ALMARAZ TRILLO

# 2013 annual REPORT

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AENOR Gestión Ambiental UNE-EN ISO 14001

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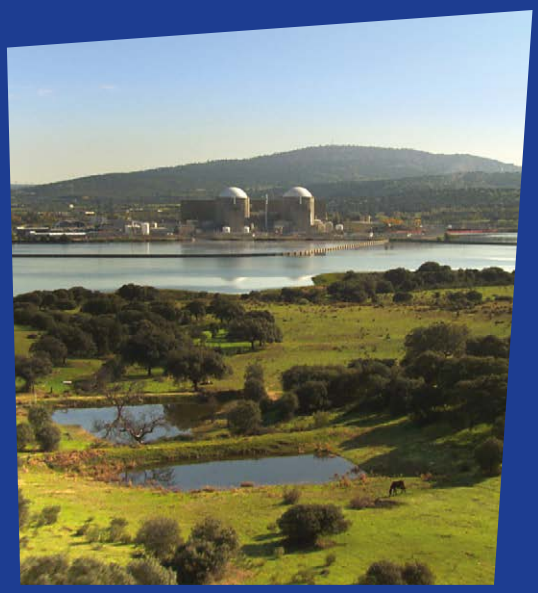
# Almaraz NPP (UI-UII)



## OWNERS:

Iberdrola Generación Nuclear (53%),
Endesa Generación (36%)
and Gas Natural SDG (11%)

## LOCATION:

Almaraz (Cáceres)

## TECHNICAL SPECIFICATION:

**Reactor Type:**
Pressurised Water Reactor (PWR)
**Supplier:**
Westinghouse
**Thermal Power:**
2,947 MWt (U-I) - 2,947 MWt (U-II)
**Fuel:**
Enriched Uranium Dioxide ($UO_2$)
**No. of Fuel Elements:**
157
**Gross Electrical Power:**
1,049.43 MWe (U-I)
1,044.45 MWe (U-II)
**Net Electrical Power:**
1,011.30 MWe (U-I)
1,005.83 MWe (U-II)
**Cooling:**
Open Circuit. Arrocampo Reservoir
**Start of Commercial Operations:**
May 1981 (U-I)
October 1983 (U-II)
**Existing Production Date Authorisation:**
08/06/2010 for a period of 10 years
**Cycle Duration:**
18 months both units

# Trillo NPP

## OWNERS:
Iberdrola Generación Nuclear (48%),
Gas Natural SDG (34,5%),
Iberenergía (15,5%) and Nuclenor (2%)

## LOCATION:
Trillo (Guadalajara)

## TECHNICAL SPECIFICATION:
**Reactor Type:**
Pressurised Water Reactor (PWR)
**Supplier:**
KWU
**Thermal Power:**
3,010 MWt
**Fuel:**
Enriched Uranium Dioxide ($UO_2$)
**No. of Fuel Elements:**
177
**Gross Electrical Power:**
1,066 MWe
**Net Electrical Power:**
1,003 MWe
**Cooling:**
Natural Draft Towers (Río Tajo)
**Start of Commercial Operations:**
August 1988
**Existing Production Date Authorisation:**
17/11/ 2004 for a period of 10 years
**Cycle Duration:**
12 months

# Summary
## OF THE YEAR

For CNAT, 2013 was characterised by various contexts. Firstly, there was a reorganisation in January 2013 when D. Eduardo Lasso de la Vega took up the post of CNAT Directorate-General after his appointment had been approved by the Almaraz-Trillo Board. Also in April, the green light was given to implement changes to the organisational structure, including the appointment of a new Executive Committee.

In addition, the difficult and uncertain situation within the Spanish electricity industry demanded greater efforts by the organization, and through hard work and professionalism it achieved good results and defined future plans to lay the foundations for recovery in the coming years.

The good performance of the Plants can be seen in their operating figures: net production of the three units reached 22,596 million kilowatt hours and gross output 23,689 million kilowatt hours, equivalent to 42% of Spanish electricity produced by nuclear power plants (56,378 GWh) and 8.7% of the national electricity system production (273,598 GWh).

As a demonstration of its commitment to excellence, CNAT approved the 2014 Action Plan at the end of the year. The Plan consists of a set of programmes to improve critical processes impacting people management and supervision systems.

During the year, some of the most important projects arising from the operating permit were implemented, together with various design modifications related to improvements committed to in responses to the technical instructions issued by the Nuclear Safety Council as part of the framework of the stress tests carried out within the European Union.

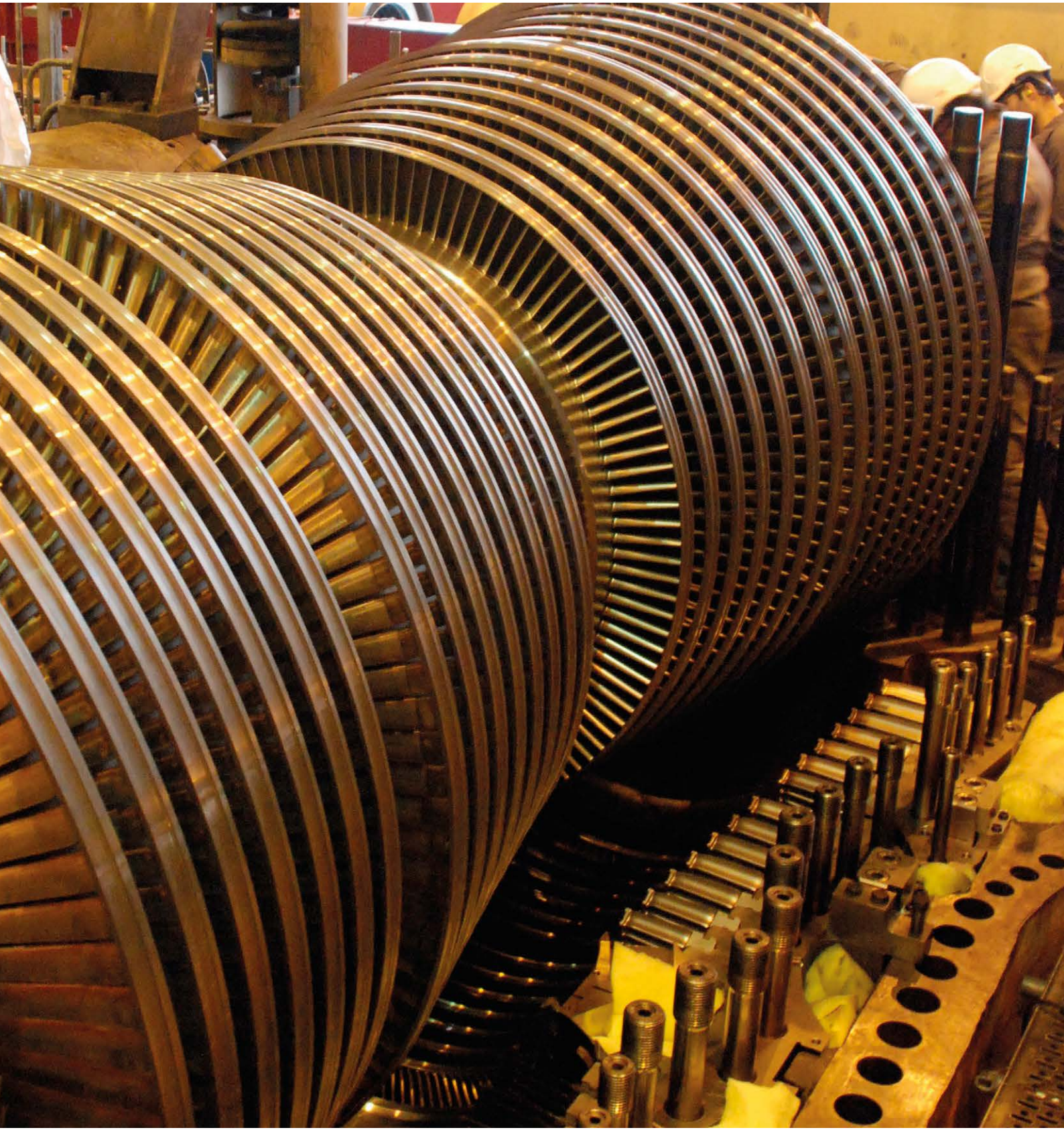
Work to maintain the qualifications of personnel employed at the Plants in 2013 totalled 152,527.4 training hours with 5,351 individuals trained.

