ALMARAZ
TRILLO

ANNUAL REPORT 2020

CNAT

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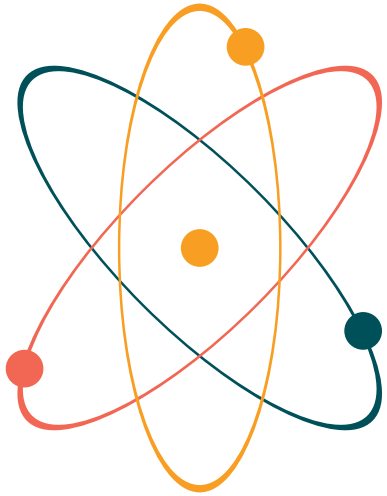
ALMARAZ TRILLO



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Almaraz NPP (UI-UII)

OPERATING AUTHORISATION IN FORCE:

UI - 24/07/2020 for a period of 7 years

UII - 24/07/2020 for a period of 8 years

LOCATION:

Almaraz
(Cáceres)

START OF COMMERCIAL OPERATION:

1 September 1983 (U-I)

1 July 1984 (U-II)

OWNERS:

Iberdrola Generación Nuclear, S.A.U. **(52.687%)**

Endesa Generación, S.A.U. **(36.021%)**

Naturgy Generación S.L.U. **(11.292%)**

TECHNICAL CHARACTERISTICS:

Reactor Type:
Pressurised Water Reactor (PWR)

Supplier:
Westinghouse

Thermal Power:
2,947 MWt (U-I) - 2,947 MWt (U-II)

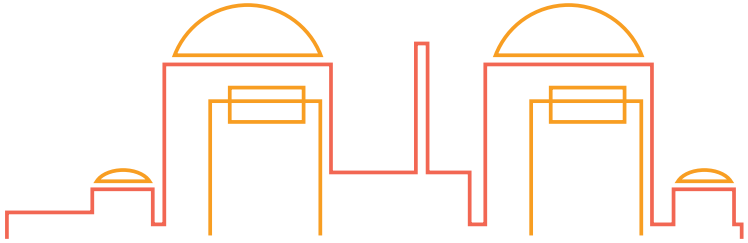
Fuel:
Enriched Uranium Dioxide (UO2)

Nº of Fuel Elements: 157

Gross Electric 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



DURATION OF THE CYCLE:

18 months both units

Trillo NPP

OPERATING AUTHORISATION IN FORCE:
17/11/2014 for a period of 10 years

LOCATION:
Trillo (Guadalajara)

START OF COMMERCIAL OPERATION:
6 August 1988

OWNERS:
Iberdrola Generación Nuclear, S.A.U. **(49%)**

Naturgy Generación S.L.U. **(34.5%)**

Iberenergía, S.A.U. (**15.5%**)

Endesa Generación, S.A.U. **(1%)**

TECHNICAL CHARACTERISTICS:

Reactor Type:
Pressurised Water Reactor (PWR)

Supplier:
KWU

Thermal Power:
3,010 MWt

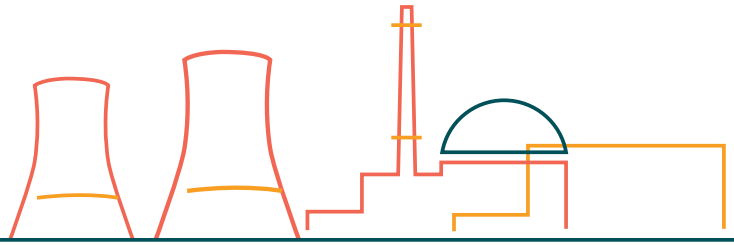
Fuel:
Enriched Uranium Dioxide (UO2)

No. of fuel elements: 177

Gross Electrical Power:
1,066 MWe

Net Electrical Power:
1,003 MWe

Cooling:
Natural Draft Towers (Tagus River)



CYCLE DURATION:
12 months

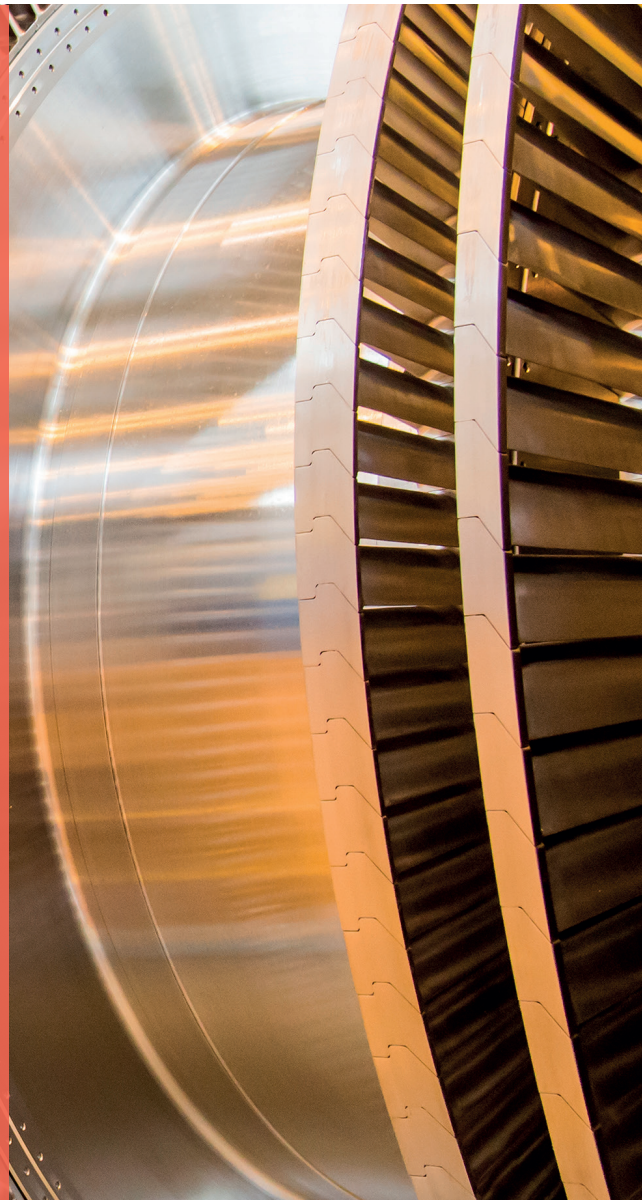
Summry of the year

CNAT's performance in 2020 can be described as excellent, as it managed the operation of the plants in a situation of a state of national alarm, with very complex conditions caused by the COVID 19 pandemic, which made it necessary to deploy the army to the nuclear power plants to reinforce their security. In this context, CNAT's response to this health crisis was highly satisfactory, as described below.

