Headlines

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- **TECNATOM: Nuclear Basics Course** - August 2013
- **TECNATOM: Delivery of the simulator of the Helioenergy 1 thermal-solar plant** - August 2013
- **TECNATOM: Session on operation and control rooms at TECNATOM-Catalonia** - August 2013
- **ENUSA: Progress in the New Sipping Fuel Inspection Equipment** - August 2013
- **ENUSA: Spent Fuel Cask Loading Operations in Ascó NPP** - August 2013
- **ENUSA: High Efficiency Ultrasonic Fuel Cleaning for Vandellos-II NPP** - August 2013
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- **RINGO: Asco Nuclear Power Plant** - August 2013
- **RINGO: Gate Valves DN800 600#** - August 2013
EDF CERTIFIES ENWESA - JULY 2013

ENWESA has recently obtained the “Certificate of Qualification” issued by the department of Production Management of Électricité de France (EDF) for the development of maintenance activities in French nuclear power plants until 2016 while the plants are in operation or during refueling outages. With the renewal of this certification required to work in French nuclear power plants owned by EDF, this Ensa subsidiary strengthens its presence in the French market in line with the growth of its activities in the international market.

ENWESA, which has an office in Roquemaure 20 kilometers from Avignon, has a special plan for training technicians to carry out its activities in nuclear power plants located in France. The company also has specific courses related to French legislation, quality, safety, radiation protection, facilities knowledge and improvement of the French language, among others.

ENS A IN PATRAM 2013 - AUGUST 2013

Between 18th and 23rd August, San Francisco hosted the International Symposium on Packaging and Transportation of Radioactive Material (PATRAM 2013), considered the most important congress related to the storage and transportation of radioactive materials.

Ensa has had a very active participation. In fact, in this exhibition Equipos Nucleares presented its fuel management capabilities and, in particular, the characteristics of its ENUN design metal containers.

The Ensa delegation was represented by Alejandro Palacio, Guillermo Calleja and David Garrido who, thanks to the decision of PATRAM’s steering committee and in recognition of Ensa’s specialist workers, was elected Chairman of the session “Package Analysis (Thermal Analysis)”. During the conferences related to Structural Analysis, Douglas J. Ammerman from Sandia National Laboratories (SNL) offered the lecture “Protecting Against Corner Impacts: Sensitivities Discovered During a Rail Cask Impact Limiter Design”. This conference was put together by David Garrido (Ensa) and David C. Harding (SNL). He also presented the paper “Demonstration of the Structural Performance of Ensa’s ENUN 52B in a Range of Impact Scenarios in Storage and Transport”, put together by ARUP and Ensa, with the participation of David Garrido, Rafael Grandal, Enrique Gómez, Víctor Gómez, Alejandro Palacio and David Castrillón. PATRAM is held every two years, alternating between the United States and another country. This international congress is sponsored by the US Department of Energy (DOE), the US Nuclear Regulatory Commission (NRC) and the US Department of Transportation. It also counts on the collaboration of the International Atomic Energy Agency (IAEA) and the Institute of Nuclear Materials Management (INMM).
The Nuclear Basics course targets new Nuclear Workers and new Technical Graduate recruits. This training programme will provide graduates who begin working in a nuclear environment with the necessary contextual comprehension of a nuclear organization. The course has been established in modules, thus providing high flexibility and covering the most diverse training needs.

### Course: Nuclear Basics

Main Objectives: to provide new staff with the necessary contextual comprehension of a nuclear organization.

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<th>Module</th>
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<td>Nuclear Power Fundamentals</td>
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<td>Radiological Protection</td>
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<td>Nuclear Technologies</td>
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<td>Advanced Reactors</td>
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<td>Nuclear Safety</td>
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<td>Probabilistic Risk Assessment &amp; Severe Accident Management</td>
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<td>Safety Culture</td>
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<td>Human Factor &amp; Excellence in Human Performance</td>
<td>2</td>
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<tr>
<td>Operation Handbook</td>
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<td>NPP Organization / Processes Management</td>
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<td>Commissioning &amp; Licensing</td>
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<td>Processes / Decommissioning</td>
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Duration: 6 h class per day (240 hours) 40

Training Setting: Classroom (C) / Full Scope Simulator (FSS)
DElivery oF thE siMulAtor oF thE HelioENERGY 1 thErMAL-sOLAR PLant - AUGUST 2013

WWW.TECNATOM.ES

Last June, the acceptance and completion agreement for the second simulator developed by Tecnatom in the thermal-solar field was signed, in this case for the Helioenergy 1 plant located in Écija. The scope of the project included the models of the main dynamic systems of the plant, from the primary water-steam system to the HTF oil system, with calculation of the radiation of the solar field collectors. In addition, the entire control and graphic interface of the plant has been reproduced, including a 3D model from which the operator can input meteorological malfunctions. The detailed scope of the simulator will allow it to be used both as an engineering tool and for the evaluation of plant processes.