The various measures implemented for risk prevention, and the work to reduce the rate of workplace accidents, by combining training and information actions, were also part of the priorities that CNAT actioned this year.

Thanks to the commitment to promote equality and conciliation, on 5 July 2013, CNAT's Family Friendly Company emblem was renewed for a further period of 3 years. This underlined the firm belief in progress on conciliation and equality of opportunity to improve the quality of life of people working in the company.

Regarding the commitment to the Environment, during September AENOR conducted an audit for the ISO 14001 Environmental Management Certificate with the result, "Compliant Review", for a term of three years. This audit was conducted by means of visits to both plants and documentary analysis at the Madrid headquarters.

Finally, it should be noted that CNAT prepares its business plan in accordance with the principles of responsible and sustainable business. Proof of this lies in the various activities that have been carried out with institutions, media and society in general in the areas in which our plants are located.



# CNAT
## PROFILE

### BUSINESS OWNERS

The owner companies of the Almaraz and Trillo Nuclear Power Plants formed the Economic Interest Grouping in November 1999, called Centrales Nucleares Almaraz-Trillo, A.I.E., for the integrated operation, management and administration of both plants, and their shares in the assets of each remained unchanged. Accordingly, the shares of the owner companies in the installed capacity at both plants, is as follows:

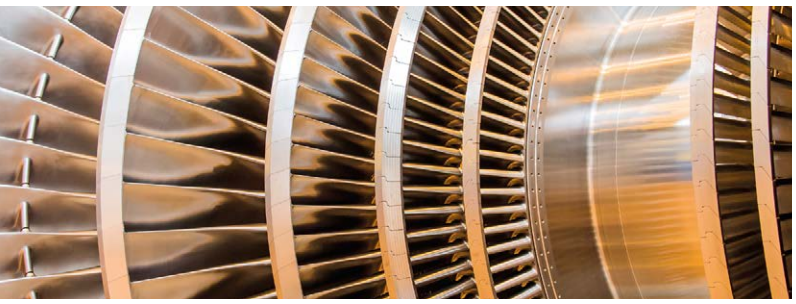
- Iberdrola Generación Nuclear, S.A.U. (51.2%)
- Endesa Generación, S.A. (23.3%)
- Gas Natural SDG, S.A. (19.3%)
- Iberenergia, S.A. (5.5%)
- Nuclenor, S.A. (0.7%)

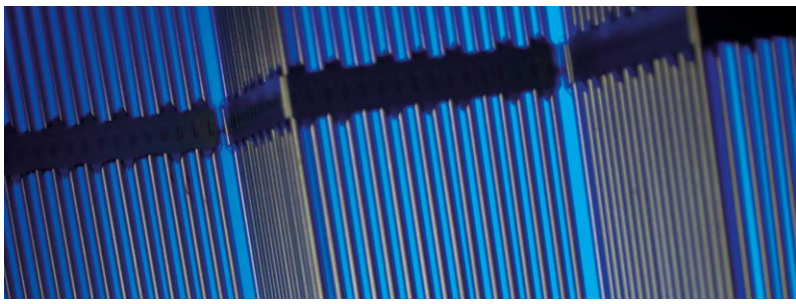
### ORGANISATIONAL STRUCTURE

The structure of A.I.E. Centrales Nucleares Almaraz-Trillo is based on the development of a single organisation, with clearly defined unitary control, and the unambiguous assignment of functions and responsibilities.

The organisation's governing body is the General Meeting of Members, which brings together the owner companies, and the Management Board, and contains representatives of both.

New CNAT organization after approval of the changes to the Operating Regulations by the NSC and MINETUR.





## MISSION, VISION, VALUES, POLICIES

The mission of Almaraz-Trillo Nuclear Power Plants is to produce electricity in a manner which is safe, economic, respectful to the environment and guaranteeing long-term production by optimum operation of the Almaraz and Trillo plants. Our vision is to position the Almaraz and Trillo nuclear power plants amongst the best in terms of safety, quality and costs.

The mission and vision is complemented by a set of shared values that must at all times guide the way people act in the organisation and how they can contribute to achieving the mission. These values are the cornerstone of social responsibility at CNAT and are based on ethical principles, respect for people, professionalism and attention to safety and the environment.

