Report of the Spanish Nuclear Safety Council to the Congress and the Senate

Year 2025

Summary Report

CSN



CSN CONSEJO DE SEGURIDAD NUCLEAR

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This report complies with article 11 of Law 15/1980, which stipulates that the Nuclear Safety Council shall submit a report on the performance of its activities to both chambers of the Spanish Parliament and to the Parliaments of the Autonomous Communities in whose territory nuclear facilities are located.

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PRESENTATION



Juan Carlos Lentijo Lentijo
President of the CSN

As it does every year, the Nuclear Safety Council (CSN) is honoured to present its Annual Report for the year 2025 to the Congress and the Senate.

To summarise, it should be noted that during 2025 all nuclear and radioactive facilities and activities in the country operated safely. Similarly, the environmental radiation levels, both in the vicinity of the facilities and across the whole of the country, remained within acceptable limits and posed no risk to the population.

In the field of nuclear safety, of particular note is the receipt of the request for the mandatory report regarding the renewal of the operation licence for Almaraz nuclear power plant, as well as the issuance of a Complementary Technical Instruction (CTI) to gather additional information. Furthermore, favourable reports were issued for all applications concerning the construction and installation of Individualised Storage Facilities (ISF) at nuclear power plants, and the operational status of Spanish nuclear power plants was monitored and subsequently analysed during the widespread power outage that occurred on Monday 28 April on the Iberian Peninsula.

In the field of radiation protection, favourable recommendations were issued for the authorisation of ten new radioactive facilities for medical use, two of which are for proton therapy facilities belonging to the National Health System. The first phase of de-

commissioning was also monitored, and a favourable report was issued regarding the extension of the ITFs (Integral Test Facilities) at the Santa María de Garoña nuclear power plant (Burgos). Furthermore, a favourable report was issued on the specific decommissioning levels for the disposal, via conventional means in landfills, of solid waste materials containing naturally occurring radioactive material (NORM), as well as on the construction plan for cell 31 for very low level waste at the El Cabril storage facility (Córdoba).

With regard to institutional activity, it is worth highlighting the close relationship maintained with other institutions, sector bodies and associations. In this context, the annual meeting with the heads of the Government's regional and sub-regional offices in the provinces with nuclear power plants was resumed, with the aim of strengthening coordination in emergency management. A conference was held with local elected representatives from the Spanish Association of Municipalities in Nuclear Areas and Radioactive Waste Storage (AMAC), aimed at raising awareness of the CSN's supervisory and control work. During the year, a general protocol of action, ten agreements and nine extensions were also signed with various organisations, scientific societies and public administrations. 2025 was also a year in which a partial renewal of the CSN Board took place.

With regard to the autonomous communities, meetings were held of the joint committees with the nine communities with which the CSN has agreements for the assignment of duties. For its part, the Advisory Committee on Information and Public Participation —comprising 35 representatives from civil society, the nuclear sector, trade unions, public administrations and experts in public communication—met every six months.

At international level, the CSN took part in a total of 315 meetings, of which 219 were in-person. Of particular note was the follow-up mission of the International Atomic Energy Agency's (IAEA) Integrated Regulatory Review System (IRRS), which recognised the Digital Radiation Passbook (DRP) and the Dosi-App for emergencies as examples of good practice. In addition, the follow-up mission of the IAEA's Integrated Review Service for Radioactive Waste and Spent Fuel Management, Decommissioning and Rehabilitation (ARTEMIS) took place. During 2025, the CSN held the rotating presidency of the International Association of Nuclear Regulators (INRA) and was re-elected as Chairman of the European Nuclear Safety Regulators Group (ENSREG). In compliance with the European Directive on Nuclear Safety (2014/87/Euratom), the second Thematic Peer Review (TPR-II) project in the European Union, focusing on fire protection systems, was concluded.

With regard to access to information, communication and transparency, a total of 183 news items were published on the CSN's website during 2025. A total of 1,580 enquiries were dealt with via the public enquiries mailbox, 53 requests were received via the Transparency Portal and 103 requests were received from the media. Forty-three new publications were produced, enabling the distribution of technical and public information material to increase to 57,673 copies.

In terms of regulations, following the entry into force of the Regulation on Nuclear and Radioactive Facilities (RINR) in December 2024, Instruction IS-47 was approved, which sets out the list of municipalities where action against radon is a priority and establishes guidelines for measuring radon in the indoor air of workplaces located in those municipalities. Similarly, Instruction IS-48 was approved, defining the criteria applicable to operating experience programmes at nuclear power plants, together with four new CSN safety guides, and the Council's Emergency Response Plan was updated. Furthermore, at its meeting held on 23 July 2025, the CSN approved Revision 4 of the Framework for the Inspection Function of the Nuclear Safety Council. This document sets out the framework for the exercise of the CSN's inspection function following the entry into force of the new RINR and reinforces the roll-out of e-government.

Finally, with regard to internal management, it is worth noting the continued progress in implementing the CSN's Safety Culture project and the approval of the Strategic Plan 2026–2030.

In short, this report reflects another year marked by numerous initiatives aimed at strengthening nuclear safety and radiation protection at facilities. All of this has taken place against a backdrop of profound and rapid changes in our society, in which the ability of teams, people and technologies to adapt is essential to fulfilling the CSN's mission and ensuring nuclear safety and radiation protection for workers, the public and the environment in a constantly demanding environment.

MAJOR ACTIVITIES FOR 2025

LICENSING OF PROTON THERAPY FACILITIES WITHIN THE NATIONAL HEALTH SYSTEM

Regulatory strategy and the situation in Spain

Proton therapy in Spain

Proton therapy is an advanced form of external radiotherapy that uses beams of accelerated protons to treat certain conditions, particularly cancers. Unlike photon radiotherapy, the proton beam deposits most of its energy in a more precisely defined area within the tumour, thanks to the physical phenomenon known as the Bragg peak, thereby significantly reducing the dose to the surrounding healthy tissues. This advantage is particularly relevant in paediatric tumours, tumours located near critical structures, and certain tumours of the head, neck and skull base, where reducing morbidity is essential.

The introduction of proton therapy into the Spanish healthcare system posed, from the outset, a significant challenge for the CSN as the regulatory body: there was no previous experience in Spain with this type of clinical accelerator, and existing legislation had to be adapted to accommodate a highly complex technology. The first two Spanish facilities were authorised between 2019 and 2020: Quirónsalud Proton Therapy Centre and Proton Therapy Centre at the University of Navarra Clinic, respectively, both of which are located in the Community of Madrid. The experience gained in areas such as shielding calculations, safety systems, material activation and radioactive waste management proved crucial in designing the regulatory strategy to tackle the greatest challenge yet to come.

Regulatory challenge

The roll-out of proton therapy within the National Health System presents a regulatory challenge that is rare in the field of medical radioactive facilities. This is not a matter of the isolated introduction of a new technology at a single centre, but rather the virtually simultaneous processing of a wide range of facilities, largely promoted within the same framework of institutional collaboration and with implementation timetables that are very close to one another.

- In October 2021, the Amancio Ortega Foundation announced a donation of 280 million euros earmarked for the installation of ten proton therapy systems in public hospitals within the National Health System. Following a public tender process, the technology selected for the ten facilities included in this project was the same system, the IBA Proteus ONE, which introduces a high degree of technological uniformity in essential aspects of design, safety systems and technical criteria relating to radiation protection. This circumstance made it possible to foresee, from the outset, the benefits of a regulatory approach that would capitalise on the elements common to all the facilities in order to avoid duplication in the technical assessment.

- At the same time, the autonomous community of Cantabria promoted an eleventh proton therapy unit integrated into the National Health System using different technology, specifically the Varian ProBeam 360° system, which is planned to be located at the Marqués de Valdecilla Hospital. The existence of this facility introduces a distinguishing factor , as its

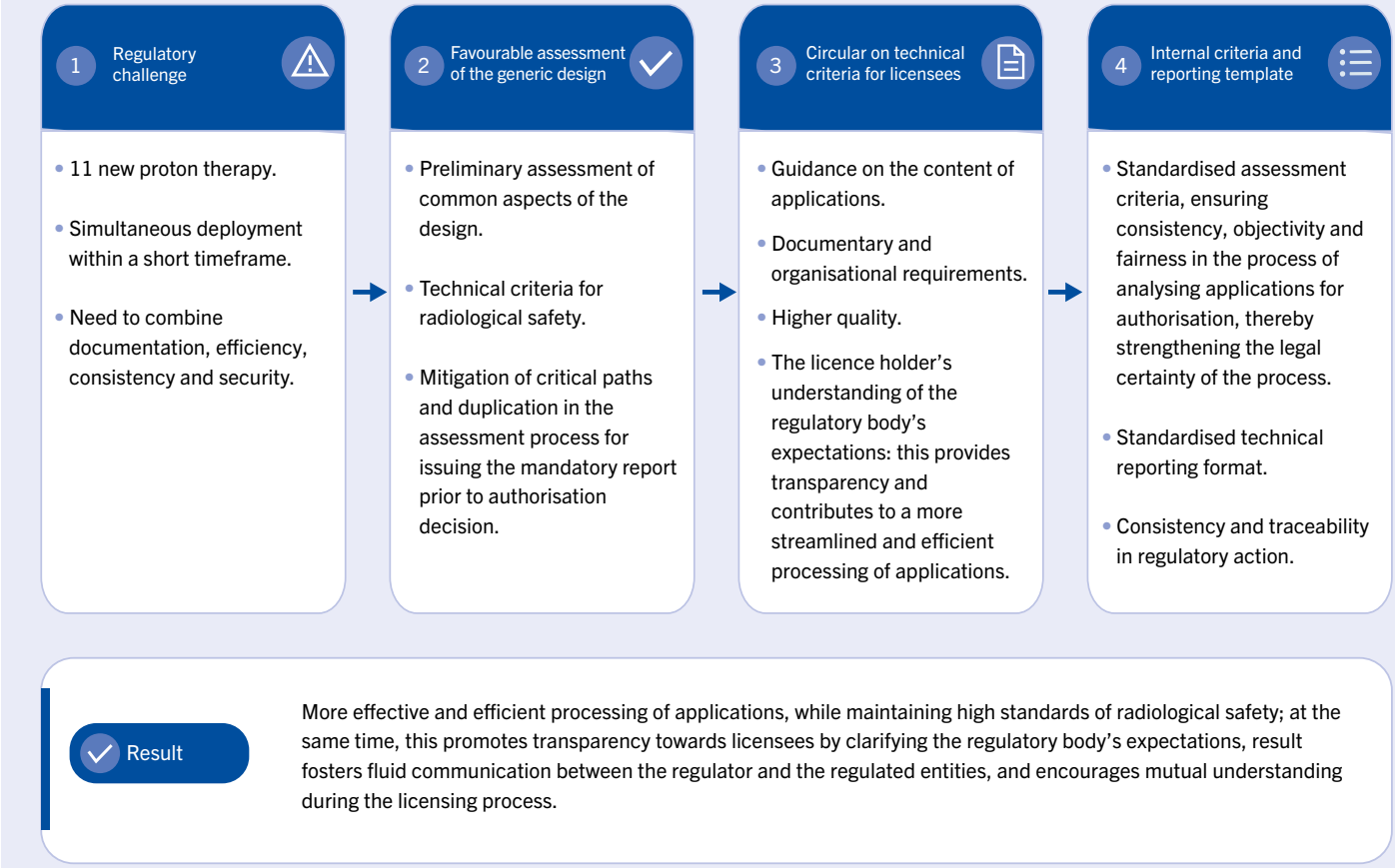
assessment cannot be based on a generic evaluation of the predominant technological model and must be addressed specifically, taking into account the particular features of its design, configuration and associated systems.

CSN's regulatory strategy

Overall, this scenario has presented the CSN with the need to formulate a regulatory response capable of covering eleven new proton therapy facilities within the National Health System within a very tight timeframe. The main challenge has been to reconcile the necessary agility in the regulatory process with the maintenance of a level of technical rigour fully consistent with the significance of this technology and with the applicable radiological safety requirements. The strategy adopted by the CSN responds precisely to this dual need: to make use of common elements where technically reasonable and, at the same time, to ensure an individualised assessment of each facility in all those aspects where this is required.

Far from treating each application in isolation, the CSN devised an approach based on three complementary pillars which, taken together, aim to guarantee radiological safety without compromising the deadlines for the commissioning of the facilities.

Figure A1. The CSN's regulatory strategy for the licensing of the eleven new proton therapy facilities



a) Favourable assessment of the generic design

The first and most innovative of these pillars consists of the CSN's favourable assessment of a 'generic safety study' for the IBA Proteus ONE system, carried out prior to and across the individual licensing of each facility. This follows a request by the equipment manufacturer, IBA, for a public price—provided for in the regulations as a mechanism for the provision of technical services by the regulatory body—regarding the design of its safety and shielding systems, which are common to all Proteus ONE units to be installed within the National Health System.

The CSN issued a favourable opinion of this study at its meeting held on 2 April 2025, following a rigorous technical evaluation of the safety systems (interlocks, beam stop systems, radiation monitoring) and the generic shielding design. This favourable opinion does not replace the individual license for each facility, but it allows the applications for the ten Proteus ONE units to draw on this study for the common design aspects, thereby avoiding the duplication of a complex technical analysis and helping to shorten the regulatory body's assessment times. This strategy has provided clear added value in terms of simplification and administrative efficiency, by enabling a preliminary, centralised assessment of common elements, which is subsequently utilised within the framework of individual procedures. This has resulted in greater efficiency in the processing of applications, without compromising the level of radiological safety requirements, and has facilitated a more orderly, consistent and predictable management of the licensing processes.

b) Technical criteria document for licensees

The second pillar consists of the publication, in June 2024, of a circular setting out technical criteria designed to assist licensees of future proton therapy facilities.

Law 15/1980 of 22 April on the Establishment of the Nuclear Safety Council provides for the regulatory body's power to issue circulars, which are technical instruments enabling the CSN to set out uniform criteria for action and to facilitate the interpretation of regulatory requirements.

The circular issued by the CSN in this area sets out the regulator's expectations and requirements regarding the documentation that must accompany each application for authorisation, in order to ensure that the CSN is able to carry out an adequate assessment. In particular, the circular sets out the minimum content and requirements for each license application, including, among other things, the content of the safety analysis, the requirements of the radiation protection programme, the definition of the facility's organisational structure, the accreditation of personnel with supervisory and operational duties, and the onsite emergency plan.

The publication of this circular aims to reduce uncertainty among applicants and minimise the number of requests for additional information, which inevitably delay administrative procedures.

The strategy has also included holding kick-off meetings for each project, attended by the management teams of the hospitals where each proton therapy facility is to be installed, the project managers from the equipment manufacturer, the licensees' radiation protection officers, the clinical teams that will operate the facilities, the construction companies responsible for the works, and the relevant executive bodies of the health departments of the respective autonomous communities.

The aim of these meetings has been to create forums for dialogue, provide information and training on the development and implementation of the process, establish shared timetables and plans, ensure transparency, facilitate communication among all stakeholders and foster synergies. Furthermore, they have enabled the

early identification of potential critical paths in the development of the projects, promoting joint efforts aimed at anticipating risks and adopting coordinated solutions from the initial stages.

The strategy implemented has fostered the creation of a shared ecosystem between the regulatory body and all the stakeholders involved, establishing a structured collaborative environment which, while respecting at all times the respective competencies, responsibilities and functions of each party, has helped to consolidate a community aligned around common objectives. This approach has helped to strengthen mutual trust, improve mutual understanding and foster more effective and transparent interaction.

c) Internal criteria and reporting model

The third pillar falls within the CSN's remit: the drafting of an internal document setting out assessment criteria and a template for the technical report required for the mandatory assessment of applications for proton therapy facilities. Having a consolidated team enables the various technical staff involved in this task to approach all applications with a consistent approach, ensuring regulatory consistency and the traceability of the decisions taken.

This pillar is complemented by an internal training programme (including technical visits to facilities similar to those to be installed and technical sessions with manufacturers), the management and transfer of knowledge acquired during the authorisation process for the first two facilities of this type, and by holding regular coordination meetings with manufacturers and licensees. All of this contributes to optimising the use of the CSN's human resources by fostering the progressive specialisation of teams and the training of new generations of experts, thereby ensuring the continuity of knowledge and its proper transfer.

These three pillars reinforce one another. The first ensures a rigorous assessment of the generic design— which is validated once and used for ten of the eleven new facilities. The second provides applicants with guidance on exactly what the regulator expects, resulting in an improvement in the quality of the documentation submitted with applications and reducing delays caused by requests for further information; and the third ensures that the assessment of each facility is carried out in a consistent and efficient manner.

