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SNGC companies attend CIENPI 2017

The SNGC companies, Tecnatom, Ringo Válvulas, Enusa and Ensa, have attended from April 27th to 29th the China International Exhibition on Nuclear Power Industry (CIENPI 2017) in Beijing. This exhibition makes possible to showcase the capacities of the Spanish nuclear sector, promoting and intensifying existing commercial relations with Chinese companies, country that is currently building the highest number of nuclear reactors in the world. This part of the Spanish nuclear sector, with nearly 70% of its activity dedicated to exports, has an international presence in over 40 countries, and covers most of the nuclear value chain: from supplying heavy equipment as well as fuel elements, inspection and plant operation services, staff training and delivery of simulators, promoting research activities for new technological developments, etc.… Additionally, it is the best place to sign cooperation agreements, such as the one signed with China Nuclear Operation Corporation (CNOC), a subsidiary of China General Nuclear (CGN) for the mutual cooperation in the areas of exploitation and nuclear power plant maintenance services.

SNGC meets with ADIMRA in Argentina

Last April, a delegation of all SNGC companies has held a seminar with ADIMRA, the Industrial Association of Mechanical Manufacturers of Argentina, to strengthen their relationships and analyze possible joint participation in the support to the plants in operation as well as to the Argentinian new nuclear program. ADIMRA companies have shown a long history of successful participation in the existing nuclear program as well as its interest and capabilities to be active players in the new projects to come. SNGC has offered all its competences to support this approach in order to provide added value to the Argentinian industry. The technical seminar has been complemented by several visits to manufacturers sites to exchange practical views on how to design a successful collaboration process.
SNGC Companies visit Argentina

During the second week of March, a delegation of SNGC and its member companies has visited Argentina to held several meetings with authorities and nuclear companies. The SNGC delegation had talks with Julian Gadano, Undersecretary of Nuclear Energy to exchange views on the new nuclear program in Argentina, its main milestones and needs in term of possible external support. This meeting was also attended by Omar Semmoloni, President of Nucleoeléctrica Argentina, the operator of the current 3 units as well as the company that will be in charge of the nuclear new build. Additionally, the delegation had discussions with Osvaldo Calzetta, President of the Comisión Nacional de Energía Eléctrica, responsible for the CAREM project, the Small Modular Reactor design being developed in Argentina. The collaboration of Argentinian and Spanish companies has been deeply strengthened by these new high level contacts.

Tecnatom presents its multi-purpose robot-operated system

Tecnatom presents its new multi-purpose robot-operated inspection system, IGA. This is a remotely controlled omnidirectional vehicle capable of carrying probes for the performance of visual, ultrasonic (conventional and phased-array) and eddy current inspections on multiple components critical for the operation of electricity generating plants. Its versatility, small size and low weight allow IGA to adapt to the complex geometries of various plant components. By means of this new equipment it is possible to carry out inspections on piping (from the outside and interior), nozzles, reactor vessel wall, thermal power plant boilers or tanks, among other components. For the performance of visual inspections, the equipment incorporates the MicroVis vision module, developed by Tecnatom and capable of withstanding high radiation fields. This new and versatile equipment incorporates a simple positioning system, is simple to operate and does not require any assembly activities in the inspection area. This makes possible reducing inspection times and the times that the operators are required to remain in high dose rate areas, thereby improving the efficiency of the processes.
Tecnatom gets the supply of probes for Argentinean nuclear power plants

Nucleoeléctrica Argentina (NA-SA) has awarded to Tecnatom the supply of probes for eddy current technique inspections. These probes, of different types and characteristics, are especially suitable for the inspections to be performed by NA-SA at the Embalse and Atucha nuclear power plants. This new award consolidates Tecnatom’s supply activities at the Argentinean nuclear power plants, where we have been NA-SA qualified suppliers for many years and supply 200 eddy current probes per year on average. Tecnatom is heavily involved in the Argentinean nuclear programme, where our company has participated in training, inspection and equipment supply activities for the Embalse and Atucha nuclear power plants, and has worked jointly with the Nuclear Regulatory Authority, the CONAUR nuclear fuel manufacturing facility and the CAREM nuclear reactor development programme.