In 2020, the gross electricity production of the Almaraz and Trillo nuclear power plants totalled 24,166,605 million kilowatt hours (15,890,785 million kWh from Almaraz and 8,275,820 million kWh from Trillo), which represents 41.5% of the energy generated by the Spanish nuclear fleet and 10% of the national total. For the tenth consecutive year, nuclear energy has been the leader in generation with 22.18% of the total, followed by wind power with 21.8% and gas with 15.5%.

Important milestones achieved in 2020 included the renewal of the Operating Permit for Almaraz NPP for a period of 7 years for Unit I and 8 years for Unit II and the execution of the refuelling outages in the midst of the serious health crisis. Both refuelling outage periods were longer than usual (67 and 34 days respectively) to guarantee protection against COVID 19 for all workers. During this period, the safety and prevention measures already in place since the start of the pandemic were reinforced to minimise the risk of contagion and ensure the execution of work while guaranteeing the health of all workers.

From 19 to 23 October, CNAT hosted a WANO MSM (MemberSupportMission) with the remote participation of three representatives of WANO (World Association of Nuclear Operators). This MSM gave CNAT the opportunity to learn about best practices on Operational Experience. The work carried out highlighted the importance of having a strong Operational Experience culture integrated into all the organisation's activities. It also identified as CNAT's best practices the existence of user-friendly tools to improve the awareness of the human team and the adaptation of the lessons learned to be understood by all employees.



CNAT Profile

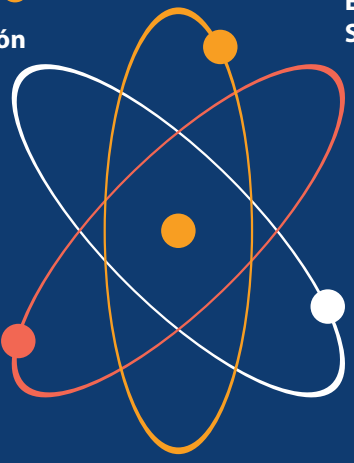
Owner companies

It should be noted that Endesa has entered directly into the shareholding of Trillo NPP. The operation of total divestment and complete exit of NUCLENOR from the ownership of NPP TRILLO I and CNAT AIE has resulted in ENDESA GENERACIÓN acquiring its share of ownership in NPP TRILLO I (1%) and participation (0.34%) in CNAT AIE in proportion to its respective status as a 50% shareholder of NUCLENOR. The other shareholder, IBERDROLA GENERACIÓN NUCLEAR, S.A.U. with 50% of NUCLENOR also acquires the same share of ownership in NPP TRILLO I (1%) and a stake (0.34%) in CNAT AIE. The transaction was formalised in the second half of 2020.

The participation of the companies owning the Almaraz and Trillo Nuclear Power Plants in the installed power of both plants is as follows:

51.44%
Iberdrola Generación Nuclear, S.A.U.

24.8%
Endesa Generación, S.A.U.

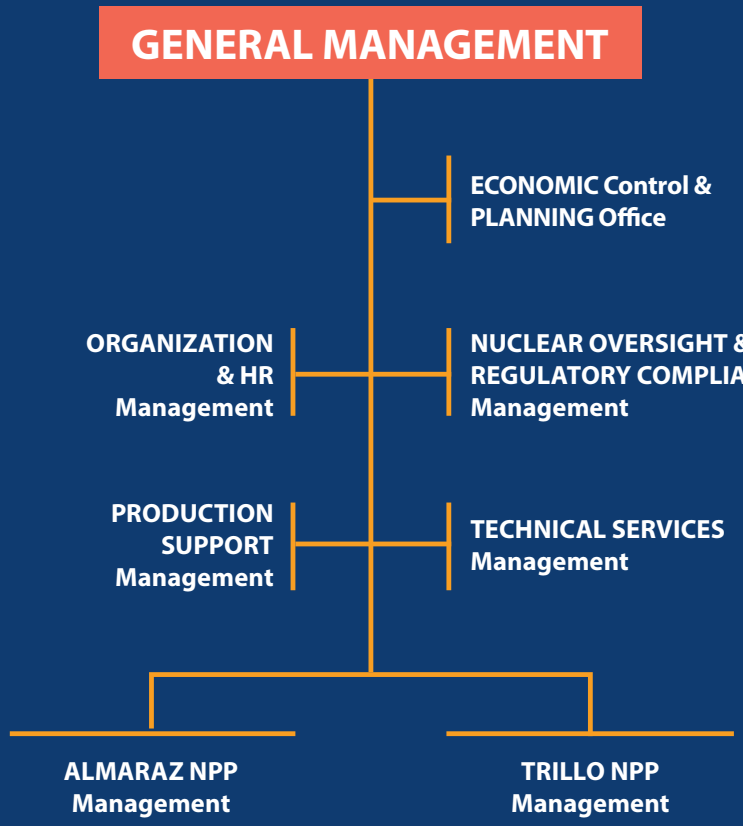


5.24%
Iberenergía, S.A.U.

19.14%
Naturgy Generación S.L.U.

Organisational structure

The organisational chart reflects the organisational structure of the A.I.E. Centrales Nucleares Almaraz-Trillo (CNAT).



Mission, Vision, Strategic Pillars

The mission of CNAT is to produce electricity in a safe, reliable, economic and environmentally friendly manner, guaranteeing long-term production through the optimal operation of the Almaraz and Trillo power plants.

Our Vision aims to place the Almaraz and Trillo plants among the benchmark plants in terms of safety, quality and costs, by means of a management model in which the development and participation of people makes it possible to achieve higher levels of safety, productivity and efficiency.