Authorisation milestones in 2025

In line with this strategy, and ahead of the projects' timetable, in 2025 the CSN issued a favourable report on the operation licence for the first two proton therapy facilities within the National Health System: the one in Santiago de Compostela (Galicia) and the one in Fuenlabrada (Madrid), and began supervising their pre-operational phases, which will take approximately one year to complete, comprising assembly, testing and clinical validation prior to the treatment of their first patients.

At the same time, the CSN received three new applications for authorisation of proton therapy facilities as part of the aforementioned project.

EVENTS AND ACTIONS BY NUCLEAR POWER PLANTS AND THE CSN, FROM THE PERSPECTIVE OF NUCLEAR SAFETY AND RADIATION PROTECTION, DURING THE TOTAL POWER OUTAGE THAT OCCURRED ON 28 APRIL 2025

On 28 April 2025, a total power blackout occurred, affecting the entire Iberian Peninsula. The following is a summary, on the one hand, of the response of the operational nuclear power plants (NPP) and the main actions taken by their licensees following the incident and, on the other hand, of the actions taken by the Nuclear Safety Council (CSN) during the incident, as well as the subsequent supervisory actions carried out by this body.

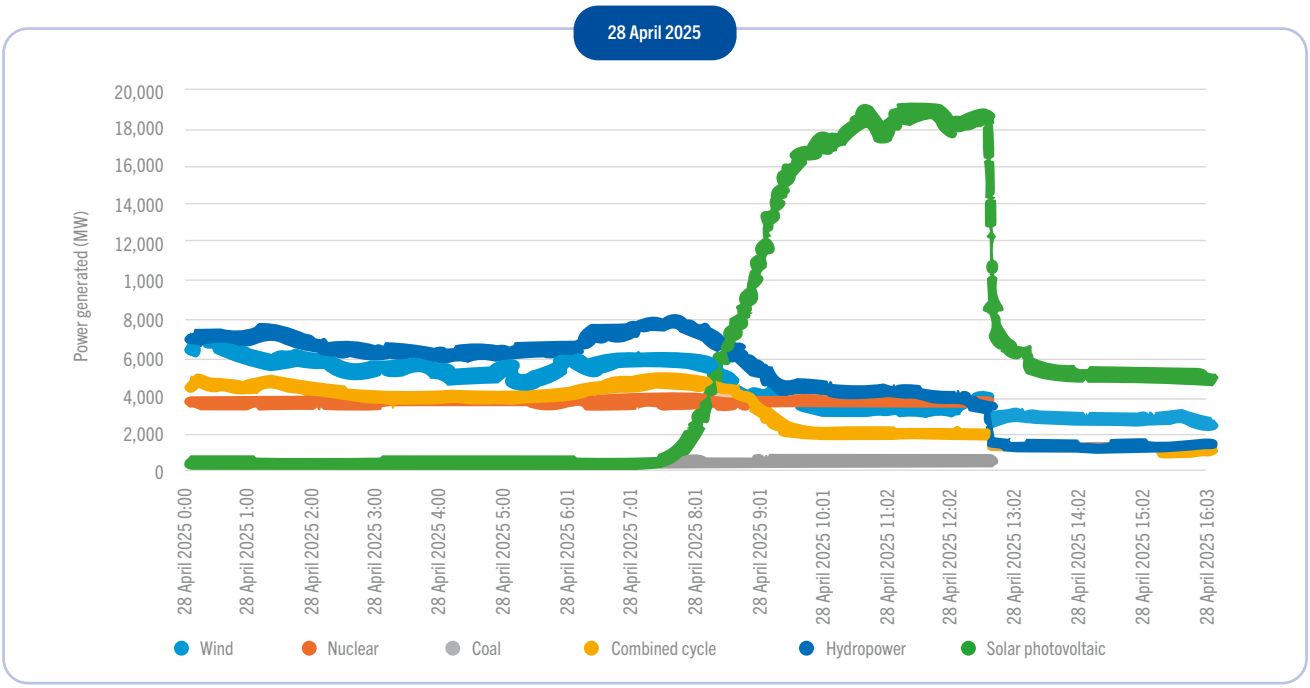
It is not within the CSN's remit to assess or determine the causes of the incident in the national electricity system; consequently, these causes are not analysed, but only the response to the incident from the perspective of its impact on nuclear safety and radiation protection.

Response of operating nuclear power plants and key actions taken by licensees in the event of a loss of external power

The total loss of electricity supply was caused by several transients in the transmission grid, which triggered trips in the generation chain, leading to a drop in grid frequency and a rise in voltage. This, in turn, caused cascading failures that affected all distribution networks, ultimately resulting in the collapse of the system at 12:33:24 on 28 April 2025.

Electricity generation on 28 April, up to the point at which the incident occurred, is shown in Figure A1, with total nuclear power generation remaining stable at an average of 3,387 MWe.

Figure A1. Electricity generation on 28 April 2025 (REE data)



The following table summarises the operational status of Spanish nuclear power plants prior to the incident:

Table A1. Operational status and electrical power of the nuclear power plants prior to the event

Plant/Unit	Operational status	Electrical power
Almaraz I	Cold shutdown	–
Almaraz II	70 %	**680 MWe**
Ascó I	70 %	**719 MWe**
Ascó II	100 %	**1,034 MWe**
Cofrentes	Cold shutdown	–
Trillo	Refuelling	–
Vandellós II	100 %	**1,089 MWe**

As a result of the incident, the reactors that were operating at full power – Almaraz II, Ascó I and II, and Vandellós II – underwent automatic shutdowns due to a drop in grid frequency. The main actions taken at each of the nuclear power plants are summarised below:

- **Almaraz I NPP:** the plant had been in cold shutdown with the reactor in a subcritical state since 16 April, with core cooling maintained by the residual heat removal system. The voltage loss triggered the automatic start-up and synchronisation of the emergency diesel generators to restore voltage to the safeguard busbars, and the reconnection of loads to the safeguard busbars took place without incident.

- **Almaraz II NPP:** the minimum frequency on the normal busbars caused the reactor cooling pumps to shut down, leading to the automatic shutdown of the reactor. As with Unit I, the emergency diesel generators were started up and connected to the safety busbars, followed by the reconnection of the necessary loads.

- **Ascó I and II NPPs:** at both units, the reactor shut down automatically due to a minimum frequency signal on the busbars supplying the reactor cooling pumps. The diesel generators started up due to minimum voltage on the safety busbars, subsequently coupling correctly to their respective busbars and successfully carrying out the load reconnection sequence.

- **Cofrentes NPP:** the plant was in a cold shutdown state, with the reactor in a subcritical condition. The two recirculation pumps and the residual heat removal system pump (RHR-B), which was in operation, tripped. A low-voltage signal on the emergency busbars in Divisions I, II and III triggered the start-up of the respective emergency diesel generators and their connection to their respective busbars. The loads were reconnected sequentially as per design.

- **Trillo NPP:** the plant was shut down for refuelling. As a result of the loss of voltage in the external power supply systems, the safety busbars lost power, triggering the signals for Start-up and connection of the four standby diesel generators (GY10/20/30/40). The GY10/20/30 generators started up and synchronised with their busbars correctly. The GY40 failed to start, resulting in a zero reading on its associated emergency

busbar and triggering the start-up of the GY80 emergency diesel generator, which synchronised correctly, restoring voltage to the emergency busbar.

- **Vandellós II NPP:** the reactor shut down automatically due to a low-frequency signal from the reactor cooling pumps. The emergency diesel generators and the essential diesel generator started up, supplying power to the safety busbars and critical distribution centres.

A complete loss of external power at Spanish nuclear power plants triggers the declaration of a 'preemergency alert' in accordance with their interior emergency plans (IEP). The plant operators carried out the actions associated with the pre-emergency alert declaration, notifying the CSN of this status in accordance with their operating procedures.

Once 'zero electricity' had been confirmed at all the power plants, Red Eléctrica de España (REE) gradually proceeded to restore the system by bringing online systems capable of starting up autonomously and without external power supply (hydroelectric power plants) to create energy islands. The process involves gradually adding generation (combined-cycle gas turbines) and demand to these energy islands, which, once stabilised, must be interconnected until the system has been fully restored. All these operations were coordinated by REE in accordance with its Service Restoration Procedures (PRS).

The nuclear power plants, following instructions from REE, proceeded gradually to restore service by creating islands using hydroelectric power plants, all of which was subject to the condition of the national grid. The restoration of external electricity supply to the power plants took place over a timeframe of between 5 and 15 hours, depending on the characteristics and specific circumstances of each site and the stability of the electricity grid.

Actions taken by the Nuclear Safety Council

The Nuclear Safety Council's (CSN) Emergency Response Organisation (ORE) can operate in four response modes (0 to 3) depending on the severity, complexity or duration of the emergency. On 28 April, the CSN's emergency room (Salem) was activated in mode 1 at 12.35, after the extent of the incident became known. The activation remained in place until 03:20 on 29 April, when the system reverted to Level 0, or permanent alert, once the prealert had been lifted by the last facility, Cofrentes nuclear power plant.

The main challenge faced by the ORE was to maintain the operational continuity of communications, given that:

- Communications with the nuclear power plants experienced some intermittent disruptions, although all facilities complied with the communication requirements set out in their interior emergency plans and there was no need to activate alternative backup communication systems.

- At certain times, there were isolated adjustments to communications with some operational coordination centres (CECOPs), though this did not hinder the overall performance of the functions associated with the management of external nuclear emergency plans.

In conclusion, the need to strengthen and diversify communication channels has been identified, as it has become clear how important it is to have additional alternative and redundant systems that guarantee operational coordination even in the most complex and adverse scenarios. Some of these systems are currently available, while others are at various stages of development.

As regards the ORE's operational response during the incident, its effectiveness and coordination stood out, particularly in the following aspects:

- There was close collaboration and effective coordination between the ORE's operational teams, which enabled their activities to be carried out appropriately.

- The operational teams had the necessary staff to carry out their activities, both during working hours when the activation began and outside these hours. Coverage of work shifts was guaranteed despite the occasional difficulties experienced with communications and travel.

- The CSN's emergency power system performed satisfactorily for as long as it was required.

- The CSN's IT systems operated without any significant disruptions that would have prevented tasks from being carried out.

Logistical and security requirements were largely met by dedicated staff from the Logistics Support Group.

CSN supervision of the performance and operation of electrical systems at nuclear power plants during the pre-alert

Following the incident on 28 April 2025, the CSN requested information from the operators of the nuclear power plants regarding the magnitude of the transient and the subsequent actions taken as a result. The CSN's Technical Directorate of Nuclear Safety (DSN) analysed the reports submitted by the power plants in response to the request for information, reaching the following conclusions:

1. The internal electrical systems of Spanish nuclear power plants functioned correctly and kept the plants within their design parameters, meaning that nuclear safety was not compromised at any time.

2. The electrical protection systems operated correctly in accordance with their design, and the licensees have not reported any malfunctions in this regard. Many of the alarms and protection systems did not activate as the time delays were not met, due to the speed at which the grid voltage and frequency deteriorated.

3. The automatic response of the plants' regulation and control systems was acceptable and in line with the design. The alarms triggered were those expected for this event.

4. The joint response from the various control rooms, in coordination with REE, was adequate. The restoration of voltage from the hydroelectric power plants was rapid but not without difficulties, and on numerous occasions the restoration manoeuvres had to be repeated. This was due to the difference in the boundary conditions under which the current restoration procedures have been defined; these procedures envisage a localised recovery of the electricity supply in a scenario far removed from the complete 'electrical blackout' that occurred during this event. External power supply to the normal busbars was restored swiftly within a matter of a few hours.

Supervision of licensees' actions by the CSN's resident inspectorate

The CSN has a team of resident inspectors (IR) stationed at nuclear power plants, comprising one resident inspector and one deputy resident inspector (IRA) in the case of a single unit, and one resident inspector and two deputy resident inspectors in the case of two units. At the time of the incident, resident inspection staff were present at each of the power plants, and remained there until the pre-alert status was deescalated.

From the individual analysis of each of the seven units, as well as the comparative analysis of the information gathered by the RI teams at the power plants, a number of general conclusions have been drawn, which are set out below:

- At the time the power grid went to zero, the safety systems and equipment required to manage the emergency were operational in all seven units, and in none of them were any significant activities underway that would interfere with the management of the emergency.

- The automatic response actions of the safety systems following the loss of external power (LEP) were as intended by the design in all units, with the sole exception of the failure to start the GY40 emergency diesel generator at Trillo nuclear power plant. In response to this failure, the GY80 emergency diesel generator started up and synchronised automatically, in accordance with the design and, therefore, with no impact on safety.

- The manual response actions carried out by the operating shifts in response to the IEP condition were correct and in accordance with the applicable procedures at all five power plants.

- At all seven units, the procedures for restoring external power supply applicable in the event of an IEP declaration were successfully implemented, although recovery times varied depending on the characteristics and specific features of each site and the stability of the electricity grid, which led to the loss of some lines once power had been restored and, in other cases, to the extension of the pre-emergency alert status.

- At the five nuclear power plants, isolated incidents were recorded in the communication systems associated with the loss of power supply, which required management measures to be taken, both internally and in relations with the various external stakeholders. The scope and duration of these incidents varied considerably between sites, although in all cases compliance with the communication requirements set out in the Interior Emergency Plans (IEPs) was maintained.

- At all five power plants, a preliminary emergency alert was declared in accordance with trigger 1.2.1 of the Interior Emergency Plan (IEP). The emergency was deactivated after carrying out the checks set out in the procedures, once the operational conditions of the units were deemed stable and safe, and the external power supply was considered to have been restored and secured. The duration of the emergency depended, in each case, on the time at which the electricity supply from the external grid was restored and the time required to complete the recovery actions, ranging from 5 to 15 hours. During the emergency, the licensees issued the relevant communications, although some incidents affecting the communication systems had a limited impact on the pace at which they were sent. No shortcomings have been identified regarding the communications required by the Interior Emergency Plans (IEPs).

- Throughout the emergency, the management team responded appropriately, with no instances of unfilled posts or organisational problems that affected the emergency response or the security of the facilities. Disruptions to the communications systems made it necessary, in some cases, to implement additional procedures for communications and staff organisation; however, in all cases the situations were resolved satisfactorily. Operational shifts and on-call posts were covered at all times. Technical Support Centres (CATs) were established and maintained in full operation without any problems. At some power plants, the CAT was located at the Alternative Emergency Management Centre (CAGE). There were no further problems in carrying out shift changes. In some cases, it was necessary to use the CAGE for staff rest and refreshments.

- On 28 April 2025, the availability of CSN resident inspectors at each site varied from one facility to another. Resident inspectors were present at Cofrentes and Trillo. At Almaraz, the resident inspector and the deputy resident inspector were available. At Ascó

and Vandellós II, all inspectors were available (three at Ascó and two at Vandellós II), and arrangements were made for a resident inspector to travel to the Government Subdelegation in Tarragona and take up the post of head of the radiological team from the start of the emergency. At those power plants where more than one inspector was available, the necessary decisions were taken to organise possible shifts. In the case of Cofrentes, given the protracted nature of the emergency, the CSN sent a technician from Madrid to act as a substitute resident inspector on 29 April 2025.

- Despite not having the full teams available and despite occasional communication incidents (both internal, at the power plants, and with external parties, the CSN and CECOP), the resident inspection team was able to monitor the development of the operational situation at each unit and report in a timely manner to the CSN and the CECOP.