ENUSA and Tecnatom deliver a new system in China

ENUSA and Tecnatom have concluded the delivery of a new spent fuel inspection system for the Suzhou Nuclear Power Research Institute (SNPI), an affiliated company of the China General Nuclear Group (CGN), which will operate at the Chinese nuclear power plants. The supply of this equipment takes place within the collaboration framework within which both companies have been cooperating since the 1990s, and as a result of which a whole range of inspection equipment for the characterization of PWR and BWR fuel items and rods has been developed. In this specific case, the equipment delivered is a SICOM-COR for measuring the corrosion of the peripheral rods of the fuel items, as well as for carrying out a visual inspection of them. This equipment allows to determine with a high level of precision the layer of rust over the fuel rod making use of induced currents. It is a light inspection system, which can be easily installed in the racks of the spent fuel pool. Furthermore, the equipment supplied includes a new development which allows to measure a number of fuel parameters through high precision visual techniques. This development, which is based on artificial vision, entails a technological leap which makes the SICOM-COR equipment the state of the art technology. All the products from the SICOM range for fuel inspection have been designed and manufactured with technology developed by both companies, and have been validated at nuclear plants all over the world.

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The inspection and characterization of the spent fuel makes possible to guarantee the safe handling of the fuel, optimize the cycle, localize and define defects in the fuel, determine the root cause of a failed fuel, and evaluate the fuel behavior models. In the same way, this equipment allows to carry out the characterization of the fuel for its later handling at the ATIs or the ATC.

Tecnatom and ENUSA keep consolidating their collaboration in the development of fuel inspection technologies, both for fresh and spent fuels. As a result of this collaboration, both companies are providing services and supplying nuclear fuel inspection systems in Spain, Belgium, China, Brazil, Argentina, Finland, Sweden, or France.

**ENUSA and Tecnatom strengthen their alliance**

Enusa and Tecnatom signed a new general collaboration framework in different fields related to nuclear fuel cycle. This agreement consolidates the already strong collaboration between both companies and gives continuity to the activities that have been jointly developed by both companies in the past years. With this new agreement ENUSA and Tecnatom continue their technological alliance in specific fields like the development and commercialization of fresh and irradiated fuel inspection equipment, providing irradiated fuel inspection services internationally, providing full outage services in plant, training services or consultancy services on the fields of nuclear fuel cycle or safety.

Under this framework, both companies consolidate their relationship, which started more than 20 years ago, with the development of equipment of the SICOM family for the inspection of irradiated fuel and which today extends to multiple systems for the characterization of crucial parameters for fuel.

Collaboration between a fuel manufacturer like ENUSA and a technological specialist in non-destructive tests like Tecnatom has led to the supply of equipment to several international companies, for example: two passive fuel scanners for INB (Brazil) and CONUAR(Argentina); welding inspection equipment and surface characterization of fuel rods for YIBIN(China) or irradiated fuel inspection equipment for SNPI(China). Irradiated fuel inspection services have been provided as well, not only in Spanish power plants but in reactors in Sweden, Finland, Belgium and China.

With this new agreement, both companies extend their collaboration sphere to other areas and expect to intensify their international action in every aspect related to nuclear fuel, both in the manufacturing phases and in the characterization once irradiated.
Ringo Valves Supplies an Emergency Shut Down Ball Valve 36” 1500#

Ringo Valves has recently completed the manufacturing, testing and shipment of an Emergency Shut Down Ball Valve (ESDV), top entry, 36” 1500# ball valve, to be installed in the IDKU field in Alexandria (Egypt). End user of these valves is Burullus Gas Co. / Rashid Petroleum and valve is going to be installed in the offshore pipeline to a slug catcher related to a brownfield engineering project made by ENPPI, who has been the direct customer of this order.