In order to achieve this Mission and advance towards the horizon established by it, CNAT develops its strategy around the following strategic pillars:

Activity Report

Operations

Almaraz power plant

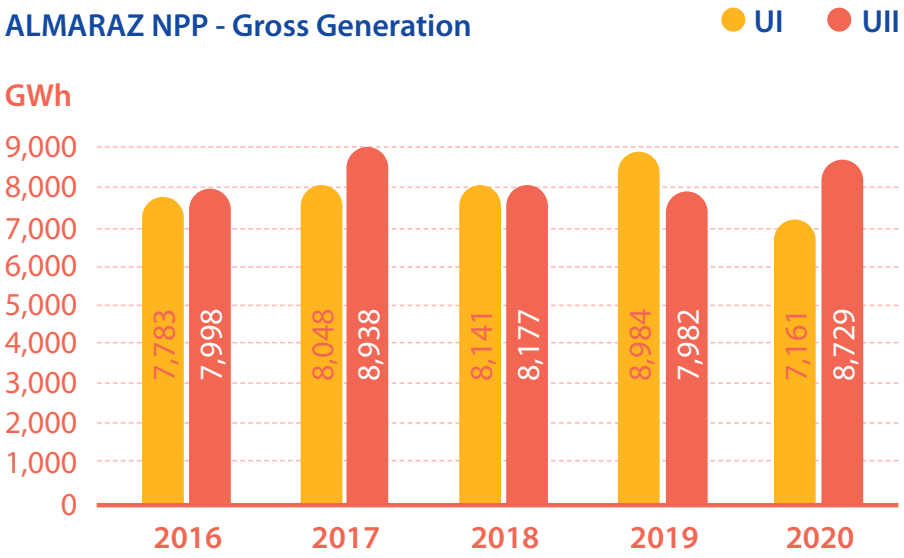
The gross production generated between the two units of the Almaraz nuclear power plant at the end of 2020 was 15,890.7 GWh and the joint net production was 15,279 GWh. The gross electricity production corresponding to Unit I was 7,161.3 GWh and that corresponding to Unit II was 8,729.4 GWh. The Almaraz utility has an accumulated gross electricity production at origin of 561,527.308 GWh (282,406.506 GWh for Unit I and 279,120.802 GWh for Unit II).

Unit I has been operating stably throughout the period, except at the beginning of March, when the load was lowered at the request of the Central Generation Dispatch for Flexible Operation. On 22 June 2020, Unit I suffered an automatic reactor shutdown as a result of the turbine protections triggered by the electrical generator. This shutdown did not pose any risk to the population or the environment. The 27th refuelling outage began on April 14th and continued until June 21.

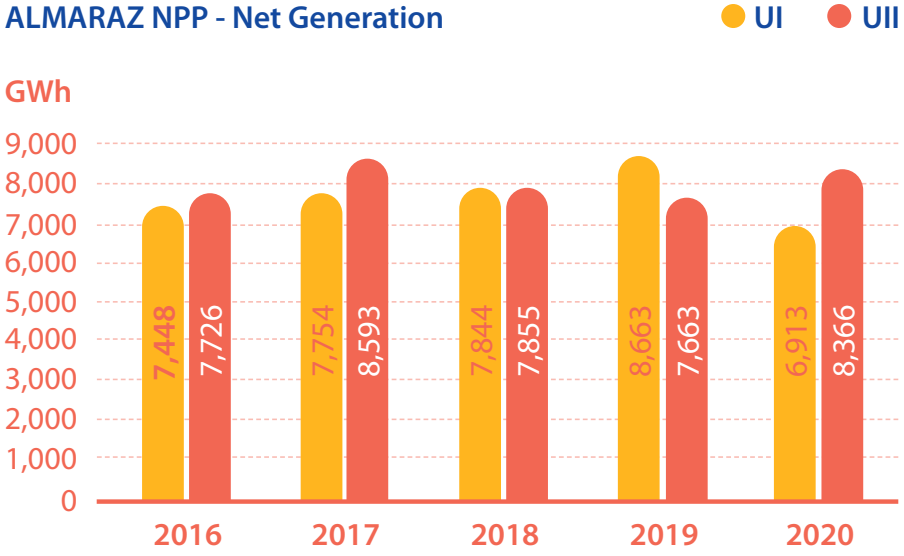
Unit II has been operating stably throughout the period, except in the months of March, April and May, when at the request of the Central Generation Dispatch it was downgraded for Flexible Operation. On 27 June 2020, Unit II suffered an automatic reactor shutdown as a result of the unexpected opening of one of the circuit breakers of the automatic shutdown system. This shutdown did not pose any risk to the population nor to the environment.

In 2020 the Almaraz nuclear power plant reported 5 reportable events to the nuclear authority Nuclear Safety Council (CSN). The annual drill of the Site Emergency Plan (SEP) was carried out on 10th December, an exercise that has been developed taking into account the measures established due to the pandemic caused by Covid-19.

ALMARAZ NPP - Gross Generation



ALMARAZ NPP - Net Generation

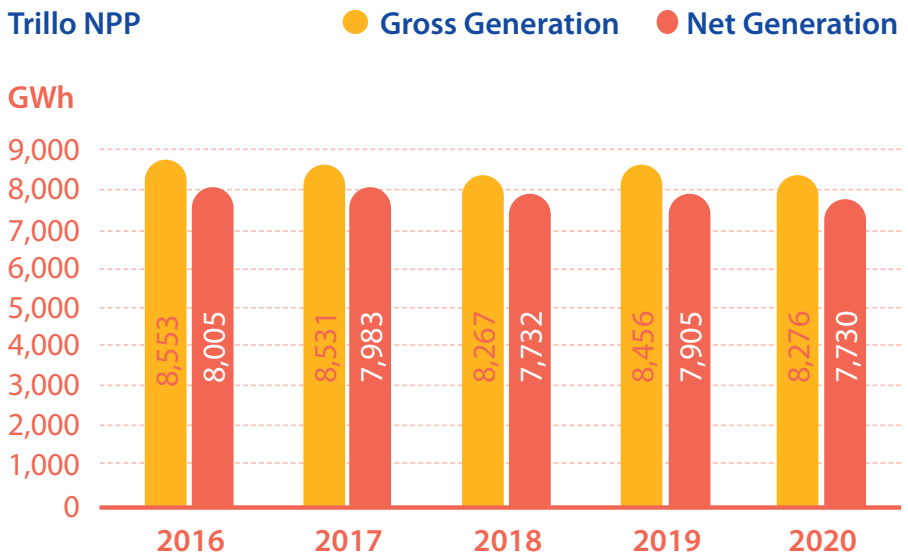


Trillo NPP

During 2020, the Trillo nuclear power plant generated 8,275.82 GWh of gross electricity and 7,729.61 GWh of net electricity. It has an accumulated gross electricity production since the start of commercial operation of 264,024.77 GWh, a total of 253,015.2 hours coupled to the grid and 13 consecutive years without automatic reactor shutdowns.

