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SNGC Companies Visit China

During the last week of October, a delegation of SNGC and its member companies (Tecnatom, Ensa and ENUSA) has visited China to hold several meetings with Chinese nuclear companies. The SNGC delegation held talks, in their Shanghai premises, with SNPEC, a subsidiary of the SPIC group, and became informed of the last promising news on final hot tests for Sanmen AP1000, as well as both sides shared information on possible joint opportunities in the international markets (South Africa, Turkey, Bulgaria, …).

The delegation also met several CGN group companies in Suzhou to analyze potential cooperation on several areas related with plants in operation. Additionally, other topics regarding the international markets were covered, to analyze possible cooperation in countries of common interest such as UK, Romania and Czech Republic.

The SNGC delegation appreciated very much the hospitality and friendliness of the Chinese hosts and hopes to improve even more the collaboration among all parties.

Ensa completed the installation of the Aeroball Measurement System Shielding

ENSA completed recently the installation of the Aeroball Measurement System Shielding (AMS) in close cooperation with the AREVA team. The Aeroball Measurement System Shielding (AMS) enables secure control of the fuel elements during operation and ENSA has been in charge of providing the shield to prevent that any radiation (neutrons or gamma rays) from the pressure vessel of the reactor reaches the AMS room during the operation of the plant.

The AMS shield installed is a stainless-steel structure protected with layers of polyethylene. Due to its final position, the shield has very tight tolerances. This fact implied special attention during manufacturing, factory acceptance tests and installation phases.

ENSA, known for the quality of its products and services, has a highly trained and qualified team that was very efficient during the entire project.
Ensa has shipped the last DPT container for transport and storage of spent fuel

Equipos Nucleares (Ensa) has sent recently the last container of DPT design that the company has manufactured for the storage and transport of spent fuel for the Trillo Nuclear Power Plant in Guadalajara. With this shipment, a project that began in 2001 with the shipment of the first container model DPT, has been concluded. The DPT is the first container designed entirely by Ensa and the delivered one is the number 32 of the series. Currently, Ensa is manufacturing dual purpose containers – storage and fuel transport – for the Spanish (ENUN32P) and export (ENUN24P) markets. All of them have been designed and manufactured by the company in its facilities of Maliaño - Santander.

Tecnatom at the world’s leading events

Tecnatom participated in the 19th World Conference on Non-Destructive Testing (WCNDT), a world-class event specializing in non-destructive testing and its application in different sectors of the industry that was held in Munich (Germany). More than 2,200 experts and 350 exhibitors registered for this important fair, with more than 857 papers presented during the technical sessions.

Tecnatom participated in the event with a stand of its own and delivered three technical presentations, two focusing on the nuclear sector: Check Valve Diagnosis by Sectorial Scanning Phased Array Ultrasonic Technique and Ultrasonic Testing of ITER Toroidal Field Coil Cases Closure Welds. The third was entitled Laser Ultrasonic Inspections of Aeronautical Components by Means of Robotic Systems.

Furthermore, Tecnatom also participated in the second edition of the World Nuclear Exhibition, which took place in Le Bourget – Paris. This event, the most important in the sector at world level, attracted almost 700 international exhibitors and was visited by almost 10,000 people.

Tecnatom participated in this event through a joint Spanish nuclear industry stand, managed by ICEX España Exportaciones e Inversiones, which housed 11 companies in its 136 m². On this stand Tecnatom was able to showcase its technological capacities and strengthen relations with its international clients, while moving ahead with the establishment of new alliances within the framework of the company’s process of internationalization.
Ringo and Tecnatom supply valves to Krsko (Slovenia)

Tecnatom has won an international call for bids for the supply of valves to Krsko nuclear power plant, in Slovenia. The supply relates specifically to safety-related check valves ranging in size from 6” to 12” for the Slovenian plant’s alternative residual heat removal system (ARHR). These valves are to be manufactured in accordance with the ASME Code, section III and N-stamped. Tecnatom is undertaking this supply jointly with its partner Ringo Válvulas. This contract marks another milestone in the process of internationalisation of the business group and, furthermore, reinforces our commitment to the plants to cover the shortage of nuclear class products currently affecting the market, a source of much concern for the plant operators.