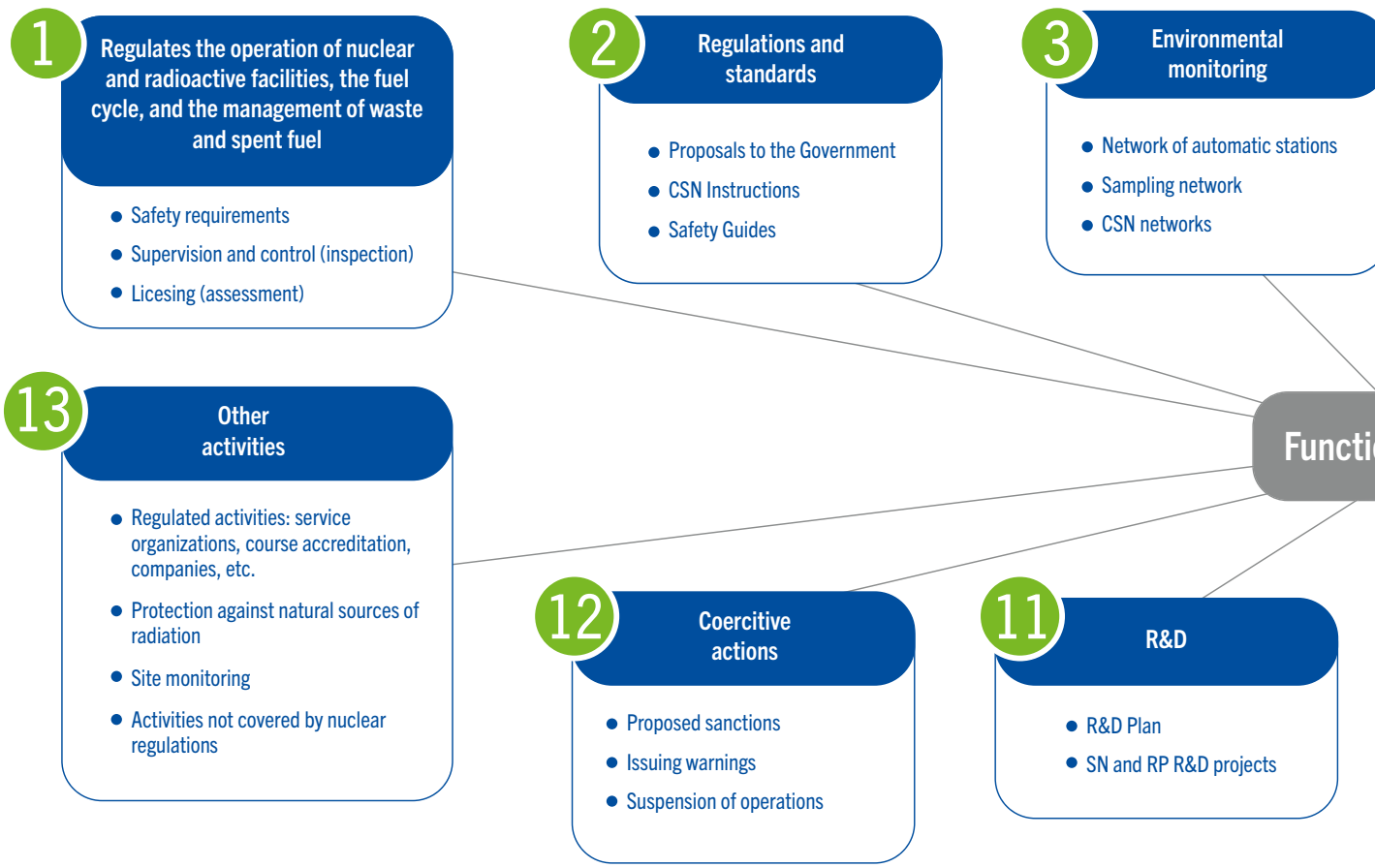
1. NUCLEAR SAFETY COUNCIL. LEGAL FRAMEWORK AND FUNCTIONS

The Nuclear Safety Council (CSN) is a public-law body, independent of the General State Administration (AGE), with its own legal personality and assets separate from those of the State, established by Law 15/1980 of 22 April as the sole competent body in matters of nuclear safety and radiation protection.

In accordance with Law 40/2015 of 1 October on the Legal Regime of the Public Sector, the CSN is an independent administrative authority at national level and, therefore, within the terms established in that law, part of the institutional public sector.

Consequently, the CSN operates with organisational and functional autonomy, with full independence from the General State Administration and from interest groups, without prejudice to its subjection to parliamentary and judicial scrutiny. Its activities are governed by its own Statute, which was approved by Royal Decree 1440/2010, of 5 November, in accordance with the provisions of

Figure 1.1. Functions of the CSN



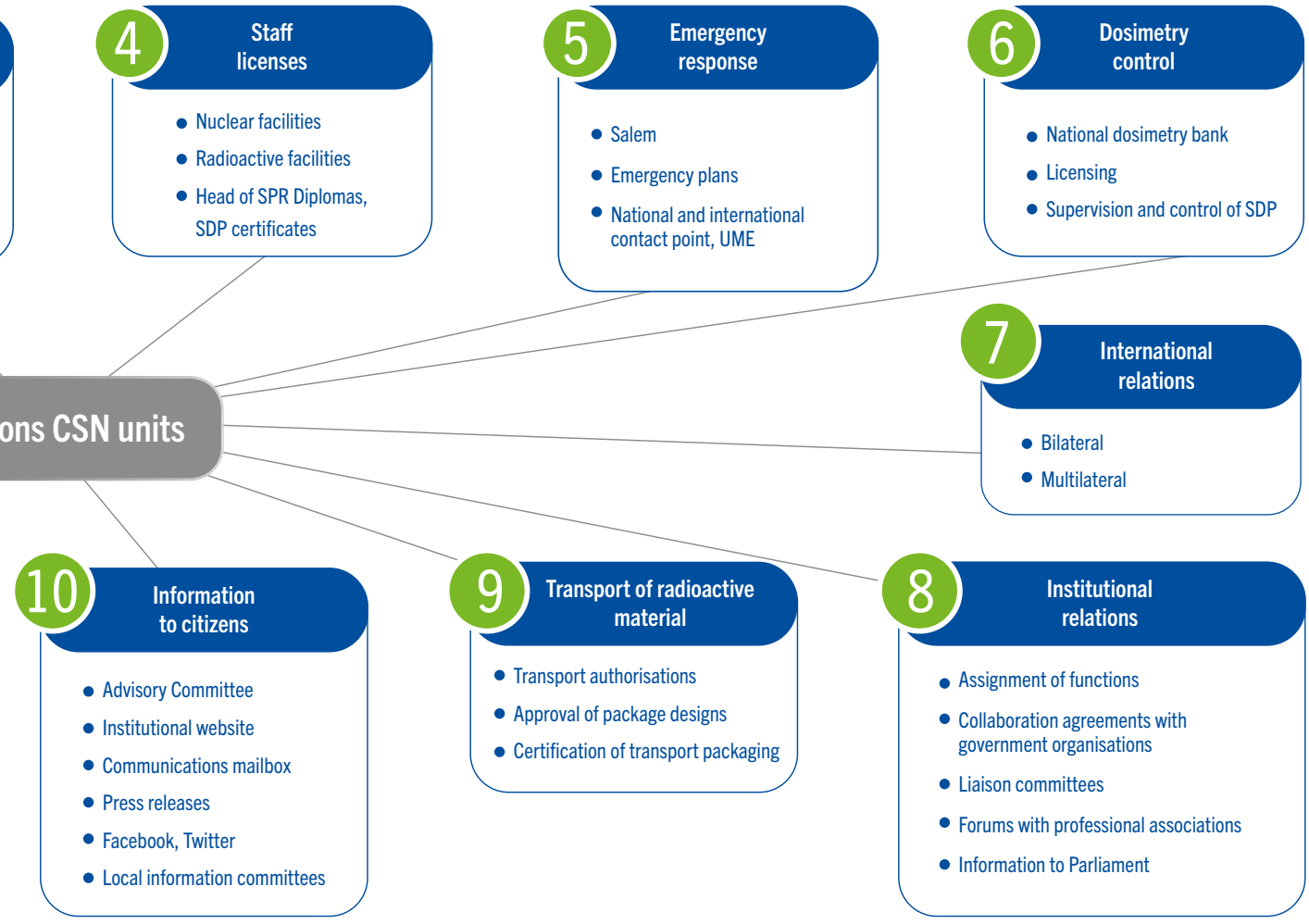
Law 15/1980 of 22 April, both of which constitute the regulatory framework for the organisation.

The CSN's mission is to protect workers, the public and the environment from the harmful effects of ionising radiation, ensuring that nuclear and radioactive facilities are operated safely by their licensees, and establishing preventive and corrective measures in the event of radiological emergencies, whatever their origin.

The CSN is responsible for carrying out all the functions set out in Article 2 of Law 15/1980 of 22 April and in Title I of the Statute, as well as the the exercise of those other functions which, in the field of nuclear safety, radiation protection and physical protection, are assigned to it by legislation, regulations or international treaties.

Article 11 of Law 15/1980 of 22 April stipulates that, on an annual basis, the CSN shall submit a report on the conduct of its activities to both houses of the Spanish Parliament and to the regional parliaments of those autonomous communities within whose territory nuclear facilities are located. This report complies with that article.

In accordance with this legal and jurisdictional framework, the CSN performs the following functions:



It is worth noting that a new revision of the CSN's Inspection Framework was approved in 2025.

The purpose of this document is to provide a general description of the exercise of the CSN's inspection function, which constitutes one of the agency's core regulatory functions. In particular, it describes the common organisational aspects, the allocation of inspection functions, the powers and competences of the staff carrying out these functions in their capacity as a public authority, their accreditation, and the procedures to be followed when carrying out this administrative activity.

This Framework for the CSN's Inspection Function enshrines, among other things, the right of individuals to interact with public administrations by electronic means, simplifying their access and reinforcing the use of information and communications technologies (ICT).

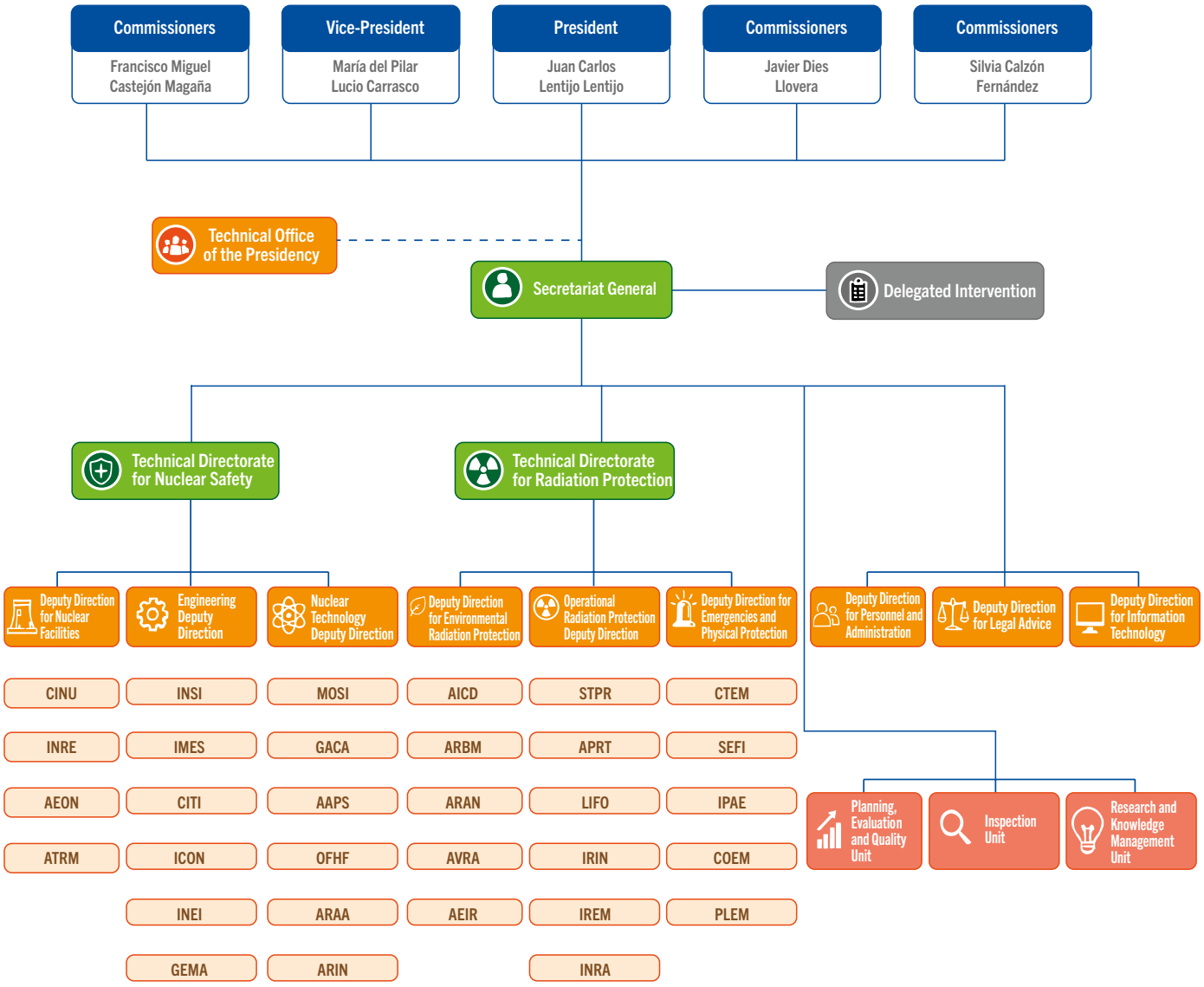
1.1. Organisational structure of the CSN

In accordance with the current Statute, the CSN's structure comprises two senior management bodies: the Board of Commissioners and the Presidency, which act in the exercise of their powers in accordance with the principles laid down in the law establishing the organisation.

Similarly, according to the Statute, the following management bodies exist: the Secretariat General, the Technical Directorate of Nuclear Safety, the Technical Directorate of Radiation Protection, the Technical Office of the Presidency and the various Deputy Directions.

The figure below illustrates the organisational structure of the CSN, as at 31 December 2025.

Figure 1.1.1. Organisational chart of the CSN (as at 31 December 2025)



Deputy Direction for Nuclear Facilities
CINU: Nuclear Facilities Co-ordinator
INRE: Resident Inspector Co-ordinator and Support
AEON: Operational and Regulatory Experience Area
ATMR: Radioactive Material Transport Unit

Engineering Deputy Direction
INSI: Systems Engineering Division
IMES: Mechanical and Structural Engineering Division
CITI: Earth Sciences Division
ICON: Nuclear Fuel Engineering Division
INEI: Electrical Systems, Instrumentation and Control Division
GEMA: Lifecycle Management and Maintenance Division

Nuclear Technology Deputy Direction
MOSI: Modelling and Simulation Division
GACA: Quality Assurance Division
AAPS: Probabilistic Safey Analysis Division
OFHF: Organisation, Human Factors and Training Division
ARAA: High Level Waste Area
ARIN: Internal Events Protection Division

Deputy Direction for Environmental Radiation Protection
AICD: Fuel Cycle and Decommissioning Facilities Unit
ARBM: Low and Intermediate Level Waste Unit
ARAN: Natural Radiation Unit
AVRA: Environmental Radiological Monitoring Division
AEIR: Radiological Impact Assessment Division

Operational Radiation Protection Deputy Direction
STPR: Technical Radiation Protection Services Unit
APRT: Workers Radiation Protection Unit
LIFO: Licensing and Training Unit
IRIN: Industrial Radioctive Facilities Unit
IREM: Radioactive Installations and Medical Exposure
INRA: Radioactive Installations Inspection Unit

Deputy Direction for Emergencies and Physical Protection
CTEM: Technical Emergency Coordinator (Emergencies Deputy Direction)
SEFI: Physical Safety Area
IPAE: Emergency Response and Preparedness Unit for Emergency Personnel
COEM: Emergency Operations Coordination Unit
PLEM:Emergency Planning Department

1.2. The CSN Board

The Board of the CSN, as a collegiate management body, is responsible for carrying out all functions relating to nuclear safety and radiation protection as set out in Article 2 of Law 15/1980 of 22 April. It is also responsible for carrying out any other functions assigned to the Nuclear Safety Council, as the sole competent body in matters of nuclear safety and radiation protection. The Board as at 31 December 2025, was as follows:

- President: Juan Carlos Lentijo Lentijo
- Vice-President: María del Pilar Lucio Carrasco
- Commissioner: Javier Dies Llovera
- Commissioner: Francisco Castejón Magaña
- Commissioner: Silvia Calzón Fernández

During 2025, the Board held 38 Plenary Sessions, at which 391 resolutions were adopted, of which 377 were passed unanimously.

Pursuant to Article 14 of Law 15/1980 of 22 April on access to information, the minutes of the Plenary Sessions and the reports underlying its resolutions are available for public consultation on the CSN's website (www.csn.es).

1.3. Resources and means

1.3.1. Human resources

The total number of staff at the organisation as at 31 December 2025 stood at 417, as detailed in Figure 1.3.1.1.

Women account for 49.16 % of the total workforce at the Nuclear Safety Council, compared with 50.84 % men, with the average age of staff being 51.81 years.