The Trillo nuclear power plant has operated stably throughout the year, except in the months of February, March and April, when, at the request of the Central Generation Office, the load was reduced due to Flexible Operation. On 18th May, the thirty-second annual refueling and maintenance outage began and was completed on 20th June.

In 2020 Trillo NPP reported 1 reportable event to the CSN. The annual Site Emergency Plan (SEP) drill was carried out on 19th November, for which a scenario was designed in which the emergency level reached Category III "Site Emergency".



Refuelling Outages

Almaraz Power Plant

On 14th April, the first phase of the 27th reloading began in the Unit-I with a smaller scope than usual. Subsequently, following analysis of the evolution of the pandemic caused by COVID-19 and the satisfactory performance of the scheduled activities, the CNAT Management decided to adapt the planning and continue the work initially foreseen, maintaining the highest levels of accident prevention, nuclear safety and radiation protection. This refuelling outage lasted 67 days, much longer than usual and with a lower number of contracts in order to guarantee the protection of all the workers against COVID-19, the use of all the established protections, the sanitisation measures implemented and the limitation of the gathering of personnel at the Plant being mandatory.

Among the most relevant activities carried out during the shutdown of CNA 1 were the Eddy-current tests of the 3 steam generators, the ultrasonic inspection of the vessel, the revision of seals in the cooling pump of reactor number 3, the replacement of 3 safety valves of the Pressuriser, the maintenance of main turbine valves and the replacement of the number 2 charge pump motor.

Trillo NPP

The 32nd refuelling and general maintenance outage of Trillo NPP took place between 18th of May and 20th of June. It lasted longer than usual, 34 days, in order to guarantee protection against COVID 19 for all workers. After analysing different scenarios and always with the aim of protecting the health of workers against possible contagion, the decision was taken to delay the outage until the 18th of May. This re-planning made it possible to minimise the parallel execution of the work, maintaining the staggered entry of personnel into the plant, the use of the established protections, as well as the defined sanitation measures. In addition, the concurrence of personnel in the plant was minimised so that no more than 800 people coincided at any time, including staff, collaborating companies and additional workers, in order to avoid occupational hazards.

Among the activities carried out were the Eddy-current inspection of 100% of the tubes of a steam generator, the inspection of seals and revision of the lower radial bearing in a main cooling pump and the preventive replacement of the motor in another of the pumps, and the cleaning and inspection of the essential services water pool.

Radiation Safety and Protection

The operation of the facilities during 2020 has been completely normal, with no significant incidents affecting nuclear safety and radiation protection, either for employees or for the plant environment.

In the case of the Almaraz plant, the collective dose of the personnel was 415 mSv per person for the two units overall, and at the Trillo plant the dose was 256.48 mSv per person. The results obtained from the measurements performed show a dose for professionally exposed personnel that is once again far below the legally established limits.

Technological Updating

During 2020, CNAT has continued with the planned investment schedule framed within the process it has been carrying out in recent years to improve safety, as well as to maintain the availability of the plants by renewing their equipment due to obsolescence.

At Almaraz Nuclear Power Plant

- Modernisation of the Crossflow system (ultrasonic flow measurement - UTM) in U1 has been completed, improving the configuration and noise filtering.
- Continued renewal of qualified life safety instrumentation (I&C systems subject to ICA).
- Improvements have been made to bring the Hydrazine and Ammonia tanks into compliance with the Chemical Storage Regulations (APQ) and the sulphuric and soda tanks are due to be upgraded in 2021.
- The first phase of motorised valve actuators (SMA) has been replaced by SMB actuators. The U1 actuators were replaced in 2020 (in RO-127) and the U2 actuators are planned to be replaced in 2021 (in RO-226).
- The new water treatment system based on EDI technologie (electrodeionisation) has been commissioned to replace the current physico-chemical demineralisation chain (resin recombiners), improving the production capacity of demineralised water.
- The medium-voltage safety electric motors renewal plan (REMSE) continues. Under this plan, electric motors that have accumulated a high number of operating hours (>200,000h) are being renewed. In 2020, the 4 motors of the CS and CC system of Unit-1 and 2 motors of Unit-2 have been installed. The remaining two Unit-2 motors will be installed in 2021. In addition, an online partial discharge measurement system has been installed on 6.3 kV motors to monitor the status of the rest of the motors in order to take action based on the results.
- The renovation of the meteorological tower has been completed, where all the input sensors have been renewed, as well as the data acquisition computer system (which was obsolete).
- The seismic instrumentation computer has been renewed.
- The Almaraz simulator has been transferred from the Tecnatom facilities at San Sebastián de los Reyes. Start-up will take place in the first quarter of 2021.
- The replacement of low-voltage circuit breakers continues (the HFB model is replaced by HFD) and medium-voltage circuit breakers, with the OTOMAX and NOVOMAX models being replaced by the EMAX model.

At Trillo Nuclear Power Plant

- The H&B actuator modernisation project continues, having completed the Nuclear Safety actuator environmental qualification in 2020, as well as the designs required for implementation in 2021.
- The upgrading of electronic boards and the purchase of additional stock continues.
- The renewal of the control of the decontamination system for equipment related to the TU-50 primary pumps has been completed.
- The designs have been developed for the project to modernise the voltage regulation and power stabilisation systems of the main generator at the plant, scheduled to be implemented in RO-433 refuelling outage in 2021.
- The renovation of the 15 kV medium-voltage ring main facilities has continued with the commissioning of a new medium-voltage transformer station, with the full scheduled scope to be completed in the first quarter of 2021.
- The new Generation circuit breaker has been awarded and designs have begun for its replacement in the RO-434 refueling outage (2022) due to the obsolescence of the current circuit breaker and as part of the Plant's Equipment Renewal Plan.
- The purchase of pumps for the UF, RS, UT and RN systems, affected by obsolescence, has been launched.
- For reliability improvement reasons, a new TA system exchanger (TA11B001) has been purchased and is planned to be installed in the 2021 refuelling outage.
- The strategic plan for the renewal of the diesel generators (safeguard and emergency motors and alternators) has been launched, with a view to their operation until the end of the plant's life. The scheduled maintenance extends to 2032, and includes in its

scope the major maintenance to be carried out on the equipment, with the necessary spare parts, which re-qualify these equipment for the new period.