ENUSA hosts the 29th Meeting of the CEIDEN Technology Platform Management Board

The Management Board of the CEIDEN Technology Platform held its 29th Meeting in the nuclear fuel factory that ENUSA has in Juzbado (Salamanca). In 1999, the Ministry of Industry and Energy created the Strategic Nuclear R&D Committee (CEIDEN) to promote and coordinate collaboration initiatives for research and development programs in the Spanish nuclear sector. Since then, the CEIDEN has become a point of reference for the Spanish nuclear industry as a whole, where a common strategy is established to take advantage of the multiple available capabilities, implement new cooperation projects and achieve effective communication with national and European institutions in the area of R&D&I. To date many notable projects have been undertaken that cover broad fields of interest to the nuclear sector, including the following: spent fuel management, useful life management of reactor materials, new nuclear projects, educational, training and knowledge management capabilities, capabilities in R&D facilities as well as simulation capacities. ENUSA has collaborated with the CEIDEN since it was founded as one of the most active members. It has headed some of the initiatives and participated in most of the projects. On several occasions, it has hosted the Management Board meeting in its Madrid offices, and on this occasion in Salamanca to offer the opportunity to visit and learn about the facilities of the nuclear fuel factory.
ENUSA’s Commitment to the Environment

Environmental protection is one of the core values of ENUSA. Therefore, we have recently renewed for another year the verification of our Management System as per Regulation 1221/2009 (EMAS), a robustly implemented system that accredits our strong commitment from the very beginning to Safety, Quality and the Environment. Since 2003, the System is verified as per European Regulation 761/2001 EMAS, and subsequently it was adapted to the requirements of the new European Regulation 1221/2009 EMAS III.

We are the first industrial facility in Salamanca and the fourth in Castilla-Leon to obtain the EMAS verification, a factor that proves our high level of excellence in environmental management and our strong commitment to environmental protection. This commitment to continuous improvement, which is set down in the Environmental Policy, places the Juzbado fuel assembly factory at high levels of excellence in terms of Environmental Management.

The purpose of the Environmental Declaration, which we draw up every year, is to fulfill the commitment of transparency that EMAS requires of us, and it is the best reflection of the level of achievement of the planned objectives and goals that enable ENUSA to continuously improve its environmental performance, thus favoring in our facility the degree of sustainability demanded by today's society. In 2015, AENOR performed the external follow-up audit of the Environmental Management System (SGA) in accordance with standard UNE-EN ISO 14001: 2004, which showed a very high degree of system maturity and of its maintenance and reliability, as well as a deep involvement of all company personnel in its maintenance and the application of good practices associated therewith. The SGA was also audited by EDF with satisfactory results, as no environment-related non-conformances or observations were recorded.

The process of implementation, certification and verification carried out by AENOR, as well as the maintenance of the Environmental Management System during recent years, has involved a major effort by the Juzbado factory which is having repercussions on environmental protection. Among other accomplishments, the implementation and maintenance of the Environmental Management System is achieving the following:

- Continuous improvement of the Juzbado factory's environmental performance.
- Improvement of the image that citizens have of the factory.
- Improved acceptance of the product by our customers.
- Improvement of the processes that lead to savings of energy and raw materials. Better understanding and compliance with the legal requirements applicable to the factory.
- More active participation of the factory workers in the process of continuously improving its environmental performance.
- More external information available to the public and other stakeholders on all the factory environmental issues.

The main environmental indicators are included every year in the ENUSA Group Annual Report, and in 2015 the results have been much lower than the authorized limits.
New Tecnatom ETBoxPPD Technology

Tecnatom has developed a new Eddy Current system capable of being integrated with the mechanical equipment used for steam generator and condenser inspections (Pushers). This is a multi-channel, multi-frequency system that may be configured from any standard Tecnatom software for any type of Eddy Current probe, be it conventional, rotary, far-field or array.

One of the main advantages of this equipment is that it eliminates noise in the acquired signal thanks to the absence of wiring. Another advantage is its low electricity consumption and weight. This is achieved by having the equipment located much closer to the Eddy Current measuring zone.

Integration is another of the outstanding aspects of this equipment, since its design is fully compatible with the ETBox family. Tecnatom is already using this system for inspections at plants, achieving excellent results in the areas of signal quality, system assembly time and the enhanced efficiency of the campaigns.