Figure 1.3.1.1. CSN staff as at 31 December 2025

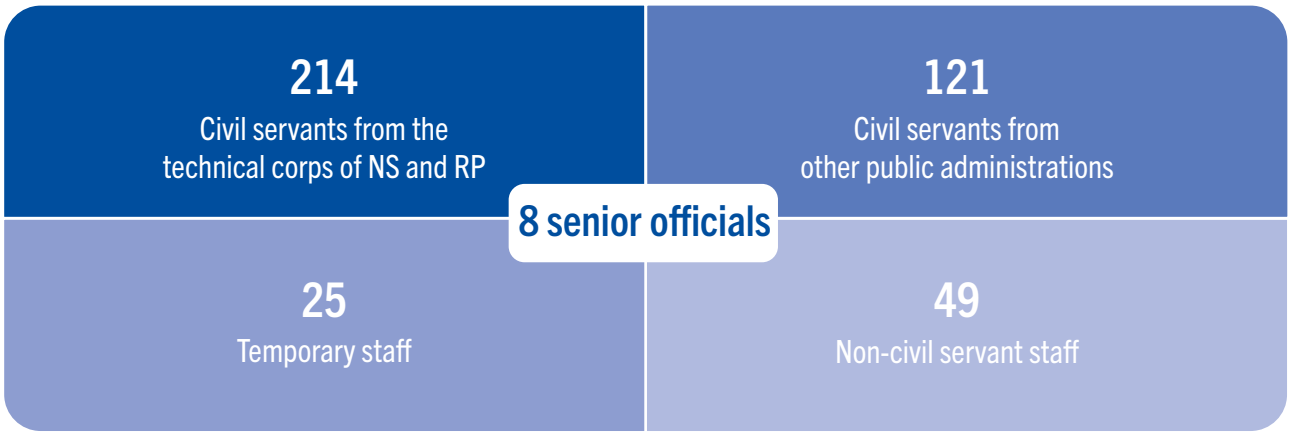
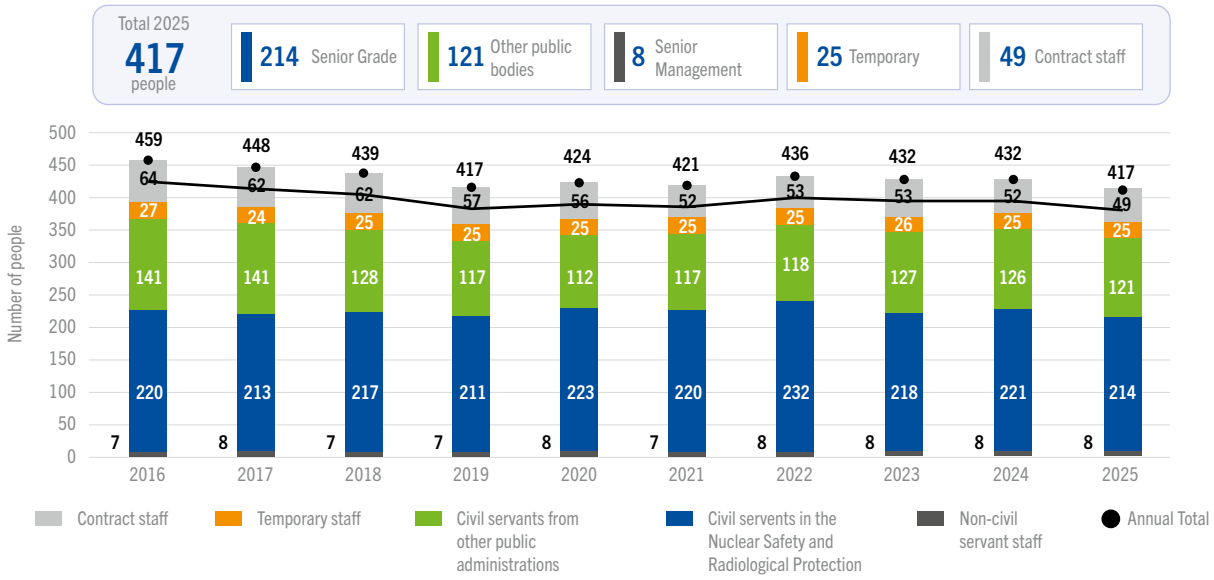
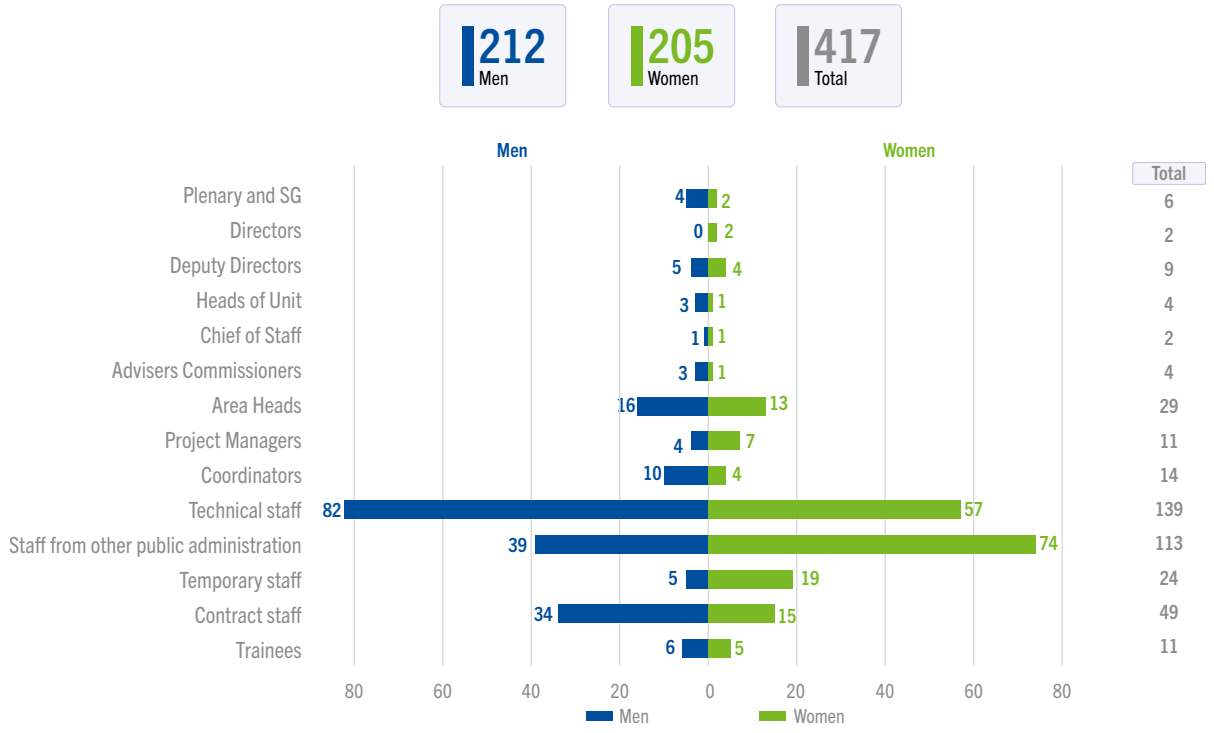


Figure 1.3.1.2. Breakdown of the workforce by category for the period 2016–2025



As can be seen from the graph, compared with the previous year, there has been a slight decrease in the number of staff in the Senior Grade of the Nuclear Safety and Radiation Protection Corps.

Figure 1.3.1.3. Distribution of CSN staff by job category and gender



Figures 1.3.1.4 and 1.3.1.5 show the qualifications of the CSN's staff.

Figure 1.3.1.4. Qualifications of Nuclear Safety Council staff in 2025

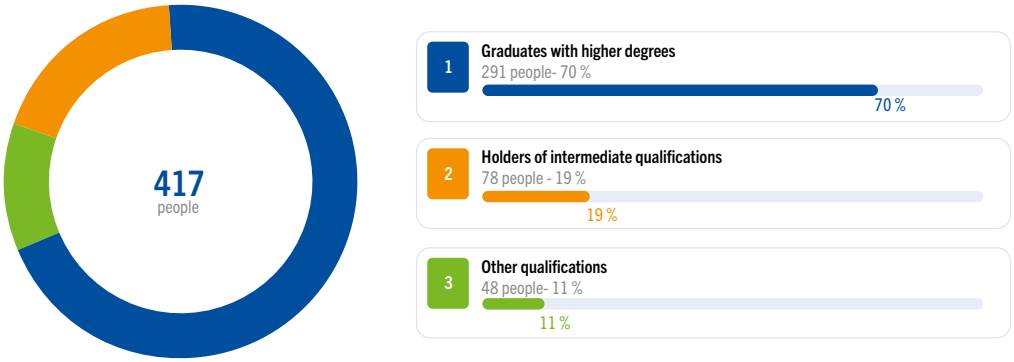
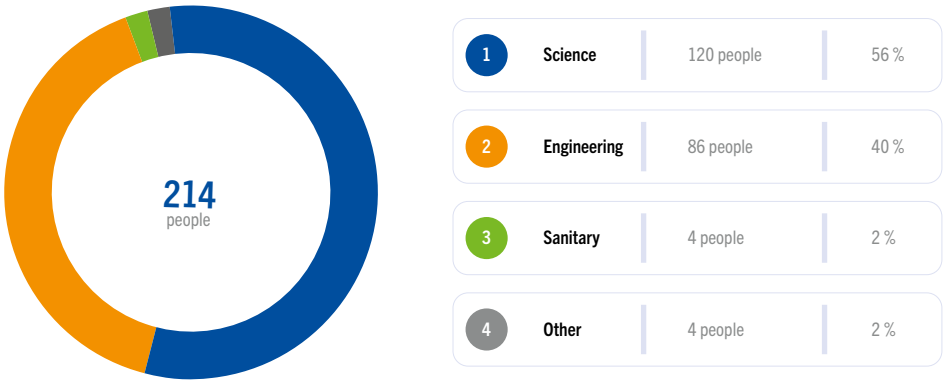
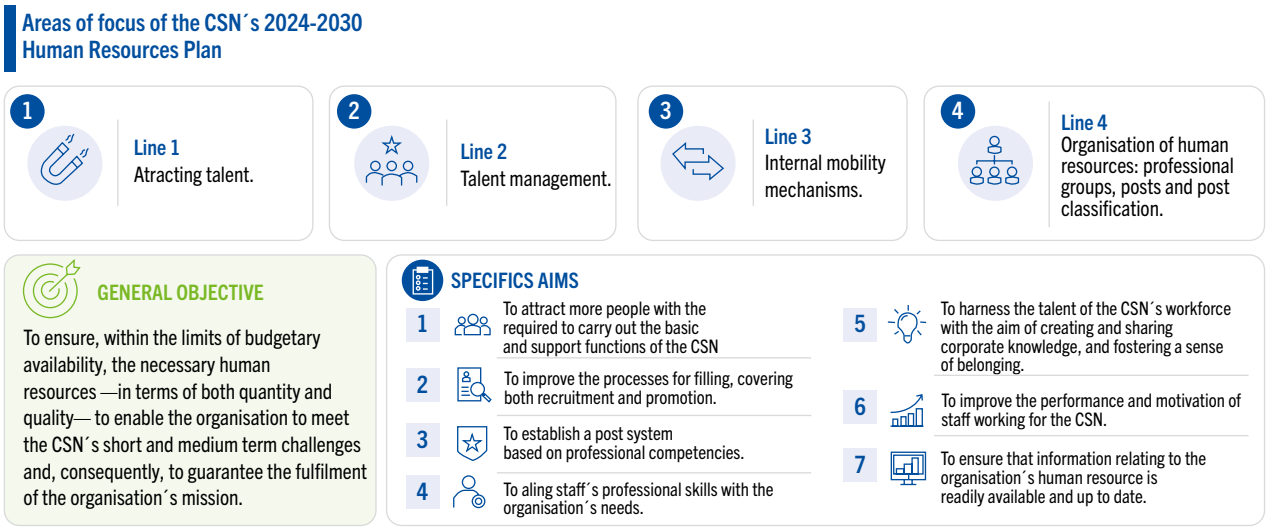


Figure 1.3.1.5. Qualifications of the CSN's technical staff in 2025



In 2025, with regard to human resources management, it was deemed appropriate to postpone the approval of the Annual Human Resources Plan until an updated strategic framework was in place to ensure the consistency and alignment of all the organisation's actions. The Board of the CSN, at its meeting on 18 December 2025, approved the new Strategic Plan for the period 2026–2030, incorporating a Strategic Priority (third) specifically focused on people as the driving force behind the CSN. Consequently, the CSN's Annual Human Resources Plan was formally drawn up in April 2026.

Figure 1.3.1.6. Human Resources Plan 2024–2030



This Plan sets out a total of 11 programmes and, for each one, a series of measures aimed at ensuring the organisation's human resources are managed effectively, taking into account the challenges faced and the current situation of the workforce:

1. Talent Attraction Programme.
2. Programme to improve the effectiveness of the recruitment procedures for civil servants belonging to the Nuclear Safety and Radiation Protection corps.
3. Programme for the internal development of staff through mobility.
4. Programme for the organisation of human resources: professional groups, posts and post classification.
5. Training programme.
6. Knowledge management programme.
7. Programme for performance assessment and professional careers.
8. Equality and work-life balance programme.
9. Occupational health and wellbeing programme.
10. Internal communication programme.
11. Programme for the digitalisation of human resources management.

1.3.2. Financial resources

In terms of economic and financial management, the CSN is governed by the provisions of the General Budgetary Law 47/2003 of 26 November, as a state public administration body subject to the Public Accounting regime and the Accounting Instructions for the State Institutional Administration.

The profit and loss account for 2025 shows that the majority of expenditure is allocated to staff costs (60.84 %), followed by external supplies and services (29.31 %), while revenue derives mainly from fees and services provided (90.97 %). The CSN's initial budget for 2025 totalled 48.9 million euros and is an extension of the 2023 budget.

With regard to grant-funded activities, the amounts invested by the CSN across the four areas of action for 2025 were 274,200 euros allocated to research and training chairs in nuclear safety and radiation protection, and 1,226,708.01 euros for grants for R&D&I projects.

1.3.3. IT resources

Within the field of Information Technology, with regard to e-government, a consolidation and increase in progress can be observed across the historical data series between 2016 and 2025, relating to:

- The number of documents received and sent via the e-Office (ORVE + e-Office), showing a steady upward trend to 75,959 documents.
- The volume of procedures carried out at the e-Office as opposed to in-person registration: 25,189 as against 1,687.