- A new system for inerting the H2 in the alternator with argon has been installed.
- Emptying, inspection and repair of ZU2 and ZU3 swimming pools have been carried out.
- New waste oil treatment equipment has been installed in the ZC building.
- The process of refurbishing chemical analysers and other instruments has been continued.
- Modernisation of the seismic instrumentation system computer was completed.

The activities associated with security improvements include the following:

At Almaraz Nuclear Power Plant

- In 2020 the designs of the improvement proposals included in the RPS related to the Renewal of the Operating Permit for Almaraz NPP have been published. Among them, the following stand out:
  - » Improvements to increase the available margin in the CC system (new exchanger cleaning system, placement of HR and CS pump coolers).
  - » The new passive seals for the primary pumps.
- In 2020 and as part of the actions for the transition to the fire protection standard (NFPA 805), design modifications have been implemented, among which the following stand out:
  - » Replacement of ceramic blankets with approved passive protection RF60 in the auxiliary building (elevations +1,000, +7,300 and +14,600).
  - » Designs have been edited for the installation of the dual-plumbing of the containment fire protection system and improvements to the hose posts.
  - » Installation of detection systems in outdoor halls that are not regularly visited.
  - » Design of improvements in Control Room screens for Fire Monitoring (to be installed in 2021).

Improvements to Control Room Displays

- As a result of the implementation of new standards and amendments to existing standards affecting the activity of the nuclear industry, the transition to ETFM (Enhanced Technical Specifications for Operation) according to NUREG-1431 in 2020 is of particular importance.

At Trillo Nuclear Power Plant

- Work has continued on activities relating to the Regulator (CSN) Technical Instruction (derived from the requirements of GL2008-01), in relation to the prevention and elimination of the accumulation of gases in piping. Modifications have been made during the refueling outage, with phase 1 implementation period foreseen for 2019-2021, in accordance with the criteria of the NEI 09-10 guide.
- As part of the activities for compliance with ITC-14 of the Operating Permit (Adaptation of systems and equipment for testing to RG-1.140), the dampers of the TL-19/22 ventilation systems have been replaced to improve the tightness of these systems.
- The sectorisation in fire areas of the roof of the building housing the backup diesel generators has been completed, finalising the actions required to comply with IS-30 Rev.2 issued by the CSN.

Common to both plants

- In 2020, the loading of ENUN 32P containers has continued at both plants and relicensing activities of the Independent Spent Fuel Storage Installation (ISFSI) of Almaraz NPP and Trillo NPP have been carried out in accordance with the new revision of the safety study of the new ENUN32P container.
- Phase I of the Seismic Characterisation of the plants (Seismic CTI) has been completed, in which the event data sheets have been prepared and from which the calculations that will allow the required hazard curves to be obtained are being developed.
- In the framework of the Long Term Operation, within the Nuclear Forum, the definition of cable ageing tests has been carried out in order to determine the long-term ageing of the cables and to determine renewal needs.

Seismic test, TL19-22 gates replacement proyect

QUALITY

At CNAT, quality is intrinsic to all its activities and is the main source of confidence for our owners, social environment, workers and collaborating companies. Since 1995, CNAT's commitment to quality has been recognised by the Spanish Association for Standardisation (AENOR) through the award of the official certificate, which accredits compliance of our Quality Management System with the UNE EN ISO 9001:2015 standard for the production of electricity from nuclear energy. In 2020, AENOR carried out a follow-up audit of the certification with a satisfactory result. We also comply with the quality standard of reference in the nuclear sector, the UNE 73401 on Quality Assurance in nuclear facilities, which is the basis of our Quality Assurance Manual, the requirements of which are permanently audited by the Nuclear Safety Council (CSN).

We also voluntarily request international evaluations to assess the organisation's level of excellence. These include the WANO (World Association of Nuclear Operators) Peer Review, an independent assessment by a group of international experts. In January 2020, a WANO team made up of experienced professionals from 9 different countries carried out a Peer Review at Almaraz NPP, obtaining very satisfactory overall results.

WANO Member Support Missions (MSM) are also requested, in which specific aspects are assessed with reference to industry best practice, as was the case in 2020 with the Performance Improvement MSM, carried out at the three sites, identifying recommendations for improvement in the areas of Operational Experience and the Corrective Action Programme.

Continuous Improvement is part of CNAT's organisational culture, which is why we manage around 5,000 corrective and improvement actions every year, the origin of which is both external evaluation and independent internal evaluation (Quality Assurance audits and inspections and specific evaluations and other Nuclear Supervision activities), as well as self-evaluation by the units themselves of their activities and processes. On the other hand, trend analyses of low-level incidents are performed, allowing for the identification of preventive actions to avoid more significant incidents.

Participants at the Peer Review 2020

ENVIRONMENT

Quality Environmental Management

The commitment to respect the environment of CNAT is embodied in the organisation's Environmental Policy. The Environmental Policy drives the application of the Environmental Management System and the continuous improvement of its performance, reflecting the Management's commitment and constituting the guiding principle from which the annual programmes of objectives and, in general, all the company's activities in relation to the Environment are derived.