Ringo Supplies Three-Way Separation Valves to Belarus NPP

Ringo Válvulas has successfully completed the FAT of a package of critical nuclear class 2 control valves for the Belarus Nuclear Power Plant. Final Inspection was attended by end user representatives with satisfactory result and valves delivered to the plant. The scope of the supplied valve package is as follows:

<table>
<thead>
<tr>
<th>Item</th>
<th>Qty</th>
<th>Size</th>
<th>Rating</th>
<th>Valve type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8</td>
<td>DN500 x DN400</td>
<td>PN-25</td>
<td>3-Way Control Globe valve</td>
</tr>
<tr>
<td>2</td>
<td>8</td>
<td>DN 300</td>
<td>PN-40</td>
<td>3-Way Control Globe valve</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>DN 50</td>
<td>1500 Special Class</td>
<td>Control Globe bellow sealed valve</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>DN 100</td>
<td>500 Special Class</td>
<td>Control Globe bellow sealed valve</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>DN 80</td>
<td>PN250</td>
<td>Control Globe bellow sealed valve</td>
</tr>
</tbody>
</table>
Ringo Performs Valve Diagnosis for Alternate Coolant Injection at Olkiluoto NPP 1 & 2

Ringo has completed the manufacturing and inspection of a package of nuclear valves up to class-1 related to an order to be supplied to TVO (Olkiluoto NPP 1 & 2) through Ringo Nordic. Scope of the order is detailed as follows:

<table>
<thead>
<tr>
<th>Item</th>
<th>Qty</th>
<th>Size</th>
<th>Rating</th>
<th>Type</th>
<th>Operation</th>
<th>Nuclear class</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>4&quot;</td>
<td>600# Special class</td>
<td>Globe</td>
<td>Electric</td>
<td>NC1</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>4&quot;</td>
<td>600# Special class</td>
<td>Globe</td>
<td>Electric</td>
<td>NC1</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>8&quot;</td>
<td>150#</td>
<td>Gate</td>
<td>Electric</td>
<td>NC2</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>8&quot;</td>
<td>150#</td>
<td>Swing check</td>
<td>N/A</td>
<td>NC2</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>2&quot;</td>
<td>150#</td>
<td>Swing check</td>
<td>N/A</td>
<td>NC2</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td>6&quot;</td>
<td>150#</td>
<td>Gate</td>
<td>Manual</td>
<td>NC2</td>
</tr>
<tr>
<td>7</td>
<td>2</td>
<td>4&quot;</td>
<td>2500#</td>
<td>Globe</td>
<td>Electric</td>
<td>NC1</td>
</tr>
<tr>
<td>8</td>
<td>2</td>
<td>2&quot;</td>
<td>1500#</td>
<td>Ball</td>
<td>Manual</td>
<td>NC2</td>
</tr>
<tr>
<td>9</td>
<td>2</td>
<td>4&quot; x 3&quot;</td>
<td>600# Special class</td>
<td>Gate</td>
<td>Pneumatic</td>
<td>NC1</td>
</tr>
<tr>
<td>10</td>
<td>2</td>
<td>4&quot;</td>
<td>300#</td>
<td>Gate</td>
<td>Manual</td>
<td>NC2</td>
</tr>
</tbody>
</table>

As part of the scope of the job, Ringo has performed base line tests to the motor operated and pneumatic valves, using a VIPER Diagnostic System, to get the torque and thrust values by means of strain gauges. In the case of the MOV Valves, diagnosis to get the motor power has been performed at the same time, using a SIPLUG diagnostic system in order to establish a relation between the actuator power and the valve torque and thrust values. Valves are ready now to be packed and shipped to the plant.

Ensa to manufacture four tanks for ITER’s Water Detritiation System

Equipos Nucleares (Ensa) has been awarded the contract for the final design, manufacture Equipos Nucleares (Ensa) has been awarded the contract for the final design, manufacture and delivery of four tanks of the Water Detritiation System of the ITER project: two High Level Holding Tanks and two Feeding Tanks.

The company has signed this contract after undergoing a procurement process launched by Fusion for Energy (F4E), the EU body managing Europe’s contribution to ITER. With this new contract, Ensa is consolidated as one of the main European manufacturers of components for large scientific facilities such as ITER. The high quality of its components, the fulfillment of delivery time, the commitment to innovation and the technological development of the company have been decisive for this award.

Additionally, in March 2015, the tanks manufactured by Ensa for the Tritiated Water System, were Europe’s first-ever components to be delivered on the ITER worksite, one of the most important civil engineering platforms today. The objective of ITER is to test the viability of fusion energy as a sustainable energy source, prior to the construction of a commercial demonstration facility.
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