Figure 1.3.3.1. Number of documents received and sent via the e-Office

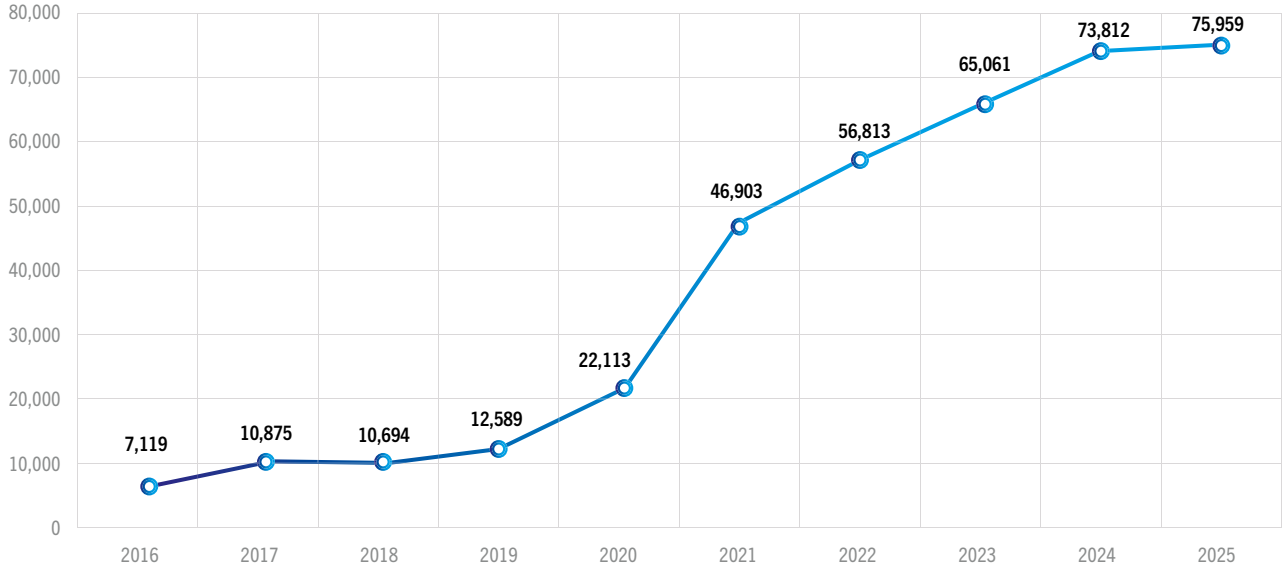
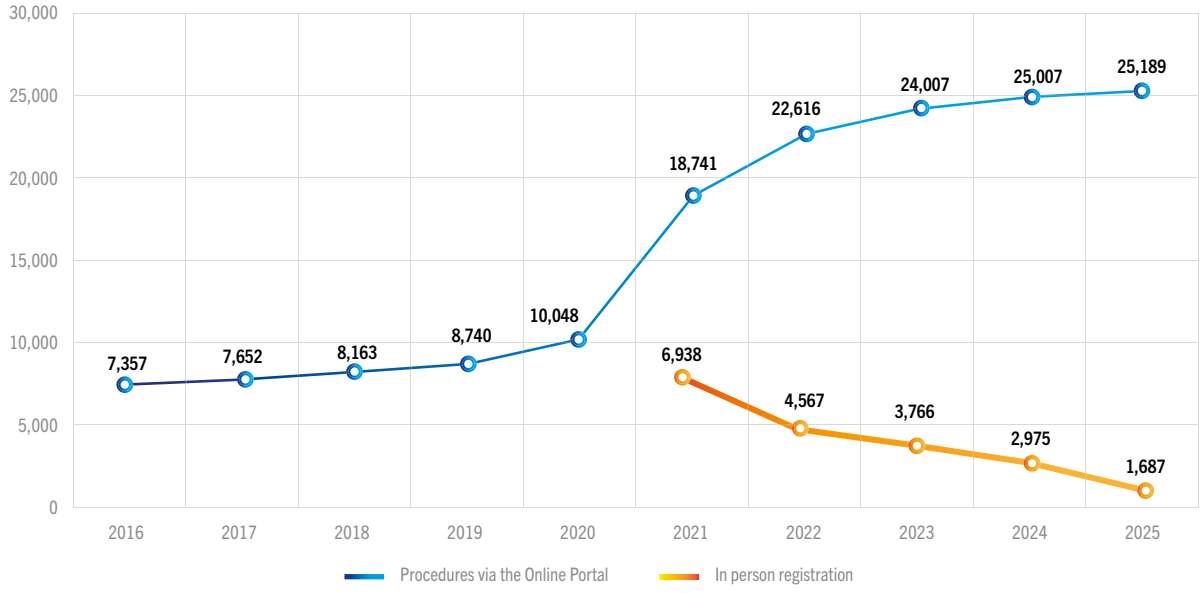


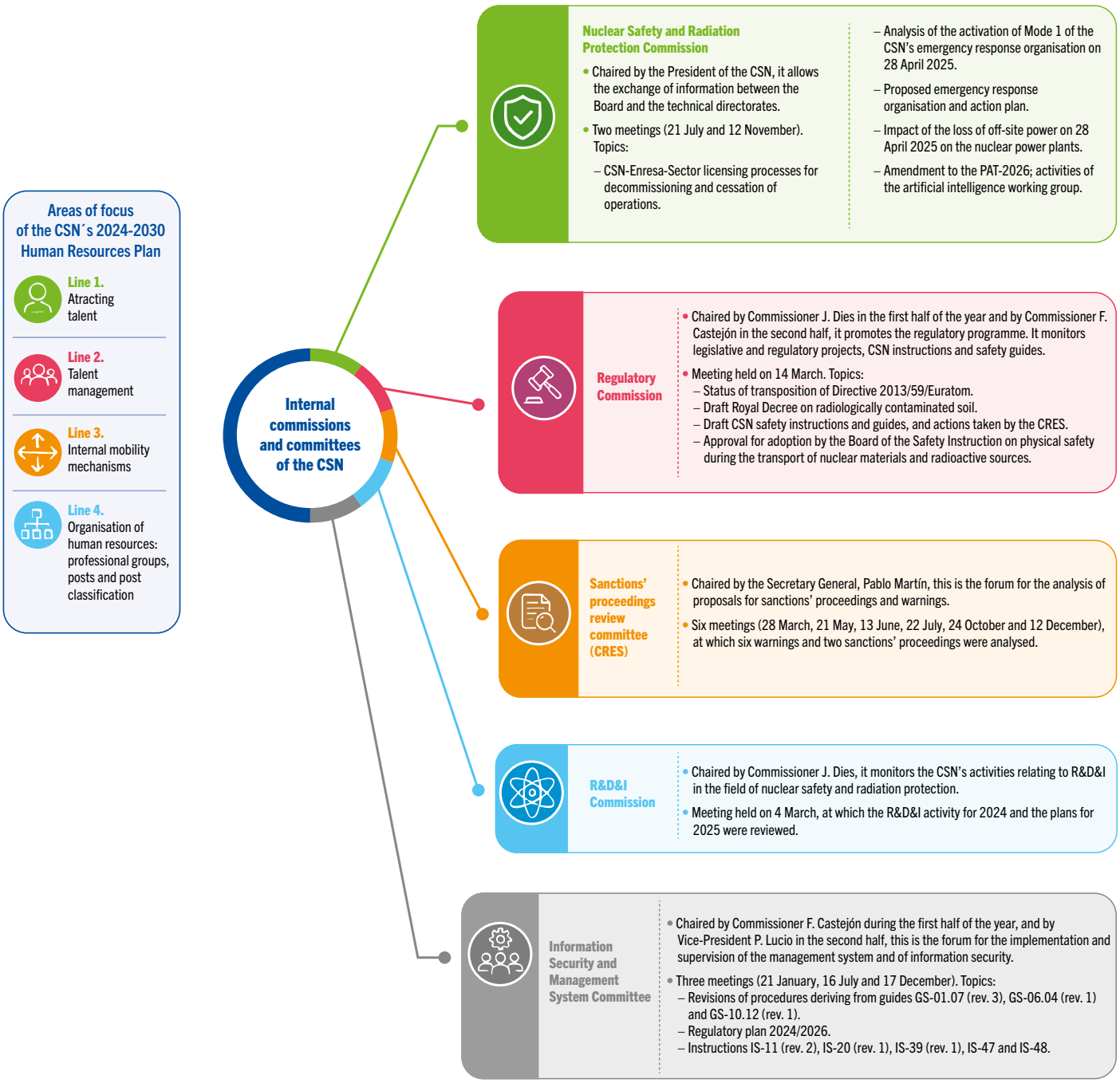
Figure 1.3.3.2. Number of procedures carried out at the e-Office



1.4. Council Commissions

Figure 1.4.1 shows the commissions active during 2025 and the activities they have carried out.

Figure 1.4.1. Commissions active during 2025. Internal commissions and committees of the CSN



1.5. CSN relations and institutional activity

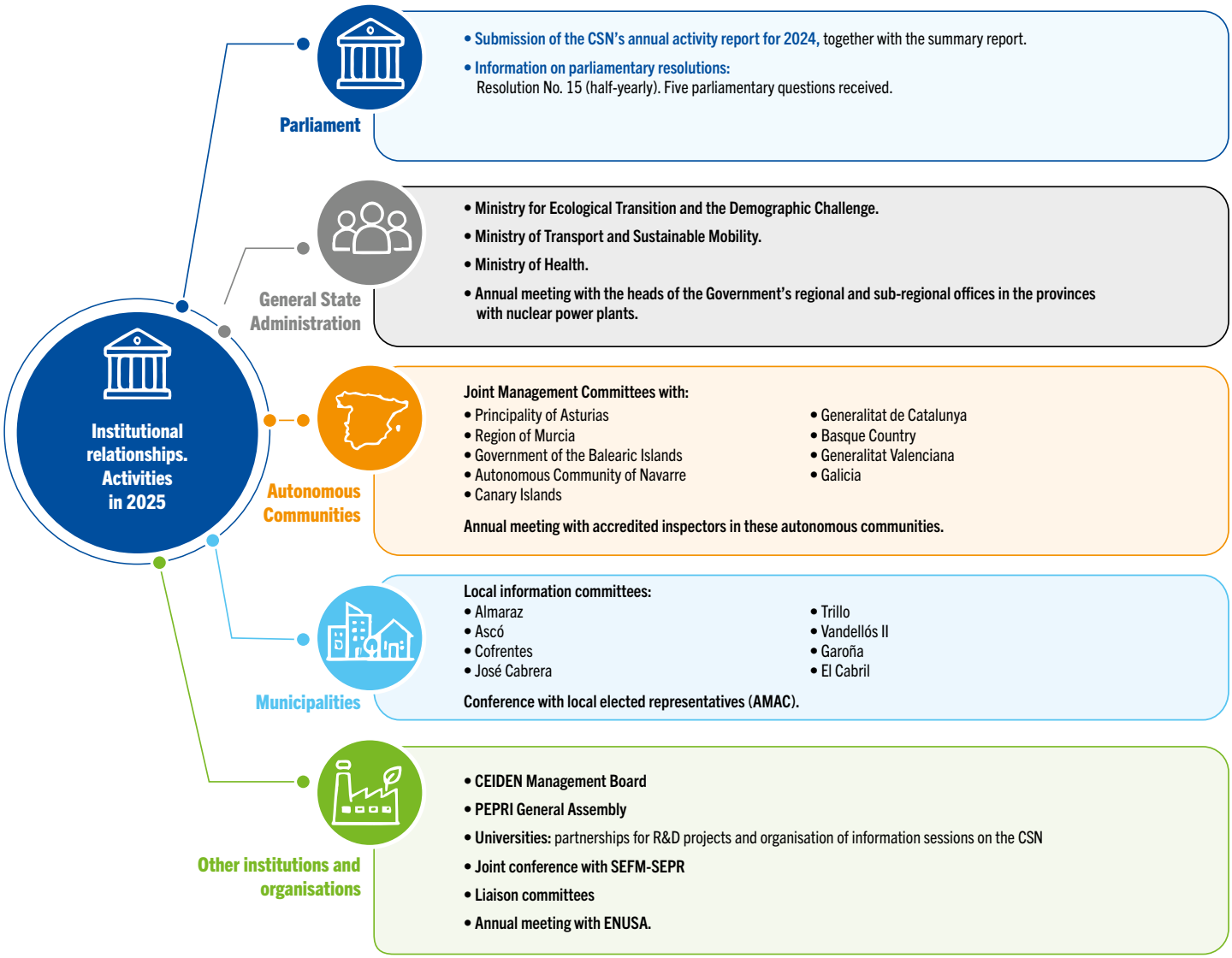
1.5.1. Institutional relations

The functions of the Nuclear Safety Council include maintaining official relations with State institutions at central, regional and local levels, as well as with professional organisations and both national and international.

Of particular note, due to their special relevance and unique nature, are the CSN's institutional relations with the Congress and the Senate.

Figure 1.5.1.1 summarises the CSN's institutional activities in this area of institutional relations during 2025. In 2025, five parliamentary questions were received, which focused on the drums containing radioactive material found in the Atlantic Trench and the results obtained

Figure 1.5.1.1. Institutional relationships. Activities in 2025



from the radon measurement survey in the San José cave (La Vall d'Uixó).

1.5.2. International relations

The CSN's international policy and strategies are reflected in a range of technical and institutional activities carried out in four areas, as shown in Figure 1.5.2.1.

Figure 1.5.2.1. The CSN's international relations with counterpart bodies and other organisations

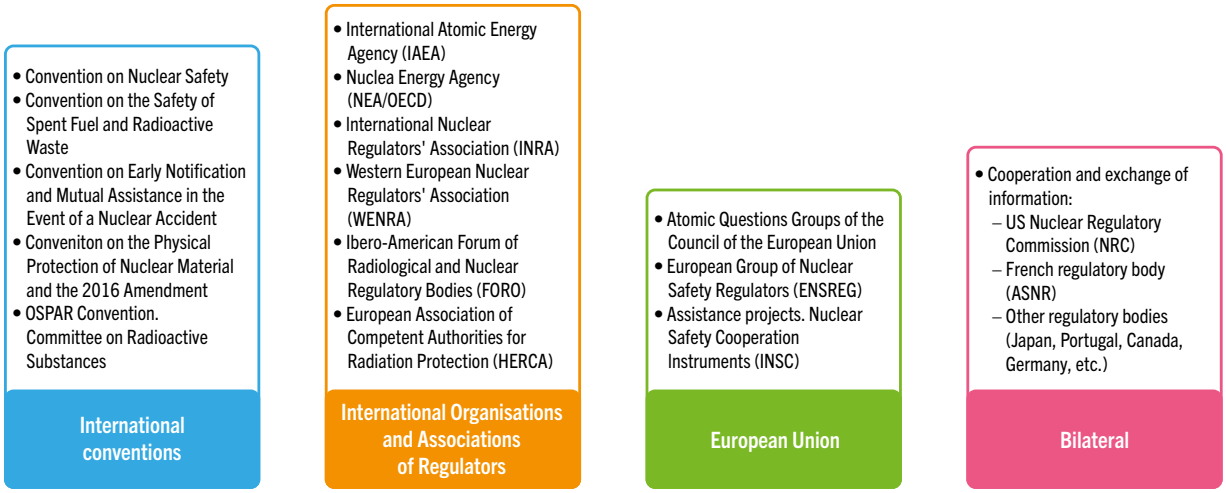


Figure 1.5.2.2 shows the activities carried out by the CSN during 2025 at an international level.

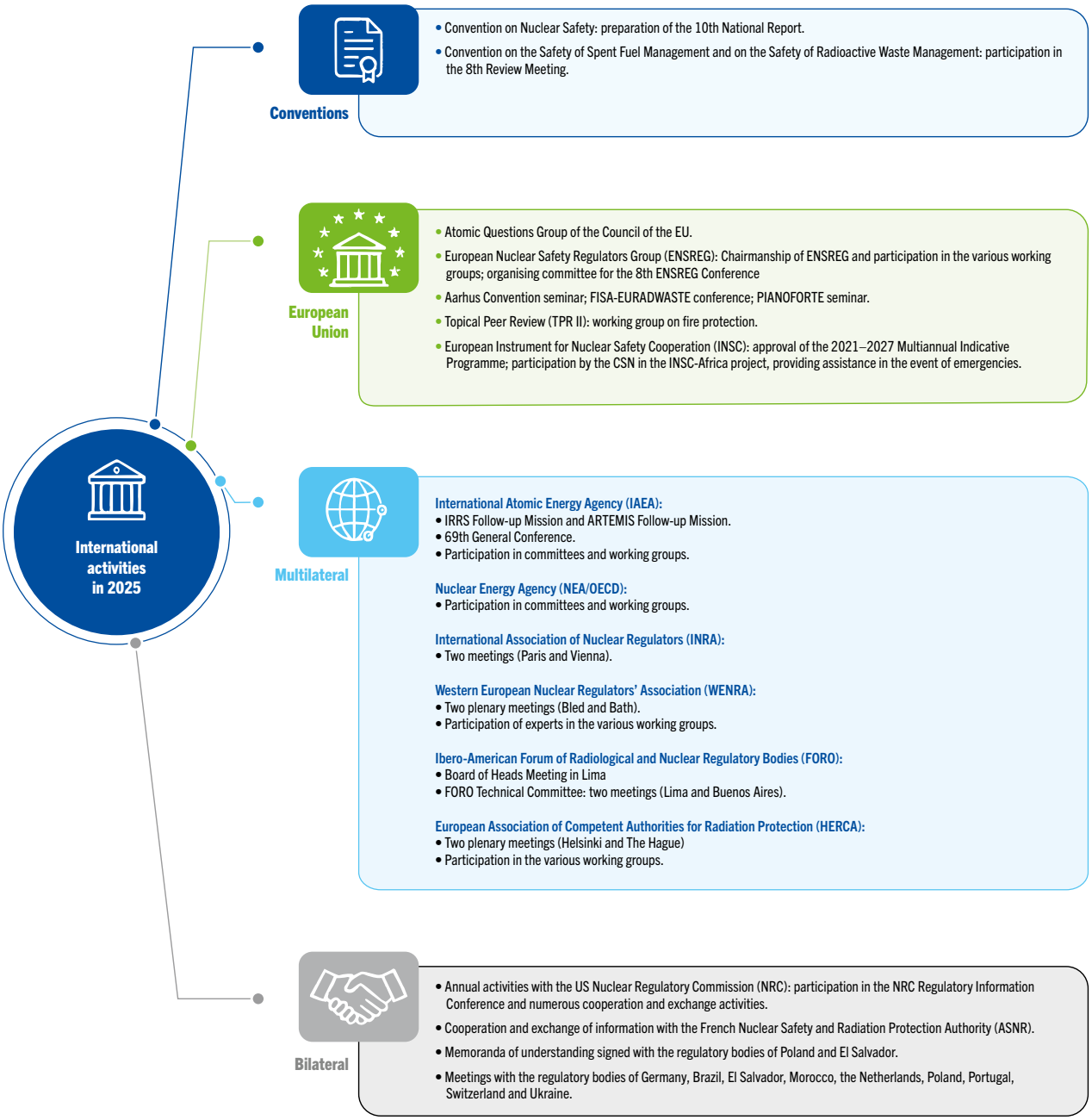
In 2025, a total of 315 international meetings were held, of which 219 were in-person, with Vienna, Paris and Brussels being the main destinations, as is customary given that they are the headquarters of the International Atomic Energy Agency (IAEA), the Nuclear Energy Agency (NEA) and the institutions of the European Union, respectively.