Environmental Policy

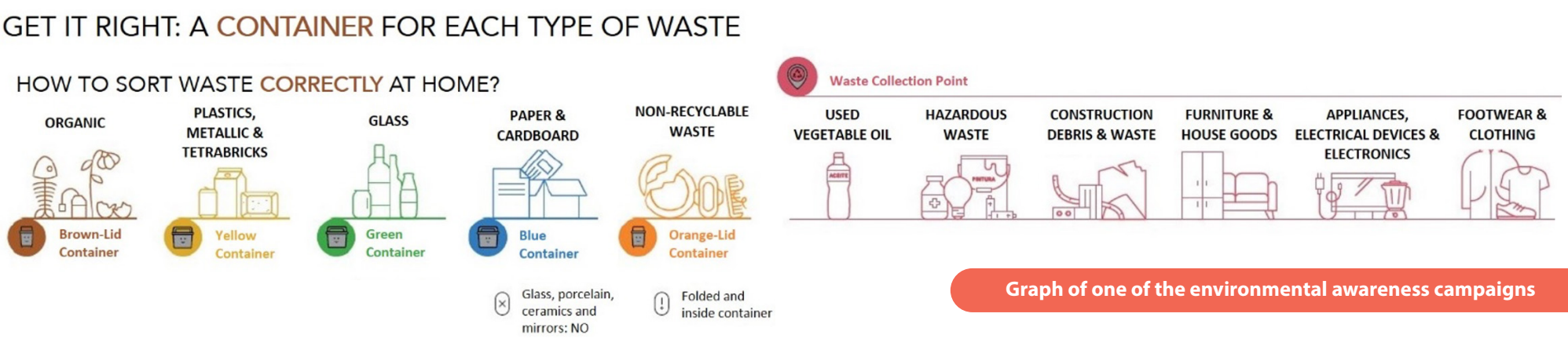
CNAT's environmental policy has been defined in accordance with the purpose and context of the organisation, including the nature, magnitude and environmental impacts of its activities, products and services, constituting the guiding framework of the Environmental Management System and in which the environmental objectives are established and reviewed. It guarantees the following commitments:

- Fully integrate the environmental dimension into the organisation's strategy, to ensure the protection of the environment, the natural surroundings and the prevention of pollution.
- Continuous improvement in all processes that may have an environmental impact.
- Knowing and assessing the environmental opportunities and risks of the activities carried out, to ensure the achievement of the expected results.
- Comply with the binding environmental legislation and other requirements voluntarily subscribed to, maintaining an attitude of permanent compliance with them.
- Integrate environmental management into all activities and levels of the organisation, including design, supply, operation and maintenance; identifying, preventing, controlling and minimising, as far as possible, environmental impacts in the development of these activities:
  - » **USING** raw materials and energy rationally, and minimising the generation of conventional and nuclear waste and effluents.
  - » **AVOIDING** improper waste stockpiling and effluent disposal in unauthorised manner and places.
  - » **CONSIDERING** the development or application of new technologies to improve efficiency in electricity generation, environmental research and the promotion of energy saving.
- Motivate, inform and train staff to respect the environment, stimulating the development of an environmental culture and disseminating the Environmental Policy inside and outside the Organisation, including collaborating companies.
- To report transparently on environmental results and actions, maintaining the appropriate channels to encourage communication with stakeholders.
- Implement and maintain a standardised Environmental Management System.

Lines of Action

In the environmental area, throughout 2020, CNAT has continued with the development of important actions included in the Environmental Management Programme, the most significant of which are listed below:

- Actions aimed at minimising the production of radioactive waste:
  - » **Low and intermediate level waste:** optimisation of the design to avoid the undesired generation of radioactive waste in certain operations, strengthening of processes for the declassification of materials (used oil, activated carbon, earth, metals and others), installation of equipment for the destruction of compactable waste, and improvements in the management of used oil and grease waste in a controlled area by means of centrifugation.
  - » **High level waste:** actions are also under way to reduce high level radioactive waste by means of new cycle management at Trillo NPP and reduction of the volume of special wastes (fuel heads) located in the spent fuel pool at Almaraz NPP for subsequent management as LILW. Almaraz NPP for subsequent management as Low and Medium Activity Waste.
- Creation of an interdepartmental group for the minimisation of hazardous and non-hazardous waste generation at both plants.
- Improvement in pollution prevention systems: conditioning of the storage area for reserve transformers at Almaraz NPP.
- Improvement of the thermo-ecological conditions of the Arrocampo reservoir, through the progressive repair of sections of the thermal separation screen at Almaraz NPP and optimisation of discharge water temperature control.
- Improvements in the data acquisition of the EM-02 meteorological tower.
- Carrying out environmental awareness campaigns aimed at promoting good environmental practices.



Graph of one of the environmental awareness campaigns

Environmental Audits

CNAT has had its Environmental Management System certified by AENOR since 2005, in accordance with the international standard UNE-EN-ISO-14001:2015. From 21st to 24th September 2020, the Environmental Management System Certification Renewal Audit was carried out by AENOR INTERNACIONAL S.A.U. The auditors reviewed the Almaraz and Trillo plants and the activities carried out at the Central Offices, with a final result of "compliant assessment".

The Environmental Management Certificate, after fifteen years of validity, has been renewed in 2020 with validity until 28/11/2023, thus recognising the involvement of the Management and the collective effort of the entire Organisation, carried out throughout these years. Each milestone of this nature should be understood, however, as a new starting point towards a better environmental performance of the company.

Previously, in May, the internal audit of the system had been carried out, which forms part of the verification process required by the system, and no non-conformities were detected.

The Nuclear Safety Council carried out a number of inspections at both plants on various environmental matters.

Environmental Monitoring Programmes

CNAT have historically carried out various environmental surveillance programmes aimed at verifying the absence of significant environmental impacts as a result of their activities, in both the radiological and conventional fields.

Study of aquatic ecosystems

In the area surrounding the Almaraz power plant, two main environmental studies are being carried out, the scope of which includes the Arrocampo and Torrejón reservoirs: the Ecological study of the aquatic ecosystem and the Thermal study of the reservoirs.

These monitoring studies are far-reaching due to the fact that the Arrocampo reservoir should also be considered as another system of the plant, since it was built exclusively for industrial use for the cooling of Almaraz NPP and is therefore used for final heat dissipation. It is therefore necessary to have the most precise knowledge possible of its characteristics in terms of its capacity to perform its cooling function, both in the short and long term. This requires intensive control and monitoring of both physico-chemical parameters, especially temperature, and biological parameters.

The environmental study being carried out in the area surrounding the Trillo power station currently consists of monitoring the Tagus river, into which the plant discharges, and the Entrepeñas reservoir, located downstream in the vicinity of the plant.

The scope of the study includes the assessment of water quality from the physico-chemical point of view 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 zooplankton and ichthyofauna.

Environmental radiological monitoring

The Almaraz and Trillo plants carry out continuous and strict control and surveillance of their own radioactive effluent releases. Nevertheless, in order to experimentally verify the impact that radioactive effluents might have on the environment, the plants carry out an Environmental Radiological Monitoring Programme (ERSP) through the direct measurement of radiation levels in the vicinity of the facilities and of the radioactive substance content of a series of environmental samples collected at a set of sampling points.

