confidence of many significant clients on numerous major projects including:

- Qinshan phase I-PWR: material inspection, document review, manufacturing surveillance welding qualification for CRDM Manufacturing design
- AP 1000 in China (Sanmen and Haiyang) first 2 reactors: As second party inspector to control the raw material, manufacturing and installation of reactor CV and also the forging components for A1 class equipments
- RCC-M 2007 Version training: 2 sessions have been organized in 2008, with more than 100 participants from various companies in Chinese nuclear industry
- EPR in Finland (Olkiluoto 3 project) / STUK / TVO: As inspection organization for components such as piping, heat exchangers, pumps, valves. As third party inspector for verification of reactor pressure vessel manufacturing performed in Japan
- EPR in France: welding procedure qualification and welder qualification services for a new 1,600 MW NPP in France
- CREUSOT-FORGE: forgings manufacturing surveillance
- MHI: steam generators manufacturing inspections for EDF



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