Within the IAEA framework, it is worth highlighting the hosting in January at the CSN's headquarters of the follow-up mission of the Integrated Regulatory Review Service (IRRS), as well as participation in September in the follow-up mission of the Integrated Review Service for Radioactive Waste and Spent Fuel Management, Decommissioning and Remediation (ARTEMIS). Both received a very positive assessment from the international team of reviewers.

In 2025, as a follow-up to the 2018 IRRS mission, the IAEA carried out the Follow-up mission, which assessed the actions taken by Spain in response to the findings identified in 2018. The aim of the mission was to evaluate the extent to which these actions allow the recommendations and suggestions identified at the time to be considered closed.

The follow-up mission was organised by the Nuclear Safety Council (CSN) and involved the Ministry for Ecological Transition and the Demographic Challenge, the Ministry of the Interior, the Ministry of Health and the Ministry of Foreign Affairs, the European Union and Cooperation. The full report of this IRRS follow-up mission is available for consultation and download.

Figure 1.5.2.2. International activities in 2025



The IRRS team concluded that the actions taken by Spain in response to the findings of the 2018 mission have been effectively implemented, highlighting, among others, notable achievements in the following areas:

- Human Resources Plan, which includes a systematic approach to the training of all staff.
- The CSN's Safety Culture.
- National Action Plan against Radon.
- The CSN's collaboration with the autonomous communities.

The IRRS team made a new recommendation regarding the development of guidance documents on the content of information relating to potential radiation risks that authorised bodies provide to the public, as required by legal provisions, in accordance with a phased approach.

In addition, the IRRS team identified two examples of good practice: the Digital Radiological Passbook (DRP), a digital platform that provides users with real-time dose data, reduces the need for manual data entry and enables the regulatory body to carry out real-time statistical analyses; and a centralised digital dosimetry system, provided by the CSN, which will be used during emergencies for the real-time monitoring of radiation doses received by emergency personnel from all external response organisations.

1.5.3. Public information and communication

Article 2(ñ) of Law 15/1980 of 22 April establishes the CSN's obligation to inform the public on matters within its remit, with the scope and frequency determined by the Council, without prejudice to the publication of its administrative actions in accordance with the terms established by law.

The CSN continues its efforts to improve and strengthen both internal and external communication, as demonstrated by the inclusion of transparency as one of the strategic priorities in the CSN's current Strategic Plan for the period 2020–2025. The figure 1.5.3.1 illustrates the most significant actions in this regard.

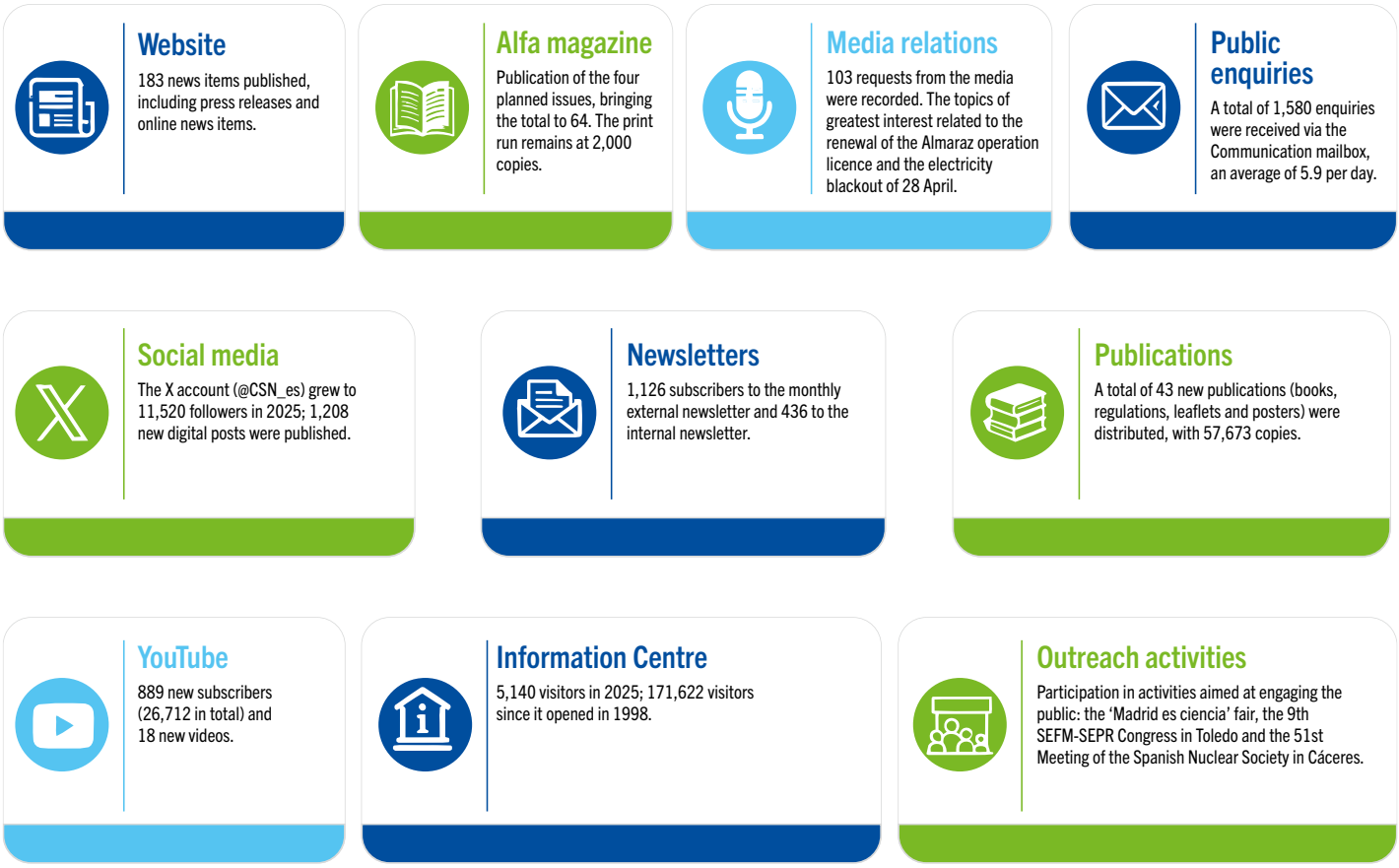
All publications are available for free download from the documentation centre on the CSN's institutional website.

During 2025, 53 requests were received via the transparency mailbox, 48 via the Transparency Portal, one referred from another body (Miterd) and four from other mailboxes such as the communications mailbox. All of these have been dealt with within the prescribed timeframe. As regards the inadmissible requests, it is worth noting that these mainly concerned queries relating to administrative procedures which, although deemed inadmissible as they did not fall within the scope of application of the Figure 1.5.3.1. Requests for access

Figure 1.5.3.1. Requests received in 2025



Figure 1.5.3.2. Key communication activities in 2025



to public information in 2025 Key figures requests for requests requests access to granted processed information applicatio ns rejected applicati in part applicatio ns not accepted applicatio on ns withdrawal referred transferred by Miterd Law 19/2013 of 9 December on transparency, access to public information and good governance are always dealt with in parallel by the relevant department.

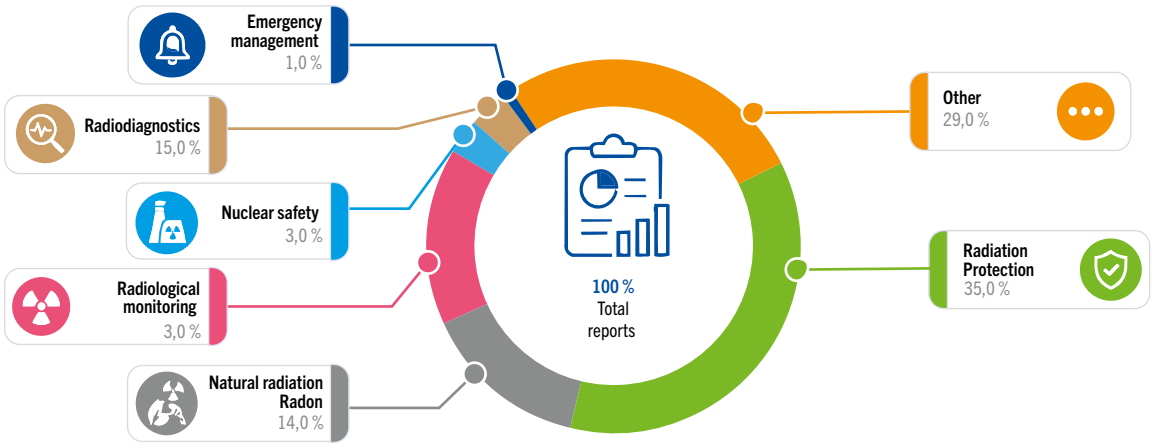
1.5.4. Complaints

In 2023, following the establishment of reporting channels for suspected irregular conduct at the CSN, as provided for under Law 2/2023 of 20 February on the protection of whistleblowers and the fight against corruption, the CSN produced three informative videos on the subject. Two of these videos discuss the internal and external reporting channels, respectively. A third video explains the various channels for communicating with the regulator.

The total number of complaints received in 2025 was 100, of which 78 % were received via the external reporting channel and 22 % via the internal channel. Of the total, 79 have been closed and the remainder are still under investigation.

In 2025, 59 complaints were accepted for processing, 43 were closed and 30 were rejected. Furthermore, 28 of them were referred to another authority, as they were found to involve matters falling within the remit of other bodies. These figures include complaints received in years prior to 2025.

Figure 1.5.4.1. Breakdown of complaints by category in 2025



With regard to the subject matter of the complaints received, those relating to radiation protection (35 %) were the most common, followed by those concerning radiodiagnostics (15 %) and natural radiation from radon (14 %).

1.6. Advisory Committee on Public Information and Participation

The Advisory Committee on Public Information and Participation regarding nuclear safety and radiation protection was established under Article 15 of Law 15/1980, with the remit to issue recommendations to promote and improve transparency, access to information and public participation in matters falling within the remit of the CSN.

Full details of the Advisory Committee's activities can be found on the CSN's official website

In 2025, two meetings were held: the twenty-ninth and the thirtieth, on 12 June and 20 November respectively. The first was held in person and the second online.

At the 29th meeting, presentations were given on 'Technological advances in the field of ionising radiation applications in medicine: strategies for improving the CSN's regulatory performance', 'Report on the CSN's media impact in 2024' and 'CSN information system. External whistleblowing channel. Follow-up report'.

At the 30th session, papers were presented on "Exposure of aircraft crew members to cosmic radiation", "The CSN's Talent Recruitment Campaign" and "Preparation of the CSN's Strategic Plan 2026–2030".

At the 30th meeting, it was reported that, since its creation, the Advisory Committee had made 15 recommendations. As at 31 December 2025, only one recommendation remains outstanding, relating to the review of CSN publications containing tables of effective doses for diagnostic imaging examinations.

2. STRATEGY AND MANAGEMENT OF RESOURCES

2.1. Strategic Plan

The current Strategic Plan covers the period 2020– 2025 and sets out the organisation's mission and vision. It establishes two goals: one focused on nuclear and radiological safety, and the other on achieving sustainable development objectives.

The plan sets out five strategic goals. The progress made in 2025 in relation to these objectives is presented in Table 2.1.1 below:

Figure 2.1.1. Logo of the CSN's Strategic Plan



Table 2.1.1. Strategic goals of the CSN and their degree of fulfilment by 2025

Strategic Goal	Monitoring / indicator	Degree of achievement in 2025
Strategic Goal 1 To maintain effective oversight of the activities of facility or activity licensees	1 Monitoring of the Ageing Management programmes	**Objetive:** to carry out inspections of life management programmes (procedure PT-IV.223). **Action:** completed.
	2 SISC self-assessment	**Objetive:** to carry out the activities of the Coordination and Analysis groups, as defined in the Action Plan following the SISC self-assessment. **Action:** 100 % completed.
Strategic Goal 2 To increase efficiency and effectiveness in the performance of the functions and responsibilities of the CSN	1 Implementation of the 2018 IRRS action plan	**Objetive:** to host and complete the IRRS follow-up mission. **Action:** the mission took place from 26 January to 3 February 2025.
	2 Improvement of the enforcement process	**Objetive:** implementation of the actions arising from the analysis to improve the enforcement process. **Action:** 70 % complete. The main actions have been incorporated into ordinary management.
Strategic Goal 3 To ensure that the CSN maintains its emergency preparedness and response capabilities	1 Organisational and methodological development in relation to the CSN's emergency response	**Objetive:** to review the CSN's Emergency Response Plan (ERP). **Action:** completed. The review of the ERP has been completed.

Table 2.1.1. Strategic goals of the CSN and their degree of fulfilment by 2025
(Continuation)

Strategic Goal	Monitoring / indicator	Degree of achievement in 2025
Strategic Goal 4 To foster greater commitment and a sense of belonging among staff	1 No performance indicators were established for Strategic Goal 4 for the year 2025.	
Strategic Goal 5 To improve the public's and stakeholders' knowledge of and trust in the CSN	1 Promote/strengthen the establishment of collaboration agreements with national bodies	**Objetive:** to comply with the relevant provisions of the 2025 Annual Work Plan (AWP). **Action:** 100 % completed. **Objetive:** to comply with the recommendations of the Advisory Committee. **Action:** 100 % completed.

As a final assessment of the Strategic Plan for the period 2020–2025, the five strategic goals have been met or progress has been made towards their implementation during the implementation cycle, with the following aspects being particularly noteworthy:

- Effective supervision has been maintained over those responsible for facilities or activities and their operations, ensuring that both the facilities and the regulated activities have operated safely, without any significant radiological impact on either people or the environment.

- The CSN's capacity to fulfil its regulatory functions has been enhanced, notably through the provision of advice on nuclear safety and radiation protection to the relevant competent authorities for the transposition of EU directives; the review of various regulations and documents; and through the issuance of Instructions (technical standards drawn up by the Nuclear Safety Council on nuclear safety, radiation protection and physical protection, which are binding on those subject to their scope of application) which undoubtedly contribute to strengthening the Nuclear Safety Council's regulatory capacity.

- The Nuclear Safety Council's response capabilities in the event of nuclear and radiological emergencies have been strengthened through improvements made both to the emergency operations centre and to the field dosimetry capabilities of the radiological teams. Similarly, coordination with other competent bodies responsible for the physical protection of nuclear and radioactive materials has been improved.

- The drafting of the Nuclear Safety Council's Human Resources Plan 2024–2030, the development of the SAT methodology and the launch of the new career path have resulted in measures that enhance the talent of the organisation's staff and improve the working environment.

- Similarly, steps have been taken to enhance the public's perception of the CSN by maintaining and strengthening its commitment to transparency, rigorous and timely communication with the public, and the operation of the Advisory Committee on Public Information and Participation.

Building on the previous Strategic Plan and following an analysis of the new challenges and opportunities that have arisen, the Board of the CSN approved, at its 1763rd meeting on 18 December 2025, the Strategic Plan 2026–2030, which contains the following strategic priorities:

- Strategic priority 1: Effective regulation of nuclear and radioactive facilities, and other activities involving exposure to ionising radiation.
- Strategic priority 2: Preparing the CSN to face new challenges (new nuclear technologies, decommissioning, radioactive waste management and new medical and industrial applications).
- Strategic priority 3: People as the driving force behind the CSN.
- Strategic priority 4: Institutional relations, transparency and public trust.