Manufacturing of this valve has represented a challenge to Samson Ringo due to the enormous size and weight of the valve as well as its material specifications: valve was required to have duplex trim (A182 F51) and metal seated, with Tungsten Carbide Coating.

This is the heaviest valve ever produced by Samson Ringo with a total weight of 50 tons so special transportation to the port had to be arranged.

Ringo Valves has obtained the label “Socially Responsible in Aragón”

In 2016, the Government of the Community of Aragon, together with the social stakeholders, have launched the Aragón Corporate Social Responsibility Plan, with the aim of companies of Aragon to strengthen their commitment to Corporate Social Responsibility thanks to their strategic focus on policies, products, services and actions that generate a Social impact more sustainable and relevant. RINGO VALVULAS has obtained the label “Socially Responsible in Aragón” in this first edition, which recognizes its responsible management with society and the environment.
Ringo Valves provides a course of valve fabrication according to ASME III N-Stamp

Ringo Válvulas has organized a course of valve fabrication according to ASME III N-Stamp that has been performed by Mr. Rodrigo González from Lloyd’s Register, who is ASME ANI/AIS qualified. Representatives from all the departments involved in the process: inquiry reception, design, project management, production and quality assurance have attended the course. Ringo, as a valve manufacturer holding the ASME III N-Stamp, considers that periodical training in this subject is a must for the proper performance of the design, production and quality assurance of nuclear class valves according to ASME III N-Stamp.

Diagnosis of MOV & AOV Valves for Alternate Coolant Injection System of 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>Globe</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 successfully completes the last phase of the shield installation in Olkiluoto Nuclear Power Plant 3

Equips Nucleares (Ensa) successfully completed for its client AREVA the last phase of the installation of shields for the Nuclear Power Plant of Olkiluoto 3 in Finland. The work has consisted in the manufacture and installation, in collaboration with personnel of Enwesa, subsidiary company of the Cantabrian company, of a total of 15 armorings of pipes and equipment located in different areas inside the reactor building. were carried out by Ensa, AREVA, TVO – After completing the installation, all inspections owner of the plant – and STUK – Finnish regulatory body – with a satisfactory result.

ENSA began the preparations for the loading of ENUN 32P casks at Trillo’s Nuclear Power Plant

Equips Nucleares (Ensa), in collaboration with personnel of its subsidiary company, Enwesa, began recently the first works of the preparation for the loading of the ENUN 32P casks at Trillo’s Nuclear Power Plant in Guadalajara. This has been the first work carried out at the Trillo Nuclear Power Plant (CNT) to adapt the leveling table of loading pit of the plant to the new design manufactured by Ensa, ENUN 32P, since the current one was prepared for the previous casks design, the DPT, also supplied by the Cantabrian company since 2001. Once removed the old platform from the loading pit, a planimetry was taken to make measurements from the bottom of the liner to ensure that the new design of the platform of ENUN 32P casks absorbs the small deviations of flatness that has the bottom. Once this was done, other measurement works were done that will be of great help in the design of the rest of the equipment used in future loads.
ENSAS and Tecnatom collaborate in a new ITER contract

The International ITER fusion project under construction at Cadarache (France), has a reactor vessel of highly complex design and geometry, made up of multiple components that need to be assembled. A crucial part of the assembly process is the quality control of the different types of welds that are to be carried out.

The Spanish company ENSA, one of the two companies in charge of the overall assembly of the reactor vessel, has requested Tecnatom to design and supply different items of inspection equipment for the control of the vessel welds using non-destructive testing techniques.

Tecnatom will be in charge of supplying four different automatic systems for the inspection of the main reactor vessel welds: the welds joining the different sectors of the vessel and those of the vessel inlet ports (port plug).

The supply of this equipment is additional to other activities being performed by Tecnatom within the framework of this international project, such as the non-destructive testing of the toroidal coil pre-compression rings.
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