- Safety orientation
- Results orientation
- Proactive to change
- Interest in learning
- Teamwork and communication
- Commitment to values
- Leadership

Different corporate policies are adopted aimed at fulfilling the mission, and they determine the work patterns within whole organisation so that it can be achieved in a socially responsible manner. www.cnat.es

- Safety
- Radiological
- Organisational development

ALMARAZ TRILLO

- Corporate social responsability
- Management
- Environmental protection
- Prevention of work-places risks

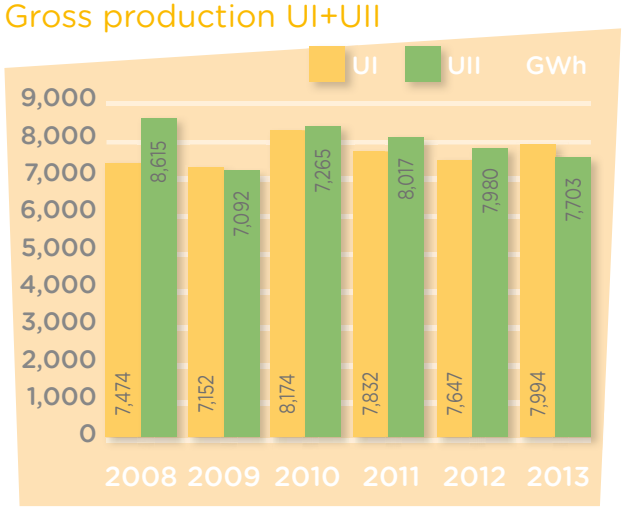
# Operations

## ALMARAZ PLANT

In 2013 the gross output generated by the two Almaraz Nuclear Power Plant units was 15,696.5 million kWh, and the net joint production was 15,108.7 million kWh.

Individually, the gross electricity production of Unit I was 7993.9 million kWh, and Unit II 7702.6 million kWh.

### Almaraz NPP
### Gross production UI+UII

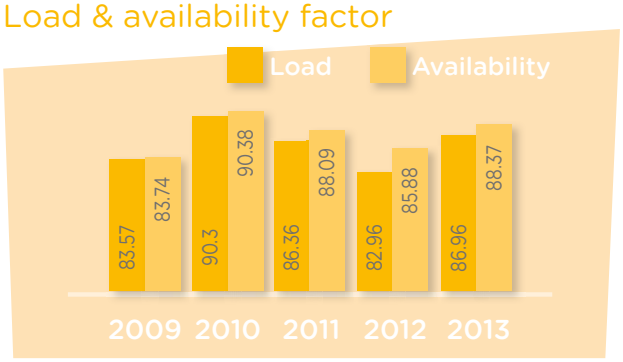



Almaraz NPP had a gross accumulated electricity production (from 1 May 1981 to 31 December 2013) of 447,085.6 million kWh (226,001.5 UI and 221,084.2 UII).

The year has involved important and complex activities for Almaraz Nuclear Plant, as each of the units were stopped for refuelling and maintenance at the start and at the end of the year.

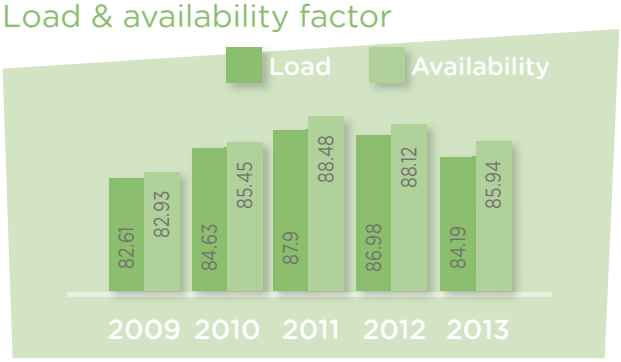
The twenty-second refuelling outage for Unit I was completed in January. After coupling to the grid on 10 January, an electrical fault in the alternator excitation system caused two automatic shutdowns, and an unscheduled unit outage was performed as a preventative measure for a comprehensive overhauls of the exciter and voltage regulator, and it was re-connected to the grid on 10 February. The unit experienced another automatic reactor shutdown due to a very low level signal in steam generator SG-3, on 22 February. It was connected to the grid on 24 February and remained coupled and operational at full capacity for the remainder of the year.

### Unit I
### Load & availability factor




On 23 May Unit II experienced an automatic reactor shutdown as a result of the prior stoppage of the turbine caused by the action of an electric generator protection system. After this stoppage, the unit was brought to cold shutdown so that a number of preventive activities could be carried out. After this work, the unit was coupled to the grid on 4 June, and operated at full power for the entire period until decoupled for refuelling on 23 November.

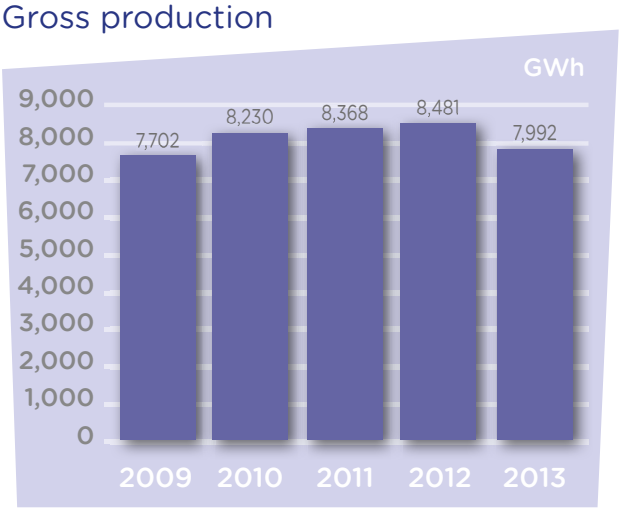

### Unit II
### Load & availability factor




## TRILLO PLANT

The gross production of Trillo Nuclear Power Plant from 1 January to 31 December 2013 totalled 7.992 million kWh with a net production of 7.487 million kWh during this period.

### Trillo NPP
### Gross production




Since the commencement of operations in 1988 up to the end of 2013, the Plant has generated a total of 205,170 million kilowatt hours electricity, and at 20:10 hours on 22 April the cumulative production milestone of 200,000 million kWh was reached.

2013 had a special meaning for Trillo Nuclear Power Plant: 14 and 22 May respectively marked the 25th anniversary of the first criticality of the reactor and the first coupling to the power grid, and 6 August marked 25 years since the start of commercial operation.

The twenty-fifth outage for refuelling and general maintenance took place between 17 May and 23 June 2013 and during the year there were no automatic reactor stoppages.

In July, there was an outage to check the alternator bearing, and in December it was necessary to reduce reactor power to 0% and to cool the plant to repair an oil leak in the radial bearing of low pressure turbine No. 3.

There were 23 containers with a total of 483 fuel elements in Individual Temporary Storage (ITS) on 31 December 2013.

### Trillo NPP
### Load & availability factor

# Refuelling
## OUTAGES

### ALMARAZ PLANT

The programme for the twenty-second outage for refuelling and routine maintenance at Unit I took 61 days from 10 November 2012 to 10 January 2013.

The work involved the collaboration of over 70 specialised service companies employing about 1,100 individuals in addition to the usual stable workforce.