2.1.1. Equality Plan

As mentioned above, Objective 4 of the current Strategic Plan sets out the obligation to draw up the organisation's own Gender Equality Plan, which takes due account of the organisation's specific characteristics to ensure effectiveness and achieve the best possible results. This milestone demonstrates the organisation's commitment to equal opportunities and supports its actual development and implementation.

At the time of writing this report, 67 % of the actions set out in the plan have been fully implemented, while the remaining 33 % have been partially implemented.

2.2. Management System

The management system is reviewed by the Information Security and Management System Committee.

In 2025, three meetings of the Committee were held, at which reviews were presented of the management, administrative and technical procedures set out in the Management System Manual, the internal audit plan and the status of non-conformities and opportunities for improvement identified during these audits, as well as the amendments to be made to the annual activity plan and its monitoring.

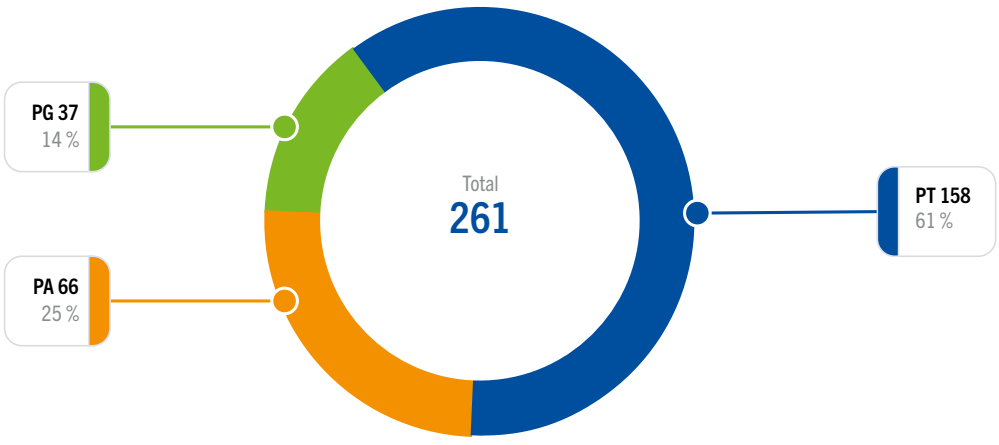
The Committee also analysed the proposed key activities for 2026 to be included in the Annual Work Plan (PAT), as well as the proposed Annual Work Plan for 2026 (PAT 2026), which was approved on 18 December 2025.

Every year, the CSN draws up a report on compliance with the annual work plan, which is published on the CSN's corporate website and on the transparency portal.

2.2.1. Internal procedures and audits

The management system documentation comprises a series of high-level documents and three different types of procedures: management (PG), administrative (PA) and technical (PT).

Figure 2.2.1.1. Total number of procedures and breakdown by type



The CSN currently has 261 procedures; a breakdown of these is shown in the following chart, with the percentage for each type indicated in brackets.

In 2025, seven audits were carried out out of a total of eight planned: six on the CSN's management system processes and one on the assignment of functions to the Autonomous Community of Galicia. New revisions to 14 procedures were approved, six of which were planned and eight unplanned.

2.2.2. Training Plan

In 2025, the Training Plan (PAF) was structured around the eleven programmes and sub-programmes illustrated in Figure 2.2.2.1.

Figure 2.2.2.1. Types of courses and hours devoted

PROGRAMME 1: Legal, regulatory and organisational foundations		5 courses, 360 hours
PROGRAMME 2: Technical disciplines	• Nuclear Safety • Radiation Protection • Initial Technical Training • ORE Training	52 courses, 11,200 hours
PROGRAMME 3: Regulatory practices		7 courses, 793 hours
PROGRAMME4: Skills and professionalism in carrying out duties	• Cross-cutting support areas • Group I (technical staff up to level 28) • Group II (Area heads, project managers, and service heads (level 28)) • Group III (Executive and pre-executive staff, levels 29 and 30)	10 courses, ,1892 hours
PROGRAMME 5: Administrative and legal management		5 courses, 616 hours
PROGRAMME 6: Occupational risk prevention and health		3 courses, 380 hours
PROGRAMME 7: Computing		14 courses, 2,055 hours
PROGRAMME 8: Languages		5 courses, 6,035 hours
PROGRAMME 9: Skills		4 courses, 190 hours
PROGRAMME 10: Conferences, seminars, symposiums, congresses and workshops		21 courses, 1,126 hours
PROGRAMME 11: INAP		29 courses, 895 hours

Figure 2.2.2.2. PAF implementation in 2025

2025 Training Plan

Budget:
€ 609,780

Implemented
94.56 %

- 126 training activities
- 23,207 hours taught in total
- 2,520 for 11 new civil servants
- 3.83 % of working hours spent on training (for 417 civil servants)

One of the outcomes of the IRRS-ARTEMIS mission carried out by the IAEA in Spain in 2018 was the recommendation to promote specific training tailored to the needs of the CSN. In response to this recommendation, the Board of the CSN approved an action plan to implement the SAT (Systematic Approach to Training) methodology in accordance with the guidelines set out in IAEA Safety Report Series No. 79, TEC-DOC 1860, 1794, 1254 and 1757, among others. This recommendation was closed during the follow-up mission that took place in January 2025. The 2025 Training Plan for the CSN's technical staff has been drawn up taking the SAT methodology into account.

2.2.3. Knowledge management

The CSN's objective in recent years has been to develop and implement a knowledge management model tailored to its own needs, based on the IAEA's recommendations, and to integrate it into the management system.

Among the most significant initiatives undertaken in 2025 was the launch of the 'Skills Creation and Development' process, which aims to ensure that CSN staff are better equipped to carry out their duties. In 2025, work began on drafting the procedure to implement this process.

2.3. Research, development and innovation

The CSN's R&D&I Plan serves as a tool for defining the CSN's strategic priorities and objectives in relation to this function, setting out the conditions applicable to the activities to be carried out. In 2025, implementation of the current R&D&I Plan for the period 2021–2025 continued.

During 2025, a total of 12 R&D&I projects were launched. As regards completed projects, a total of 14 projects were fully finalised. The total number of ongoing projects stood at 74 as at 31 December 2025.

In 2025, four R&D&I projects were launched through agreements or contracts:

- A national collaboration agreement with CEN- Foro Nuclear on the international CODAP project concerning the ageing and degradation programme associated with the operating experience of nuclear power plants.
- Three agreements with the NEA/OECD for the CSN's participation in international projects in the field of nuclear safety.

Finally, grants have been awarded for eight R&D&I projects.

2.4. Normative and regulatory activity

In accordance with its legal framework and functions, the CSN proposes to the Government regulations on nuclear safety and radiation protection, including both new regulations and revisions to existing ones.

Furthermore, it issues reports on draft legislation being processed by the Government that falls within its remit. In this regard, during 2025, the CSN issued reports on various draft bills, such as the draft bill on the Coordination and Governance of Cybersecurity (a draft bill transposing Directive (EU) 2022/2555 of the European Parliament and of the Council of 14 December 2022, on measures to ensure a high common level of cybersecurity across the Union, also known as 'NIS-2'), and the draft bill on the protection and resilience of critical entities (which transposes Directive (EU) 2022/2557 of the European Parliament and of the Council of 14 December 2022 on the resilience of critical entities and repealing Council Directive 2008/114/EC). In addition to the above, it has issued a report on the draft Royal Decree regulating the production, marketing and import of foodstuffs and food ingredients treated with ionising radiation; and on the draft Royal Decree approving the State Plan for Preparedness and Response to Serious Health Threats.

Similarly, it draws up and approves instructions which are technical standards of a regulatory nature, drawn up by the Nuclear Safety Council in the fields of nuclear safety, radiation protection and physical protection, and which are therefore binding.

Furthermore, the CSN, in accordance with the regulations establishing it, may draw up circulars and safety guides relating to facilities and activities falling within its remit. The circulars are for information purposes only, and the safety guides, which relate to current regulations on nuclear safety, radiation protection and physical protection, are not binding.

Figure 2.4.1 illustrates the regulatory and supervisory activity during 2025.

Figure 2.4.1. Normative and regulatory activity 2025



Finally, as part of the CSN's regulatory activities, in 2025 the Complementary Technical Instructions and Technical Instructions were issued; these, while supplementing the limits and conditions set out in the licenses of each licensee to whom they are addressed, are also binding.

2.5. The Safety Culture in the CSN

The CSN recognises the importance of a safety culture, not only at the facilities it regulates but also within its own organisation, as demonstrated by the establishment of a strategic goal (OE 2.3) in the organisation's own 2020–2025 Strategic Plan.

Following the completion of the initial assessment carried out in 2020–2021 and in accordance with the roadmap established by the CSN's Management, the Board of the CSN agreed to approve an executive report setting out the results of the CSN's safety culture assessment, which was published on the CSN's intranet. Furthermore, it agreed to commission external services to assist the CSN in defining an action plan and its subsequent implementation to improve the CSN's safety and organisational culture.

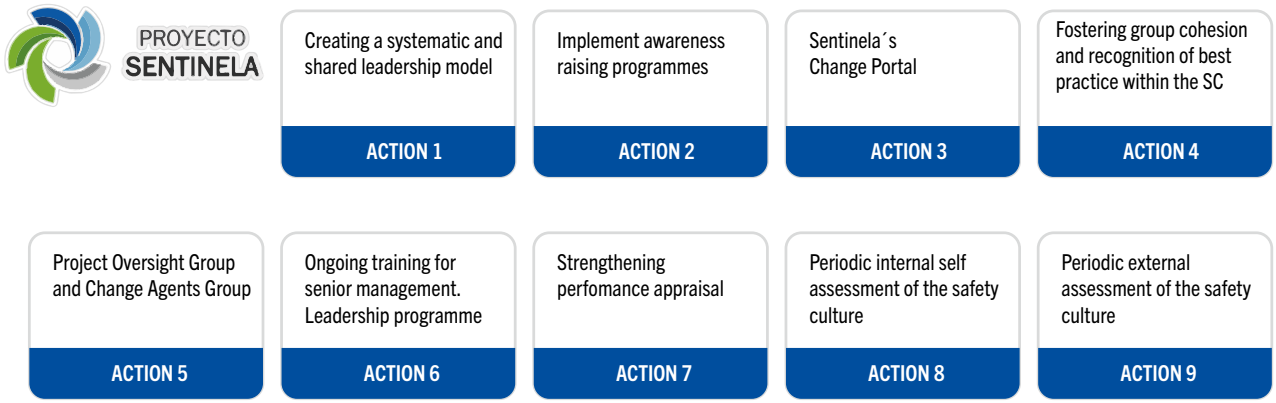
Operational work began on 20 September 2023, with the project kick-off meeting and the definition of the project plan, as well as a timetable for its development and execution. The external consultant's activities were discussed and evaluated periodically with an ad hoc group set up by the CSN. In October 2024, the project was presented to the organisation.

Between January and September 2025, an analysis of the results of interviews and focus groups was carried out, and areas for improvement, risks and challenges for the cultural change project were identified.

Based on this, nine improvement actions were defined and grouped within an improvement plan known as the Sentinela Project. All staff were involved in choosing the project's name and logo.

The work has focused on the first five actions in the plan, as the remainder are already part of other processes and programmes within the organisation (such as leadership training or strengthening performance appraisal) or were already planned within the general framework of continuous improvement of the safety culture (safety culture assessments and selfassessments).

Figure 2.5.1. Actions of the Sentinela Project



3. OVERVIEW OF NUCLEAR SAFETY AND RADIATION PROTECTION IN 2025

In general, it can be stated that all nuclear and radioactive facilities operated safely throughout the year. Similarly, shipments of radioactive material have been carried out safely and activities have been conducted in accordance with regulatory requirements, without any risk situations arising.

Environmental conditions around the facilities have remained within acceptable radiological limits, with no risk to the public arising from their operation or from the decommissioning or decontamination activities carried out.

The overall assessment of the operation of authorised facilities is carried out primarily by considering the results of the various monitoring systems, specifically the Integrated Plant Supervision System (SISC) for nuclear power plants, as well as the other monitoring and control processes for the various nuclear and radioactive facilities and for the transport of radioactive material. Two of the aspects used for this assessment are operational incidents and reported events, particularly those classified at a level higher than zero on the IAEA's International Nuclear and Radiological Event Scale (INES Scale), radiological impact, worker dosimetry, relevant proposed modifications and the enforcement regime.

The table below summarises the key data on the licensing, supervision and control activities carried out by the CSN in 2025. These activities are detailed in the sections that follow.

Table 3.1. Summary of licensing, supervision and control activities in 2025

FACILITY/ACTIVITY	LICENSING	INSPECTIONS	REPORTS	EVENTS	PROPOSED SANCTIONS
NPP in operation	47	108	31	6	0
Nuclear power plants under decommissioning	7	21	2	0	0
Juzbado	4	13	2	0	0
El Cabril	4	9	0	0	0
Transport	13	54	1	5	0
Radioactive facilities	314	1,129	12	5	0
SPR/UTPR/SDP/ERX	38	30	0	2	1
Other facilities / activities	65	243	0	1	0

Table 3.2. Licenses for personnel at nuclear power plants, fuel cycle facilities and radioactive facilities in 2025

TYPE OF LICENSE	NUCLEAR POWER PLANTS - LICENSES	NUCLEAR POWER PLANTS - RENEWALS	FUEL CYCLE AND NPP UNDERGOING DECOMMISSIONING - LICENSES	FUEL CYCLE AND NPP UNDERGOING DECOMMISSIONING - RENEWALS	RADIOACTIVE FACILITIES - LICENSES	RADIOACTIVE FACILITIES - RENEWALS
Supervisor	10	14	10	5	450	45
Operator	5	15	7	4	1,984	82

Table 3.3. Dosimetry for exposed workers at nuclear power plants, fuel cycle facilities and radioactive facilities, as reported in 2025

FACILITY/ACTIVITY		NUMBER OF PEOPLE	COLLECTIVE DOSE (MSV·PERSON)	AVERAGE INDIVIDUAL DOSE (MSV/YEAR)
Nuclear power plants		7,858	3,407.96	1.14
Nuclear fuel cycle facilities / waste management / Ciemat		741	45.18	0.39
Radioactive facilities	Medical	108,012	12,401.9	0.70
	Industrial	8,702	2,107.08	1.17
	Other	13,237	366.64	0.46
Facilities undergoing decommissioning / decommissioned		722	28.08	0.42
Transport		258	216.34	1.42

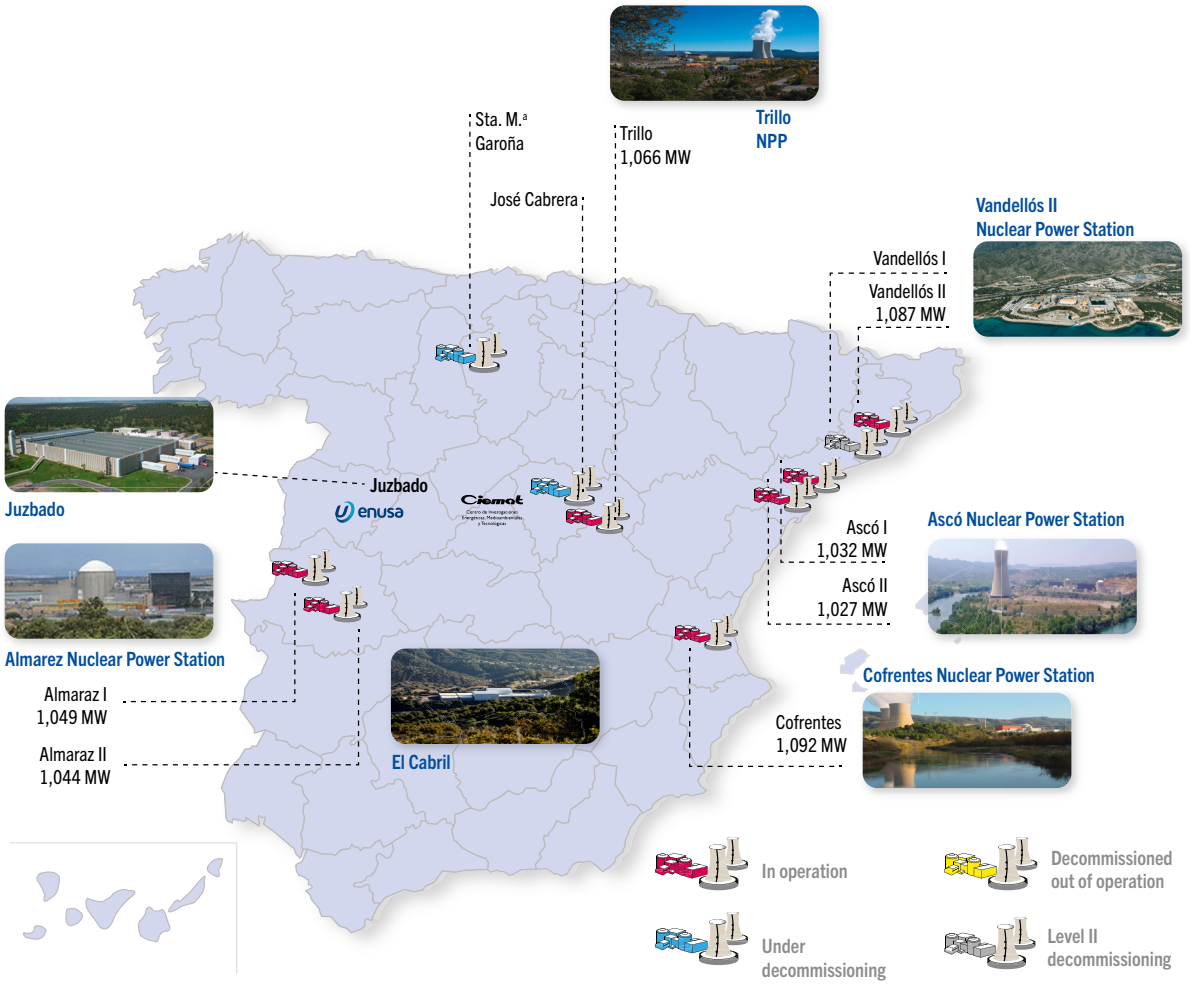
4. MONITORING AND CONTROL OF FACILITIES AND ACTIVITIES

4.1. Nuclear power plants in operation

Figure 4.1.1 shows the locations of existing nuclear facilities in Spain: nuclear power plants in operation, those undergoing decommissioning and other nuclear facilities

The following sections summarise the characteristics and activities of each of these during the year 2025.

