



CNIM ■ BERTIN TECHNOLOGIES ■ TPI

WORLD NUCLEAR EXHIBITION PARIS

14 to 16 October 2014
Parc des Expositions - Le Bourget

► **Hall 2A - Booth #J35**

CNIM, Bertin Technologies and TPI are exhibiting at WNE Paris

This year, 2014, the first edition of the World Nuclear Exhibition (WNE), the International Civil Nuclear Exhibition, will be held from 14 to 16 October at the Paris-Le Bourget Exhibition Centre. The CNIM group, its Bertin Technologies subsidiary and its partner TechnoPlus Industries will be exhibiting on a 30 m² stand.

With its technological know-how and ability to innovate, the French Group CNIM (Constructions Industrielles de Méditerranée: www.cnim.com/en) continues its international expansion. The Group currently operates in 15 countries and generates 68% (in 2013) of its turnover from exports.

CNIM S.A. has been involved since the 1960's with the supply of complex electro-mechanical equipment packages associated with the nuclear industry – specifically for new nuclear power plant (NPP) construction but also for associated upstream and downstream activities and including experimental reactors. Predominantly this activity has been focused within France but more recently with overseas projects as the EPR design has been utilised in both Finland and China.

CNIM, its subsidiary Bertin Technologies and its partner TechnoPlus Industries (TPI) will exhibit their products and services in the category:

- **NUCLEAR POWER GENERATION**
- **RESEARCH REACTORS**
- **BIG SCIENCE**

NUCLEAR POWER GENERATION

▶ NUCLEAR FUEL CYCLE (FRONT END & BACK END):

- Production of nuclear fuel
- Uranium enrichment
- Secure handling systems
- Packaging for transportation of sensitive and radioactive products
- Processing, storage and disposal of nuclear waste
- Rehabilitation and dismantling of nuclear facilities

▶ REACTOR EQUIPMENT:

- Spent Fuel Cask Transfer Facility (SFCTF)
- Enrichment stations
- Sump strainers
- Silencers
- Special doors
- Special lifts
- Control Rod Guide Assembly (CRGA) & CRGA column
- Control Rod Drive Mechanism (CRDM) : adapter and thermal sleeve
- Level Measurement Probe (LMP): adaptor and column
- Normal column
- Flow Distribution Device (FDD): column

▶ SUPPORT & MAINTENANCE:

- Diagnosis & Consulting
- Studies & Modelling
- Risk Management
- Instrumentation and control in harsh environments
- Maintenance in Operating Conditions (MOC)

RESEARCH REACTORS & BIG SCIENCE

▶ LMJ (Megajoule Laser)

- Vessel equipment and integration (ECI)
- Converter and focusing system (SCF)

▶ ITER (Inertial Thermonuclear Experimental Reactor)

- Radial plates of the toroidal field coils
- Divertor Cassette Body
- Tore Supra

▶ RES test reactor

▶ FIND CNIM, BERTIN TECHNOLOGIES AND TPI IN WNE'S HALL 2A - BOOTH # J35

► Safe handling systems

Since the 1980's, CNIM has equipped 16 nuclear power plants in France and the Finnish EPR (OL3) with its Spent Fuel Cask Transfer Facility (SFCTF), designed and built by CNIM. The system ensures the safe transfer of spent fuel from the pool to the cask and outside of the reactor. Since 2009, **CTE, the Chinese subsidiary of CNIM**, pursues, in synergy with teams from La Seyne-sur-Mer in France and those of the subsidiary Bertin Technologies, the realization of the SFCTF for the Taishan EPR reactors (China) to be received by CGNPC (China General Nuclear Power Group) in the course of 2014.



► New UK expansion

Attention is now paid to the quickly developing UK market associated not only with the four potential EPR installations planned by EDF and AREVA at Hinkley and Sizewell, but also the four Hitachi ABWR planned by Horizon at Wylfa and Oldbury as well as the three proposed AP1000 Westinghouse reactors planned by NuGen at Moorside, adjacent to Sellafield.

In support of the possible eleven NPP proposed for the UK and the potential involvement of CNIM as a supplier, we are expanding our presence in the UK through our wholly owned subsidiary, CNIM UK Limited. CNIM UK already utilises offices in the centre of London and more recently has established an office in the North West of the UK. Over time we expect to further enhance our capability in the UK with significantly increased resource levels as necessary to efficiently support project delivery.

In addition to the new NPP programme for the UK, CNIM also intends to make a contribution to the UK decommissioning market by drawing upon the significant experience within the group gained over the last fifty years.

► Start of series production of the ITER radial plates

CNIM has delivered the first plates during summer 2014 and will deliver 1 plate per month, until the last one early in 2017.

Starting on 2009 with a contract of Fusion for Energy (F4E), the European domestic agency of ITER, CNIM has developed and qualified a manufacturing process dedicated to the radial plates of the toroidal field coils. A radial plate is a D-shape component, 14m long, 9m wide, 110mm thick, made up with 316LN material and weighting up to 10Tons. A spiral groove covers both faces and will support the superconducting cable of the coil. Stringent tolerance requirements down to 0.1mm create a real challenge and justify the implementation of dedicated welding, machining and inspection processes.

Further to the successful completion of the prototype on 2012, CNIM and its Italian partner SIMIC have been awarded a new contract from F4E for the serial fabrication of 70 units over 4 years. A specific electron beam welding process under local vacuum is implemented and allows joining large segments using a portable equipment. Large gantry machines have been installed to perform the final machining operation on the whole plate and meet the tight tolerance requirement.

Thanks to ITER, CNIM is now able to bring to its customers of the nuclear market a range of expertise and production means fitted to the fabrication of very large stainless steel structure with tight tolerances.

CNIM IS PRESENT NEAR THE ITER SITE IN CADARACHE

CNIM has established offices in Cadarache in order to provide value added services to its customers (CEA, Areva, ITER Organisation, F4E).



► CNIM – an added value service provider close to the LMJ site in Le Barp

The CNIM branch that is dedicated to on-site operations, has a long industrial history. It has always managed to adapt to the modernization of its customers and the transformation of their businesses as well as to changing work environments, while developing a strategy of proximity and responsiveness.

Business activities of **CNIM Babcock Services (CBS)**, initially specialized in industrial boilermaking and welding operations on high-pressure thermal equipment, have evolved to assembly works in harsh environments and operational maintenance of complex systems.

Since the beginning of the Megajoule laser project (LMJ), CNIM accompanies the CEA (French Atomic and Alternative Energies Commission) by designing robotic, mechanical and optical sophisticated equipment for various markets, covering the whole value chain - from design to commissioning on site. Its strategy is focused on the sustainability of skills acquired on this project and recognized by the CEA, in order to obtain the expected results.

Today, the CNIM French Southwestern agency is located close to the Megajoule laser, on the one hand, for carrying on the historic activities of CNIM Babcock Services such as service activities for nuclear and thermal power plants, on the other hand, more specifically, to meet the needs of operational maintenance, support and the development of the LMJ project.

CNIM's ambition is to expand its services for major clients in the nuclear field and remain a French reference for the management of complex projects. To this end, CNIM is located close to its customers and expands its expertise while adapting to the needs of this growing market.

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