Several design modifications were implemented related to the improvements involved in responses to ITCs issued by the NSC within the framework of the "Stress Test" performed in the European Union. The design modifications included work to make the electrical systems independent, implementation of an alternative shutdown panel, changes associated with increasing the seismic margin, improvements to the supply lines to the turbopump, and the start of work to implement the new redundant filtration unit in the fuel building, work which will be continued in September 2014.

The twenty-first refuelling and general maintenance of Unit II was took place between 23 November 2013 and 25 January 2014. The collaboration of over 70 specialised service companies employing about 1,200 individuals were involved, in addition to the usual stable workforce during these 63 days.

The activities carried out involved 65 design modifications including: implementing the alternative shutdown panel, the redundant filtration unit in the fuel building, work to make the electrical systems independent, increasing the seismic margin for equipment, connections to external tanks and other connections, as well as design modifications for the transition to the new "NFPA-805" fire protection standards (passive protections, new doors and fire doors).

### TRILLO PLANT

The twenty-fifth outage for refuelling and general maintenance took place between 17 May and 23 June 2013.

The programme of activities was implemented within 36 days and involved the collaboration of 1,142 workers from 45 specialised service companies in addition to the usual stable workforce.

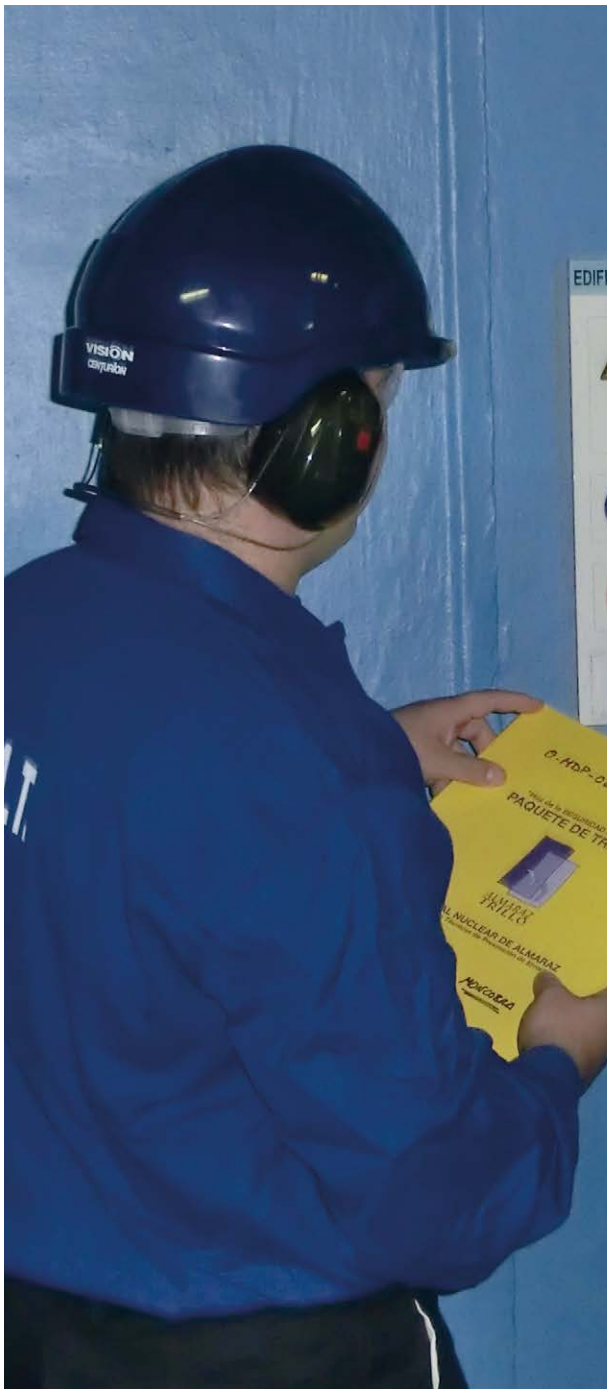
There were almost 4,000 preventive and corrective maintenance actions, inspections and plant improvements, including the primary circuit bleed & feed design modification, ultrasonic inspection of the fuel element centering pins, changing a main pump motor, design modifications arising from the stress test analysis, containment pressure test, revisions required to components included in the pumps and valves manuals, reviewing the pilot valves in one of the primary steam loops, visual inspection of the tubular plate in the three generators and inspection of the hydrocyclones in two secondary side generators.

# Radiological
## SAFETY AND PROTECTION

Safe operation of the plants under any circumstance and situation is the first and most important consideration, in order to ensure adequate protection of plant personnel, the public and the environment. All safety-related actions are performed by authorised personnel, properly trained with the necessary resources, subject to administrative controls, implementing procedures which are approved and monitored. Their knowledge and skills are updated on an ongoing basis as part of the CNAT framework training plan. This plan is intended for internal and external staff, to ensure that everyone involved with the installation has the knowledge and skills required.

During 2013 the installations operated completely normally, without producing any significant incident that affected nuclear safety or radiological protection, employees, or the plant environment.

From the measurements obtained during 2013, the results show that the dose rate of professionally exposed personnel was far below the legal limits established. In the case of Almaraz, the collective staff dose totalled 573.26 mSv per person for the combination of the two units, and at the Trillo Plant, the dose totalled 224 mSv per person, one of the best years for collective doses during the entire history of the installation.



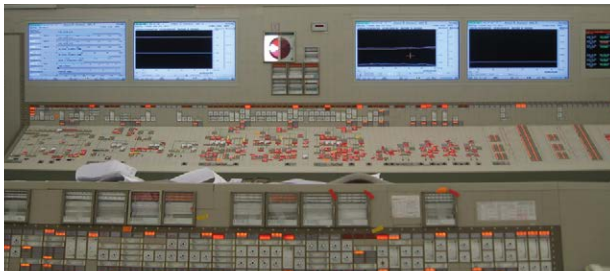
# Technological

## UPDATING

CNAT makes strenuous efforts every year to improve and update facilities, and during 2013 it maintained the investment levels of recent years.

This year Almaraz Nuclear Power Plant continued to develop improvements resulting from the tests conducted after the Fukushima accident, and others based on the operating permit, equipping the Plant with a new alternative stoppage panel in UII (to be implemented in UI during 2014), as well as a new seismic fire protection system common to both units. The Renovation Plan for instrumentation and control equipment included the modernisation of loop boards for the Steam Generator relief valves in UII (UI during 2014) and this is ongoing along with other modernisation improvements to the auxiliary feedwater turbo control.