All abiotic elements and living beings representative of the ecosystems linked to all natural environments around the plants (aerial, terrestrial and aquatic) are fully monitored.

A large number of samples are collected annually at each of the two plants for different types of analysis (gamma spectrometry, beta activity, environmental dose, strontium, tritium and radioiodine).

The goodness of the analytical results is ensured by the parallel performance of a quality control programme by another laboratory independent from the main laboratory and by the performance of an independent surveillance programme (PVRAIN) carried out directly by the Nuclear Safety Council.

Furthermore, in the case of the Almaraz plant, a collaboration agreement has been entered into with CEDEX (Public Works and Experimental Studies Center) for this official organisation, which reports to the Ministry of Public Works, to carry out independent monitoring of the aquatic environment around the plant. The Regional Government of Extremadura also carries out independent radiological surveillance through the University of Extremadura.

The results obtained during the year 2020 at both plants indicate that the radiological status of the surrounding ecosystems has not undergone significant variations during the year, with the natural background values remaining unchanged, confirming the absence of environmental effects due to the release of radioactive effluents, a fact to be expected given the practically insignificant radiological relevance of the releases carried out by both plants.

Meteorological studies

The Almaraz and Trillo plants have weather stations that continuously measure and record the most significant parameters such as temperature, precipitation, wind direction and speed, humidity and solar radiation. Meteorological information is of special relevance for various applications related to the environment, and a very good characterisation of the climate at the sites is available after more than thirty years of monitoring.

The stations have the necessary redundancies to ensure the continuous availability of meteorological information.

CSN Environmental Radiological Surveillance

SOCIAL

People Management

The human team is the main asset of CNAT. Their collaboration, commitment and identification with the Organisation are the best guarantee for the safe operation of the plants and compliance with the corporate objectives. For this reason, the human resources policy seeks to foster a working environment that allows for professional and personal development, with special attention to the health and safety of its employees.

As of 31 December 2020, CNAT has a team of 815 professionals characterised by their experience and high qualifications: 52% of which have university degrees. CNAT's workforce is mainly concentrated in Extremadura with 391 workers at the Almaraz plant (48%), in Castilla-La Mancha with 329 workers at the Trillo plant (40%) and in Madrid with 95 workers at the Central Offices (12%).

During the year there have been 10 new incorporations and in all cases an initial training programme has been carried out prior to the start of their job responsibilities. It is important to note that the CNAT workforce is assisted by around 750 workers from specialised service companies during normal operations, and between 1,000 and 1,200 additional workers join the plants during refuelling periods.

Since 2017 CNAT has been certified by AENOR INTERNACIONAL S.A.U. in accordance with the ISO-10.667-2:2011 standard on the provision of assessment services: Procedures and methods for the assessment of people in work and organisational environments.

At the beginning of the year, CNAT received the renewal of the efr Certificate (Family-Responsible Company) from the Másfamilia Foundation, accrediting the improvement of the company's rating to Excellence A level. This certificate, which is awarded after an external audit, recognises good practices in organisations that integrate models for the reconciliation of work and family life. CNAT has held the EFR certificate since 2010 and has implemented different measures focused on reconciling work and family life, promoting flexibility, supporting equal opportunities and promoting diversity.

CNAT has also renewed its ISO 10.667 certification for procedures and methods for the assessment of people in work and organisational environments, which verifies a rigorous and exhaustive work methodology that is perfectly aligned with the requirements established in the reference standard.

Personnel distribution in each work center

Prevention of Occupational Risks

Based on the basic principle that all occupational accidents can and should be avoided, the health and safety of people and the integration of Prevention at all levels of the Organisation are a priority for CNAT. The commitment to the Health and Safety of people is a hallmark of CNAT and its ultimate objective is the achievement and maintenance of ZERO accidents. For this reason, since 2018 CNAT's management has promoted a multi-year project to improve the preventive culture of the organisation, which we have called the A-ZERO Plan.

With this objective, during 2020 a series of lines of action have been promoted that involve all CNAT employees and with a very important focus on the collaborating companies that carry out their activity in the plants, among which the following should be highlighted:

- Standards and Expectations: Expectations related to the safety of people, Life Saving Rules and the process of unloading and physically locking equipment in the plants have been consolidated.
- Leadership and motivation: LEADERSHIP and motivation continue to be promoted in personal security, supported by the line of command and integrated into the organisation, with specific actions such as:
  - » Review and consolidation of the process of investigation, analysis and reporting of accidents and incidents in order to identify root causes, enhance organisational learning and, based on the resulting actions, prevent recurrence.

» Consolidation of a programme of Preventive Safety Observations (OPS) in which both CNAT and collaborating companies participate, which acts at the base of the accident pyramid, favours the detection of failure and helps to set the safety expectations we wish for the organisation.

» The programme of individual and collective recognition and achievements in prevention has been continued.

- Communication and Dissemination: With the aim of making the A-ZERO Plan visible and making clear the absolute priority of people's safety at CNAT, we have continued with powerful, effective communication campaigns capable of reaching the entire organisation, and we have installed traffic lights and electronic panels that allow us to follow in real time the prevention objectives that CNAT has set itself.
- DERI (Risk Reduction and Elimination): with lines of action focused on minimising or eliminating the risks present in our facilities (chemical risk, electric arc, elimination of unsafe openings, improvements in lighting, etc.).
- Education and training: An ambitious programme has been developed to ensure the highest level of training in prevention for all workers in the plants.
- Additionally, within the different lines of action of the A-ZERO Plan, the actions of the Plan established to respond to the Area for Improvement (AFI) identified during the 2020 Almaraz NPP Peer Review in the area of Industrial Safety (IS) have been included in relation to the implementation of the plant expectations related to lifting and handling of loads, with the aim of obtaining a result of A - Satisfactory Progress, in the Follow-up of the Peer Review.
- Monitoring of the Plan: By maintaining a structure (Project Group) that allows for monitoring the Plan's achievements, as well as establishing new lines or priorities in the Plan, strengthening existing or newly created bodies for management, discussion, analysis and dissemination, such as Health and Safety and Business Activity Coordination Committees, Prevention Committees and specific Working Groups.
- CNAT's Prevention Service also has two **Health Monitoring** units that look after the state of health of the workers at the three work centres. In their medical check-ups, they apply the specific health surveillance protocols required for each job, according to the risk assessment carried out by Technical Prevention. These units also carry out health care, emergency and occupational accident care functions and maintain Level I accreditation for the care of irradiated and contaminated workers.
- Due to the pandemic in which we are still immersed, during 2020 Health Surveillance has had to reschedule most of the activities and workshops that are carried out on a regular basis within the scope of Health Promotion in CNAT, even so, it has been possible to carry out the campaigns of Colon Cancer Screening (faecal occult blood), Prevention of eye health through non-mydriatic retinography and personalised Nutritional Assessment in the Central Offices.
- On the other hand, all the documentation necessary for COVID-19 has been produced: guides, protocols, procedures, plans, posters, information notes, informative videos, interviews in the magazine MUNDO CNAT, specific meetings, detailed monitoring of the workers affected, an immunological study of the workforce and mass screening of workers with antigen tests, once these have been made available.
- There has also been active collaboration with the relevant regional Councils in each work centre and with the Health Centres in the areas of influence of the facilities throughout the pandemic, applying at all times the guidelines, documents and recommendations issued by the Ministry of Health, Consumer Affairs and Social Welfare.