During the initial phase the simulator will be used to evaluate the actual operation of the Helioenergy 1 plant, while in the future its use will be extended to cover training for the thermal-solar plants belonging to the Abengoa group. With this project Tecnatom reinforces its leading position in the development of simulators for thermal-solar plants.

SESSION oN oPERAtioN AND CoNtROL roOms AT TECNATOM-CATeLONIa - AUGUST 2013

WWW.TECNATOM.ES

The Session on Operation and Control Rooms was held on June 18th at the Tecnatom headquarters in Tarragona, with the participation of representatives of the Ascó and Vandellós nuclear power plants. The session had a dual objective: on the one hand to present and share the trends and experiences that are occurring on the international market and, on the other, to present specific proposals applicable to the modernisation of existing control rooms.

During the session the new operating aid systems were presented: computerised procedures and alarms filtering, the new control rooms designed by Tecnatom in China and the application of human factors engineering in the redesign of current control rooms. The session ended with a presentation on the way in which simulation technology might facilitate plant operation. In order to provide practical examples of these systems, a showroom was installed in which the participants were able to witness demonstrations of different applications of virtual reality, the new Glasstop simulator, the severe accidents IGS and the interactive computerised procedures lectern.

The participants showed particular interest in the operating aid system based on computerised procedures and in the virtual reality applications and encouraged Tecnatom to move forward with these innovative proposals.
**Progress in the New Sipping Fuel Inspection Equipment - August 2013**

ENUSA is actively working on the development of new fuel sipping equipments to reinforce its existing inspection capabilities. The new devices, which are being designed and manufactured by a US company, will incorporate the ENUSA-designed digital detection and processing unit on its two versions:

- On-line sipping for fuel assembly inspection during core download.
- In-can sipping for fuel assembly inspection in spent fuel pool.

Both systems incorporate state-of-the-art technology to optimize detection of fission gas released during the operation of the fuel assembly.

ENUSA will qualify the new equipment in the first half of 2014 and it will be ready for regular operations during that year. As ENUSA will have commercial rights over the new technology, the company will offer the new equipment in the international markets as either a service or as hardware for nuclear power plants.

**Spent Fuel Cask Loading Operations in Ascó NPP - August 2013**

Since the beginning of operations of the Ascó NPP Independent Spent Fuel Storage Installation (ISFSI) the first spent fuel casks of the HI-STORM design have been loaded and placed in the new facility. ENUSA has performed the fuel handling operations, as well as every visual and ultrasonic fuel inspection required to assess fuel integrity prior to cask loading. These operations have required the development of special tooling for the inspection of sleeve conditions, which is necessary to demonstrate that the fuel can be handled safely. The cask loading operations will resume in the spring of 2014 and ENUSA will continue performing the fuel-related activities.

**High Efficiency Ultrasonic Fuel Cleaning for Vandellós-II NPP - August 2013**

A new high efficiency ultrasonic fuel cleaning equipment developed by Dominion Engineering Inc. is being implemented in the Spanish nuclear power plants of Ascó I-II and Vandellós-II. These plants have been using the old ultrasonic cleaning equipment with satisfactory results. The new system, however, will improve the cleaning efficiency by a factor of 2 or even higher with respect to the old equipment.

The system, which is owned by ENUSA-ENWESA AIE, an ENUSA subsidiary company, will be operated under the existing services contract with the two nuclear power plants.
ALMARAZ NPP - AUGUST 2013
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We have supplied 142 CN3 & CN2 class valves to the Almaraz NPP. These included valves that had passed fugitive emissions tests, valves with anti-static design and bellow sealed valves.

ASCO NUCLEAR POWER PLANT - AUGUST 2013
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Ringo has supplied 30 globe valves (nuclear Class 1), 0 leaks, 1" 1500 # Sa182F316L for Asco nuclear power plant.

GATE VALVES DN800 600# - AUGUST 2013
WWW.RINGOSPAIN.COM

Ringo Válvulas has been awarded a contract to supply 8 gate valves DN800 600#, nuclear class 3, to Novovoronezh Nuclear Power Plant (Russia). With this new contract, Ringo Válvulas has already supplied or is in the process of suppling their products to three Russian nuclear power plants: Beloyarskaya NPP (Control valves classes 3 & 4), Leningrad NPP (gate valves class 2) and Novovoronezh NPP (gate valves class 3).