In addition to the improvements resulting from Fukushima, Trillo Nuclear Power Plant has commissioned the new YG20 primary vibration monitoring system as part of the instrumentation and control equipment renovation plan, and the design has been finalized for the turbine and bypass control and protection system to be implemented in 2015. The electrical equipment renovation plan has continued and a new device to automatically synchronise the main alternator with the national grid has been installed, and the contract has been awarded for a new transformer to be installed in 2015.



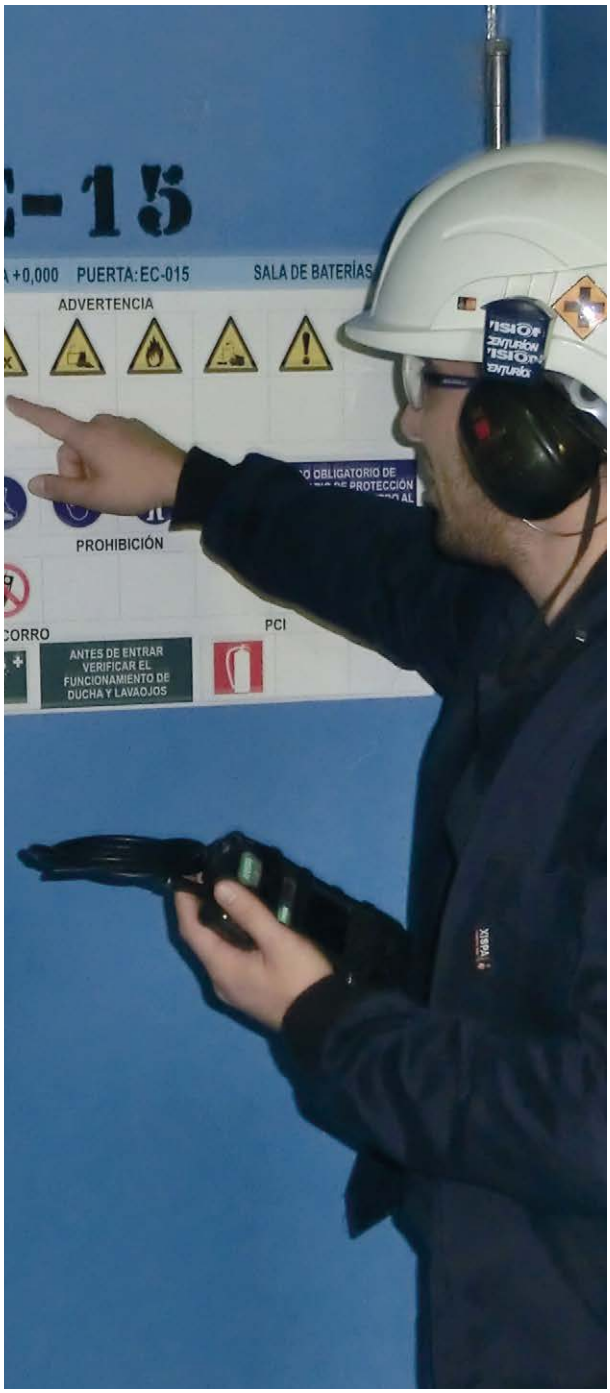
# Quality

Quality is intrinsic to all activities at CNAT and is the main source of confidence for our owners, the social environment, employees and business partners. The commitment to quality at CNAT has been recognised by the Spanish Association for Standardisation and Certification (Asociación Española de Normalización y Certificación - AENOR) by the award since 1995, of an official certificate attesting compliance of our Quality Management System with the UNE EN ISO 9001 standard for nuclear originated power. The quality certification was renewed in 2013 for total compliance, and runs until 2015.

We also voluntarily submit to international assessments to determine the degree of excellence of the organisation. These include WANO Peer Reviews and in September/October there was a Peer Review at the Trillo plant this year with a satisfactory overall result.

Continuous Improvement is part of the CNAT's organisational culture and it is for this reason that we manage around 5,000 corrective and improvement actions, revisions and studies each year, based on internal and independent evaluation, as well as those based on self-assessments and internal suggestions by personnel.

Furthermore, in 2013 the various units have identified around 12,000 low-level incidents, with the aim of performing trend analyses and to enable the identification of preventive actions to avoid higher category incidents.



# Environmental
## QUALITY MANAGEMENT

The commitment to respect the Environment by A.I.E. Almaraz-Trillo Nuclear Plants is reflected in the organisation's Environmental Policy.

The Environmental Policy drives the application of the Environmental Management System and its continuous improvement, reflecting the Board's commitment and constituting the founding principles on which the annual objectives programme is based, and in more general terms, the activities of the company in relation to the Environment.

### ENVIRONMENTAL POLICY

The mission of ALMARAZ-TRILLO NUCLEAR POWER PLANTS is to produce electricity in a manner which is safe, reliable, economic, respectful of the environment, and which guarantees production over the long term, by optimum operation of the Almaraz and Trillo nuclear power plants, and an Environmental Policy has been defined appropriate to its nature, magnitude and environmental impact, which serves as a reference for the establishment and review of objectives and environmental aims, and based on this, it commits to:

- Guarantee compliance with the environmental legislation in force and any other voluntarily accepted requirements, maintaining an attitude of ongoing adherence.
- Operate the installations with respect for the environment, identifying, preventing, controlling and minimising, as far as possible, the environmental impact of its activities.
- Continually making improvements to all processes which could have environmental repercussions.
- Controlling and reducing leakages as far as reasonably possible, and conventional and nuclear waste.
- Motivating and training staff in respect to the environment, stimulating development of an environmental culture and communicating the Environmental Policy within and external to the Organisation.
- Introducing and maintaining updated a Standard Environmental Management System.

# Action
## PLANS

Almaraz-Trillo Nuclear Plants continued to implement significant activities in relation to environmental issues during 2013, and these are incorporated in the Environmental Management Programme, the most significant of which are detailed below:

Engineering work is in progress to replace fluorinated gases which affect the ozone cover, in order to totally eliminate the use of hydrochloroflourocarbons as cooling agents by the end of 2014, as established in European Union Regulations 2037/2000. This involves approximately 120 items of equipment across both plants, which will require very substantial modifications. Replacement of the equipment has been taking place since 2009.

Throughout 2012 and 2013, work to seal and decommission the former Trillo NPP waste dump was carried out, consisting of a cover to prevent leachates, a gas extraction network and revegetation. The stability of the slope was also improved. The work will be completed in 2013, with the approval of the Government of Castilla-La Mancha.

During 2013, in order to reduce paper consumption within the organisation, the distribution of hard-copy "Design Modifications" documentation to the Departments involved, was replaced by electronic distribution with a link to the report itself.