Training

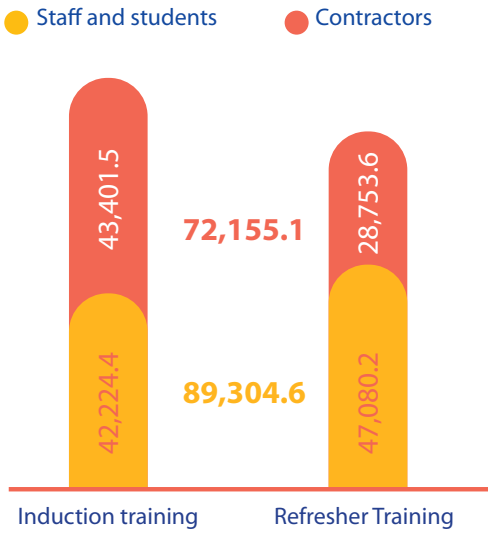
The qualification of the people working for Almaraz-Trillo Nuclear Power Plants is one of the priority areas of interest, for which reason CNAT has permanent resources dedicated to the planning and development of annual training plans at each work centre, both for initial training and for retraining and training in management skills.

In 2020, 512 initial training and retraining courses were held, involving 161,459 hours of training for 4,496 workers, including future plant operators (22 young students undergoing training). Within the training programmes, 47% of the training was devoted to worker retraining and 53% to initial training.

During the year, 813 CNAT employees (99.8% of the total) took part in training actions, totalling 61,072 hours of training, with an average of 75.1 hours of training per employee. The training programmes for future plant operators, prior to their incorporation into the workforce, involved 28,232 hours of training during the year.

With regard to the process of controlling the qualification of contractor company personnel, CNAT has continued to promote the improvement of their training, facilitating their attendance at the training actions planned for staff personnel, and carrying out specific training actions for these workers. In 2020, 72,155 hours of training were given to 3,661 workers from contractor companies.

General distribution.
2020 training program (hours)



Internal Communication

Covid-19 had a profound impact on CNAT's internal communication during 2020, which had to adapt suddenly to the new circumstances and the consequences of the pandemic in order to meet the demands for information and avoid the isolation caused by the widespread use of remote working.

CNAT had to keep internal communication channels open and more active than ever. Initially, the focus of communication had to be on adapting available tools, creating new ones and using digital channels as tools for listening and dialogue, informing about new measures being implemented in the areas of teleworking, safety and health prevention.

An internal communication programme was set up with the dual objective of conveying a message of closeness, strengthening integration and reinforcing the channels for disseminating information about Covid-19. The goal was for all CNAT employees to feel part of the organisation at that time, through contact with their managers and colleagues.

Technological supports such as Teams, which facilitates online communications, video chats or virtual cafés, have served to keep the conversation between teams alive and have allowed us to work remotely and be more connected than ever. One of the most widely used tools has been video, which has gone from being an infrequent format to being practically essential, because it has maintained the link between employees and because it has made visible and reinforced the close and natural leadership of the management team.

Relations with Society

CNAT continues to maintain fluid and dynamic relations with the institutions that have competences in the area in which the plants operate, holding informative meetings every six months (two at each plant), organising meetings with the mayors of the surrounding areas to bilaterally study the relations between the plants and each municipality and the possible channels of collaboration, participating in the Information Committees convened by MITERD, as well as in institutional meetings with provincial and autonomous community organisations.

In the pandemic year 2020, the six-monthly reporting to the mayors of the surrounding municipalities and to the media has been provided by telematic means. This information details all the data concerning the results of the operation and provides updates on future plans and projects. Also, and always in compliance with the measures established by the health authorities to prevent contagion by COVID 19, 163 meetings have been held with the mayors of the areas surrounding the two plants. Likewise, this year the company has participated in the Almaraz Information Commission organised in virtual format by the official bodies responsible for nuclear energy, providing the information required at all times.

The commitment of the Almaraz and Trillo Nuclear Power Plants to their neighbouring communities is reflected in the collaboration agreements that have been renewed in the areas of economic and social development, the environment and educational projects. Likewise, CNAT has renewed the collaboration agreements with the most representative news agencies and press associations in the vicinity of the plants, by means of which the training and specialisation of students in the last year of Information Sciences in the field of nuclear electricity is favoured.

Visits to the Information Centres have been reduced during 2020 due to the health crisis caused by COVID-19 and it was only possible to attend to visits during the first months of the year prior to the activation of the state of alarm, with a total of 1,194 visitors between the two centres (678 at Almaraz and 516 at Trillo), which is much lower than the usual average.

Between the two centres, more than one million people have visited the Almaraz and Trillo facilities since they began operating in 1977 and 1981 respectively.

In addition, both the website (www.cnat.es) and the blog www.energiaymas.es offer information of interest on the activity of the plants and their surroundings, contributing to the dissemination of information concerning the nuclear world.

To ensure continuous improvement in the quality of products and associated services, CNAT makes sure that its suppliers are familiar with and participate in the company's work processes and protocols. The contracting volume in 2020 was 269.4 M€. Of the total number of suppliers identified with contract awards, 92.24% (408 out of 446) are Spanish suppliers.

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