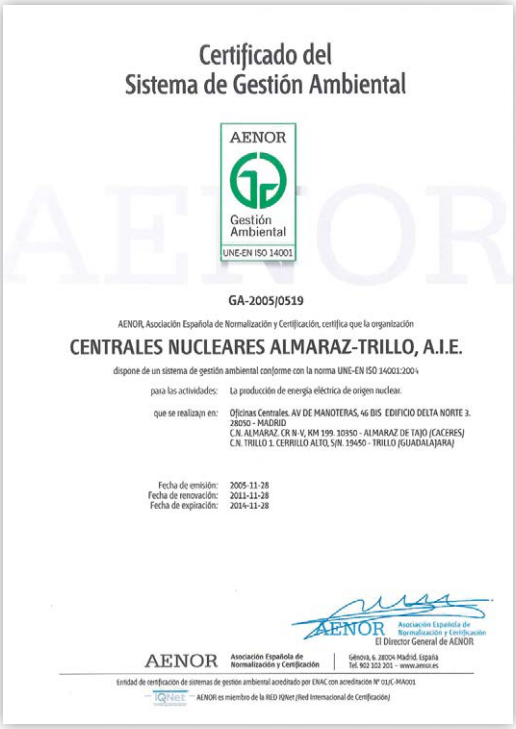
The probes to measure the temperature in the Arrocampo and Torrejón reservoirs, used to control the corresponding thermal conditions, were replaced at Almaraz NPP. The new probes are equipped with online data transmission, which results in a significant improvement in the availability of information.

# Legislation

The Environmental Management System defines a procedure to ensure identification and compliance with environmental legislative requirements applicable to the installations. It uses a software program and legislative database, updated monthly, which includes all conventional legal or voluntary provisions classified n terms of applicability to the Almaraz-Trillo Nuclear Plants, with the corresponding detailed requirements extracted.

The legislative compliance verification process takes place every six months, and is discussed by the A.I.E. Board in the Environmental Committees and during the Annual Review of Environmental Management by the Board.

With regard to legislation, the development of the following legislation had particular relevance for our activities in 2013:



Certificado del
Sistema de Gestión Ambiental

AENOR
Gestión Ambiental
UNE-EN ISO 14001

GA-2005/0519

AENOR, Asociación Española de Normalización y Certificación, certifica que la organización

CENTRALES NUCLEARES ALMARAZ-TRILLO, A.I.E.

dispone de un sistema de gestión ambiental conforme con la norma UNE-EN ISO 14001:2004

para las actividades: La producción de energía eléctrica de origen nuclear.

que se realiza/n en: Oficinas Centrales, AV DE MANOTERAS, 46 BIS EDIFICIO DELTA NORTE 3. 28050 - MADRID
C.N. ALMARAZ. CR N-V, KM 199. 10350 - ALMARAZ DE TAJO (CACERES)
C.N. TRILLO 1. CERRILLO ALTO, S/N. 19450 - TRILLO (GUADALAJARA)

Fecha de emisión: 2005-11-28
Fecha de renovación: 2011-11-28
Fecha de expiración: 2014-11-28

El Director General de AENOR

AENOR Asociación Española de Normalización y Certificación | Génova, 6. 28004 Madrid. España Tel. 902 102 201 – www.aenor.es

Entidad de certificación de sistemas de gestión ambiental acreditado por ENAC con acreditación Nº 01/C-MA003

AENOR es miembro de la RED IQNet (Red Internacional de Certificación)

- **Order AAA/1072/2013,** 7 June, on the use of sewage sludge in agriculture.
- **European Agreement** concerning the International Carriage of Dangerous Goods by Road (ADR).
- **Order HAP/538/2013,** 5 April, approving proformas 584 "Tax on the production of spent nuclear fuel and radioactive waste from nuclear power generation. Self-declaration and fractionated payments" and 585 "Tax on the storage of spent nuclear fuel and radioactive waste in centralised installations. Self-declaration and fractionated payments", and the form and procedure for their submission.
- **Royal Decree 1042/2013** 27 December, approving the Tax Regulations on Fluorinated Greenhouse Gases.
- **Law 21/2013** 9 December, on environmental evaluation.

# Environmental
## AUDITS

In September 2013, the Environmental Management System (ISO 14001) was audited by the Spanish Association for Standardisation and Certification (AENOR), after the Certificate had been in force for eight years, and it was declared to be "compliant".

The auditors inspected the Almaraz and Trillo plants and activities at the Plant Offices. Prior to that, in April, an internal System audit was implemented, which forms an obligatory part of the verification process.

There were several inspections by the Nuclear Safety Council on subjects related to the environment at both plants.

# Environmental
## MONITORING PROGRAMMES

Almaraz and Trillo plants have historically implemented various environmental monitoring programmes, with the aim of verifying the absence of significant environmental impacts as a consequence of their activities, whether of a radiological or conventional type.

### STUDIES OF THE AQUATIC ECOSYSTEMS

Basically, two environmental studies of the surrounding areas of the Almaraz plant were carried out incorporating the Arrocampo and Torrejón reservoirs: ecological study of the aquatic ecosystem and thermal study of the reservoirs.

These surveillance studies are broadly based because the Arrocampo reservoir must also be regarded as another system forming part of the plant as it was constructed specifically for industrial cooling of the Almaraz Plant, and it is used for final heat dissipation which requires the most accurate knowledge possible about characteristics relating to its capability to fulfil the cooling function in both the short and the long-term. This requires intensive management and surveillance of both biological and physico-chemical parameters, especially temperature.

The environmental study of the aquatic ecosystems carried out in the vicinity of the Trillo plant consist currently of monitoring the river Tajo, where the surplus thermal discharge is made after cooling in the towers, and the general phisico-chemical condition of the Plant, and the Entrepeñas reservoir, located downstream in the proximity of the Plant.

This study covers evaluation of the water quality from the physico-chemical viewpoint, and its content of metals and other undesirable substances, as well as the characteristics of other elements of the aquatic ecosystem such as sediments, benthic algae, phyto and zoo plankton and ichthyofauna.

## ENVIRONMENTAL RADIOLOGICAL MONITORING

The Almaraz and Trillo Plants employ continuous and strict control and monitoring of their own radioactive effluent emissions. Nonetheless, in order to verify experimentally the impact radioactive elements might have on the environment, the plants have implemented an Environmental Radiological Monitoring Programme (ERMP) through direct measurement of radiation levels in the surroundings near to the installations, and of the content of radioactive substances from a series of types of environmental samples which are collected from a set of sampling points.

Comprehensive monitoring is carried out on all abiotic elements and living organisms represented in the ecosystems associated with all the natural resources of the surroundings of the plants (air, land and water).

Over a thousand samples are taken at each of the Plants and between 1,500 and 2,000 different types of analyses are carried out (gamma spectrometric, beta activity, environmental doses, strontium, tritium and radioiodine), clearly demonstrating the magnitude of the surveillance implemented.

The usefulness of the results obtained from the analysis are assured through parallel implementation of a quality control programme by another laboratory, independent of the main one, and by the implementation of a programme of direct independent monitoring (PVRAIN) by the Nuclear Safety Council.

Also, in the case of the Almaraz Plant, a collaboration agreement is maintained with CEDEX to enable this official body, reporting to the Ministry of Development, to carry out independent surveillance of the aquatic resources in the proximity of the Plant. Extremadura Council also carries out independent radiological monitoring, with the help of the University of Extremadura.

The results obtained during 2013 at both plants indicate that the radiological state of the ecosystems in their surroundings have experienced no significant variations during the year, with natural background values remaining unchanged, confirming the absence of environmental effects due to the leakage of radioactive elements, rendering radiologically insignificant any leakages from both plants.

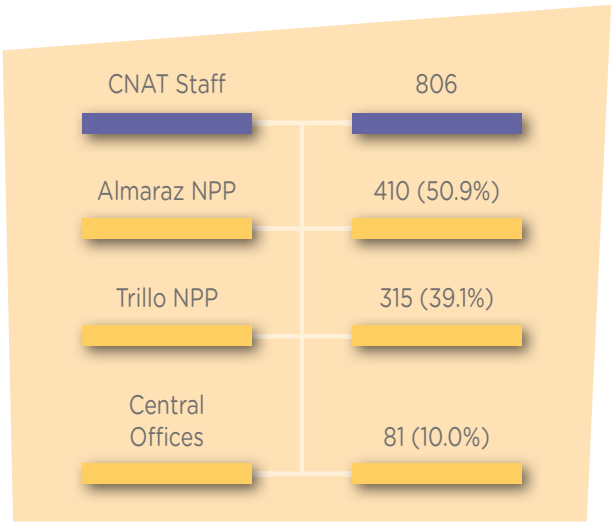
## METEOROLOGICAL STUDIES

The Almaraz and Trillo plants employ meteorological stations to continuously measure and record the most significant parameters such as temperature, precipitation, wind direction and speed, humidity and solar radiation. The meteorological information is of particular relevance for various applications related to the environment, providing an excellent description of the climate at the site, after thirty years of monitoring.

The stations provide the required redundancy to ensure continuous availability of meteorological information.

# People
## MANAGEMENT

At 31 December 2013, CNAT employed 806 professionals who are the best guarantee of long-term success and our most valued support to confront the challenges that will present themselves in the coming years. The CNAT team is characterised by its experience and high levels of qualification: 45.15% hold a university degree.




During 2013 there were 8 new graduate recruits and in all cases they took part in an initial training programme and specific preparatory training before taking up their positions.

These recruits allow for staff turnover while ensuring the safe and reliable operation of the plants in the long-term. Regarding gender distribution, the current participation of females in the workforce is 8.3%.

Also, it should be noted that CNAT staff are continuously supported by personnel from external companies during normal operation of the plants, and especially during refuelling.

On 5 July 2013, the organisation's Family Friendly Company emblem was renewed for a further period of 3 years. This confirmed our clear and vocational commitment to continuing advances on conciliation and equality of opportunity.

## PREVENTION OF WORK-PLACE RISKS

CNAT has a Prevention Service which is responsible for developing preventive actions, employing procedures and computer applications to ensure the participation of all staff in the risk prevention (Communication of risks and suggestions for improvement using the requests manager on the Intranet, and the Actions and Evaluation System AES).

Significant activities in 2013 included the implementation of a new organisational structure for the Prevention Service (a single one for the entire CNAT organisation) and work has continued to unify risk prevention procedures for the three workplaces, especially those relating to Health Surveillance. The prevention units at both plants have managed around 1400 preventive and corrective activities (716 at Almaraz and 660 at Trillo). As in previous years, there have been medical examinations of each risk group in accordance with the established schedule. In general, the number of supervised examinations and the number of services provided exceeded 15,000.

Almaraz-Trillo NPPs have taken major steps in recent years to reduce the accident rate through a combination of training and information actions, such as "just in time" sessions and formal preparatory meetings for work significant for Risk Prevention, and by means of awareness campaigns for the different risks.

The result of this continued effort have been obtained in the year 2013, both in Trillo and Almaraz, values from rates of accidents that can be considered acceptable, being noteworthy the severity rate decreased in both plants.

| ALMARAZ | Owns staff | Contractor´s staff | Total |
|---|---|---|---|
| Overall frequency index | 1.49 | 3.56 | 2.97 |
| Sick-leave frequency index | 1.49 | 1.78 | 1.70 |
| Severity index | 0.018 | 0.075 | 0.059 |

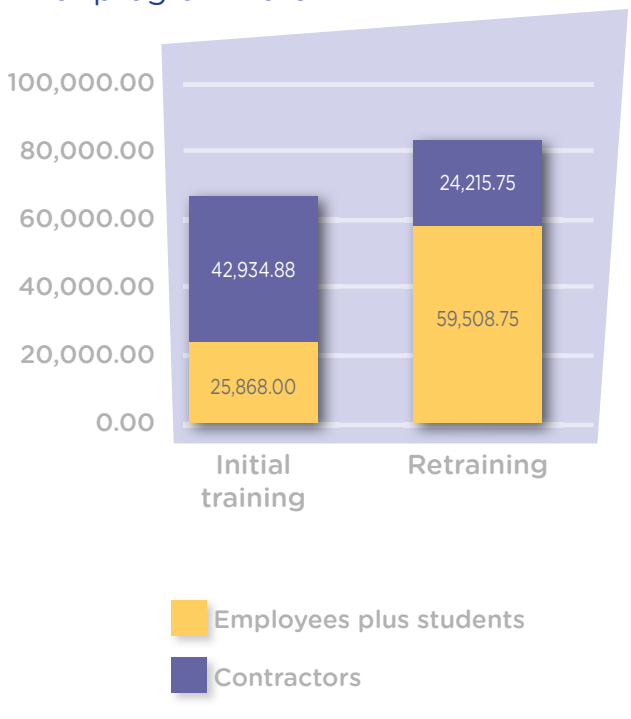
| TRILLO | Owns staff | Contractor´s staff | Total |
|---|---|---|---|
| Overall frequency index | 1.94 | 6.47 | 5 |
| Sick-leave frequency index | 1.94 | 1.85 | 1.88 |
| Severity index | 0.074 | 0.005 | 0.0269 |

## TRAINING

Almaraz-Trillo Nuclear Power Plants have permanent resources devoted to planning and developing annual training plans for each workplace, both for initial training and for retraining and training in management skills.

Efforts to maintain the qualifications of personnel working at the plants in 2013 totalled 152,527.4 training hours and 5,351 individuals were trained.

### General breakdown of program 2013




The proportion of the training programmes devoted to retraining workers was 55% and the portion corresponding to initial training was 45%.

During 2013, 583 initial training and retraining courses were held for CNAT employees, with the participation of 7,878 attendees totalling 85,376.8 training hours. Notably, 97.7% of employees received some training, with an average training provision per employee of 89.4 hours, which represents a dedication of 5.4% of the working year. Regarding the group of women who are part of the CNAT team, 95% have participated in training activities during the year, receiving an average of 67.9 hours of training. Training programmes for future Plant operators, prior to joining the staff, have involved the provision of 14,589 hours of training during the year.

In 2012 Almaraz-Trillo Nuclear Power Plants maintained the process of monitoring the qualification of contracting company personnel, and they have continued to encourage improvements in their training, by providing support for training activities scheduled for the staff, and by arranging specific training sessions for these workers. 42,934.9 hours of initial training were provided for contractor personnel, involving 3,521 attendees. In the area of retraining and refresher training, the attendance of employees from contracting companies at training activities planned for our own staff has been facilitated, resulting in an additional 6,493 external attendees who received 24,215.8 hours of training provided by CNAT. Overall, contracting company personnel received a total of 67,150.6 hours training, representing 44 % of the total training hours provided at the Almaraz-Trillo Nuclear Power Plants.

## INTERNAL COMMUNICATION

Internal communication plays a significant role at CNAT, and for that reason it employs several channels of communication with employees. In 2013 a new internal communication channel was launched: the magazine “Mundo CNAT” (CNAT World). It will be sent to the homes of all employees on a quarterly basis, with the goal of group creation, establishing linkages, encouraging the bonding of employees and disseminating information about the company.

# Relationships
## WITH SOCIETY

CNAT continues to maintain fluid and dynamic relationships with institutions which have responsibilities in the field of power plant performance, and 4 biannual meetings were held on this matter in 2013, two at each Plant, with the mayors of the municipalities in the areas of influence, and details of operating results and future plans and projects were provided. 171 personalised meetings were also held with mayors of the surrounding municipalities to study the relationships of the Plants with each municipality and potential collaboration channels on a bilateral basis. This year the managers of both plants have actively participated, in accordance with the annual frequency with which Local Information Committees are being developed, convened by the Ministry of Industry, Energy and Tourism (MINETUR), providing any information required at all times.

In addition to these relationships and to improve the knowledge of communication professionals about the activity of Plants, CNAT has renewed agreements with news agencies and associations most representative of the environment surrounding the Plants, through which it is seeking to promote the education and training of students in the final year of Information Sciences regarding nuclear originated electricity. A course was also held at Trillo about nuclear technology for media professional, which takes place every year.

Since being brought into service in 1977 and 1981 respectively, the information centres at Almaraz and Trillo, have received almost one million visitors, more specifically, 984,056. During 2013 these information centres have welcomed 8,219 visitors, 3,802 at Almaraz and 4,417 at Trillo. Most of the visitors were students of different levels, from schools and from educational establishments covering secondary education to university education.

CNAT continues to release publications, both periodic and specialised, and during 2013 issued 15 general interest publications, most available from the CNAT website (www.cnat.es), which registered 39,000 visits during the year, and which together with the corporate blog www.energiaymas.es, which also attracts an increasing number of visits (more than 18,000 in its two years of operation), confirms the growing interest of the public in understanding the activity that takes place at our installations and in the municipalities in their areas of influence.

Almaraz and Trillo Nuclear Power Plants are an important socio-economic reference point, as they represent an unquestionable source of jobs and wealth in their areas of influence. The commitment of the Plants to their neighbouring communities materialises in the form of support for initiatives that impact on improving the quality of life and economic and social development of their regions.

In 2013, agreements renewed annually for local development, regarding environmental issues or educational projects, included the agreement signed with the Ministry of Education and Culture of the Government of Extremadura and with IES "Zurbaran" at Navalmoral Mata, to implement the higher level training cycle programme "Industrial Automation and Robotics", as part of the Dual Vocational Training educational project, being pioneered in Extremadura, and which aims to improve access to employment for unemployed individuals under 30 years of age. For two years and three months, 16 students will experience their practical training at Almaraz NPP, providing them with direct contact with the labour market and increasing their vocational qualifications in the field of nuclear energy.

CNAT is committed to its suppliers to ensure continuous improvement in the quality of products and associated services. Trading volume in 2013 was €345.1 M. Of the total number of suppliers (2,219) that the company has identified in the database, 93.2% (2,069) correspond to domestic suppliers.


Centro de Información
Central Nuclear de Trillo


CENTRALES NUCLEARES
ALMARAZ - TRILLO
Contacte con nosotros
Informes notificados al CSN
LA EMPRESA
OPERACIÓN Y MANTENIMIENTO
SEGURIDAD Y CALIDAD
MEDIO AMBIENTE
COMUNICACION
FORMACIÓN CONTRATISTAS
Rincón didáctico
PROVEEDORES
Empresas propietarias
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24 de Marzo 2014
Informe 2º semestre 2013
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13 de Marzo 2014
Informe 2º semestre 2013
C.N.Trillo
NOTICIAS
30 de Junio 2014
NOTA INFORMATIVA C.N. TRILLO: CONCLUYE LA 26 RECARGA DE COMBUSTIBLE Y MANTENIMIENTO GENERAL
Ver vídeo
C.N.ALMARAZ
Situación
Proyecto
La instalación
Resultados
Entorno
Ver vídeo


ALMARAZ
NPP
Apartado Correos, 74
10300 Navalmoral de la Mata
(Cáceres)
Tel.: (+34) 927 54 50 90
Tel.: (+34) 927 02 52 00
FAX: (+34) 927 54 50 90
**ci.almaraz@cnat.es**

TRILLO
NPP
Apartado Correos, 2
19450 Trillo
(Guadalajara)
Tel.: (+34) 949 81 79 00
Tel.: (+34) 949 02 32 00
Fax: (+34) 949 81 78 26
**ci.trillo@cnat.es**

ALMARAZ-TRILLO
NPP
Avda. de Manoteras, 46-BIS
Eficicio Delta Norte, 3 5ª Planta
28050 MADRID
Tel.: (+34) 91 555 91 11
Tel.: (+34) 91 210 58 00
Fax: (+34) 91 556 65 20
**comunicacion@cnat.es**