Figure 4.1.1. Nuclear and fuel cycle facilities in Spain



4.1.1. Operation licence for nuclear power plantss

Table 4.1.1.1 summarises the operation licence in force and the key operating data for 2025.

Table 4.1.1.1. Operation licence and operating data for 2025

	Almaraz I/II	Ascó I/II	Vandellós II	Trillo	Cofrentes
Current authorisation	27 July 2020	2 October 2021	27 July 2020	17 November 2024	20 March 2021
Expiry date or period of validity	1 November 2027 / 31 October 2028	1 October 2030 / 1 October 2031	10 years	10 years	30 November 2030
Net generation (GWh)	7,648.746 / 7,103.302	7,991.344 / 7,280.605	7,391.961	7,001.962	7,144.355
Load factor (%)	86.69 / 80.88	92.19 / 84.22	81.02	80.32	77.71
Operating factor (%)	92.46 / 85.50	95.39 / 85.57	84.13	82.07	81.88
Hours connected to the grid	8,099.5 / 7,490.0	8,356.06 / 7,495.61	7,370.17	7,191.0	7,172.767
Refuelling outages	Unit II: 5 October – 13 November	Unit II: 3 May – 18 June	25 October – 10 December	24 March – 21 May	19 September – 26 October

Table 4.1.1.2. End-of-service-life and end-of-operation dates

REACTOR	DESIGN LIFE END DATE	END OF OPERATION DATE (*)
Almaraz I	1 May 2021	1 November 2027
Almaraz II	8 October 2023	31 October 2028
Ascó I	29 August 2023	2 October 2030
Ascó II	23 October 2025	2 October 2031
Cofrentes	14 October 2024	30 November 2030
Vandellós II	12 December 2027	February 2035
Trillo	23 May 2028	May 2035

(*) According to the National Integrated Energy and Climate Plan (PNIEC).

4.1.2. General aspects of the CSN's supervision and control. Operating experience

Each year, the CSN carries out a comprehensive assessment of the operation of nuclear power plants, taking into account primarily the results of the SISC, reported events, the assessment of radiological impact, worker dosimetry, license applications and applications for significant modifications, warnings and sanctions, and operational incidents.

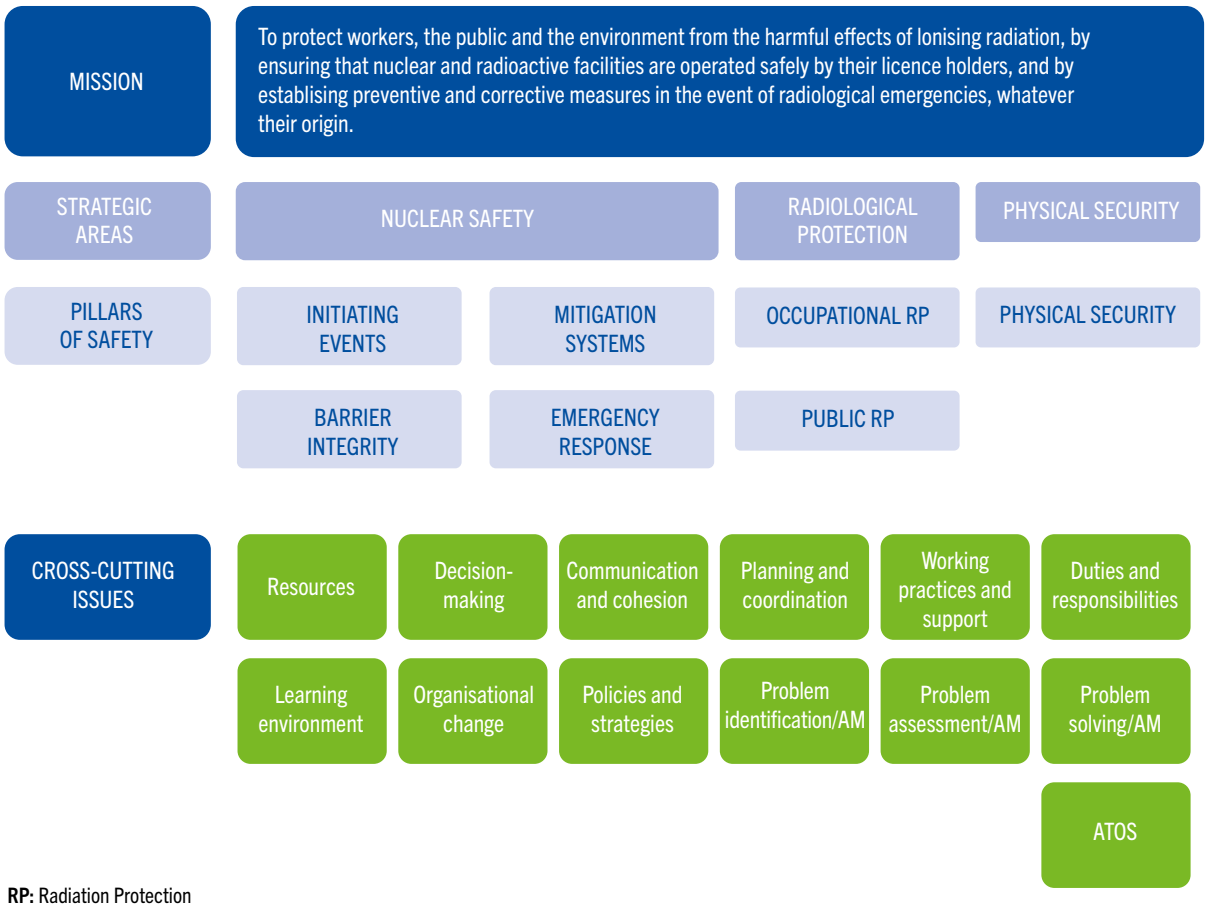
4.1.2.1. Integrated Plant Oversight System (SISC)

The SISC is based on the continuous monitoring of a set of performance indicators and on an inspection programme known as the Basic Inspection Plan (BIP), which enable supervision to be focused on the aspects most relevant to safety, in accordance with Probabilistic Safety Assessments (PSA).

SISC supervision is structured around three 'strategic areas' (nuclear safety, radiation protection and physical protection) and seven 'safety pillars', as illustrated in the figure below. To protect workers, the public and the environment from the harmful effects of ionising radiation, by ensuring that nuclear and radioactive facilities are operated safely by their licensees, and by establishing preventive and corrective measures in the event of radiological emergencies, whatever their origin.

The following points can be highlighted from the SISC results on the operation of nuclear power plants in 2025:

Figure 4.1.2.1.1. Diagram of the SISC's operation



RP: Radiation Protection
ATOS: Safety-oriented working environment
AM: Area for improvement

- A total of 108 inspections were carried out in 2025. The implementation of inspection programmes remained largely unchanged from the previous year, and was slightly below the statistical average of 114 inspections per year.

- In 2025, 102 findings were categorised as green. No findings were categorised as a higher colour than green (white, yellow or red).

- Throughout 2025, all performance indicators remained in the green band, except for the indicator tracking the number of unscheduled instantaneous reactor shutdowns per 7,000 hours for the critical reactor at Ascó II nuclear power plant, which fell into the white band in the second and third quarters.

- The power plants were in the normal status known as 'licensee response' (RT) in the SISC action matrix, with standard inspection and deficiency rectification programmes being implemented. Except for the Almaraz nuclear power plant, where both units were in the 'regulatory response' (RR) status in the first quarter due to the final categorisation of a white-coloured finding in the second quarter of 2024. And Ascó II nuclear power plant, which was in the 'regulatory response' (RR) column in the second and third quarters of 2025, due to the white-coloured indicator mentioned above. The exception was Almaraz, which began the first quarter of 2025 with a white finding deriving from an inspection carried out in the second quarter of 2024, returning to the licensee response column once the corresponding supplementary inspection had been closed; and Ascó II, which was in the regulatory response column in the second and third quarters as a result of the white indicator.

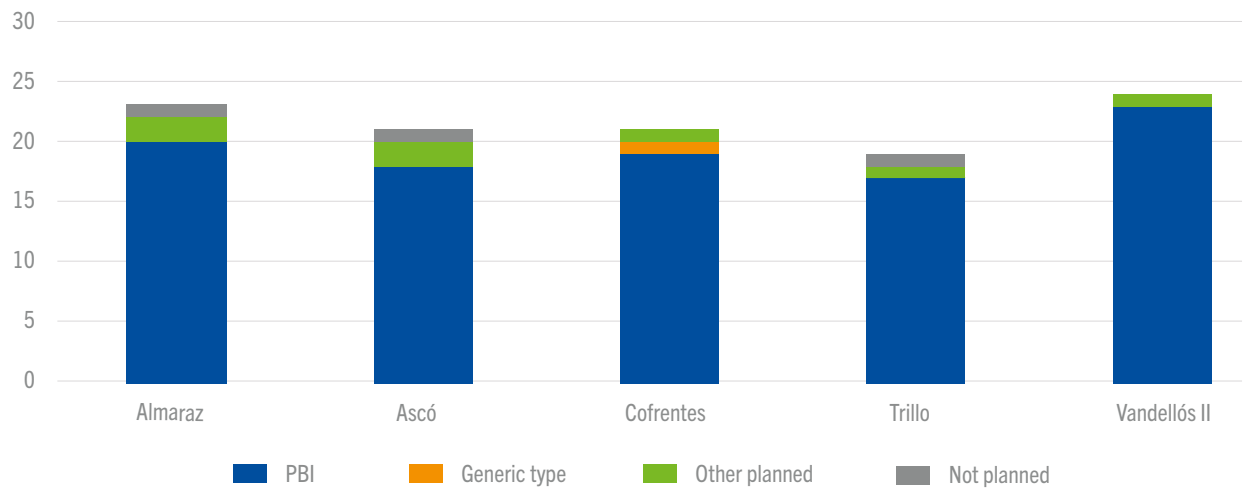
The Garoña Supervision and Tracking System (STS) focuses on nuclear safety, radiation protection and the physical safety of the spent fuel storage pool. Consequently, the Basic Inspection Plan (BIP) has been adapted to the plant's operational status, and only those SISC performance indicators relating to the radiation protection of workers and the public, and emergency preparedness, are applied. The BIP is supplemented by other planned inspections and the results of any reactive inspections.

The STS will be adapted to the situation at the facility as decommissioning progresses. During 2025, a total of 14 inspections were carried out, resulting in the identification of four inspection findings.

Table 4.1.2.1.1. Inspections carried out under the SISC in 2025

	PBI	GENERIC	OTHER PLANNED	UNPLANNED	TOTAL
Radiation protection	15			2	17
Nuclear safety	52	1	7	1	61
Resident inspection	20				20
Emergencies	5				5
Physical safety	5				5
Total	97	1	7	3	108

Figure 4.1.2.1.1. Total number of inspections per nuclear power plant carried out in 2025



The following table sets out the SISC performance indicators for the four quarters of 2025.

Table 4.1.2.1.2. Performance indicators. SISC 2025

PLANT	1ST QUARTER	2ND QUARTER	3RD QUARTER	4TH QUARTER
Almaraz I	Green	Green	Green	Green
Almaraz II	Green	Green	Green	Green
Ascó I	Green	Green	Green	Green
Ascó II	Green	White	White	Green
Cofrentes	Green	Green	Green	Green
Trillo	Green	Green	Green	Green
Vandellós II	Green	Green	Green	Green

Together with the performance indicators and findings at each plant, this determines its position (status and analysis) in the SISC action matrix.

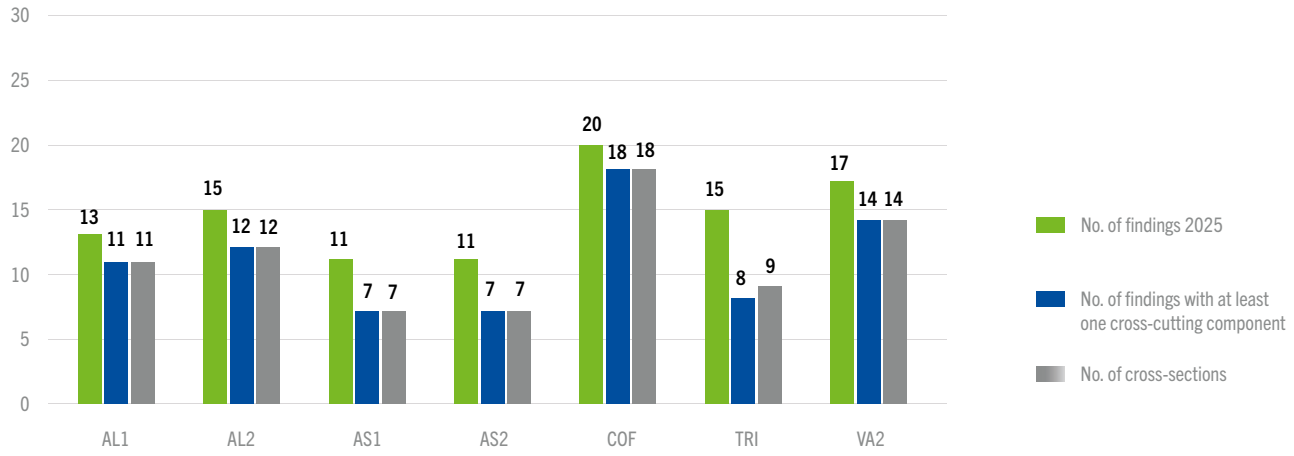
Table 4.1.2.1.3. Inspection findings. SISC 2025

PLANT	1ST QUARTER	2ND QUARTER	3RD QUARTER	4TH QUARTER	TOTAL
Almaraz I	2	5	1	5	13
Almaraz II	3	4	1	7	15
Ascó I	3	4	3	1	11
Ascó II	1	6	3	1	11
Cofrentes	3	8	3	6	20
Trillo	2	5	2	6	15
Vandellós II	3	1	5	8	17
Total	17	33	18	34	102

The results of the SISC are published quarterly on the CSN's institutional website, where further information on this supervision and control system is also available.

Since 2017, the SISC has been supplemented by the supervision of the safety culture at nuclear power plants, which consists of two parts: the cross-cutting components and the action matrix. The results for the cross-cutting components in 2025 are shown in the graph below.

Figure 4.1.2.1.2. Findings with cross-cutting components in 2025

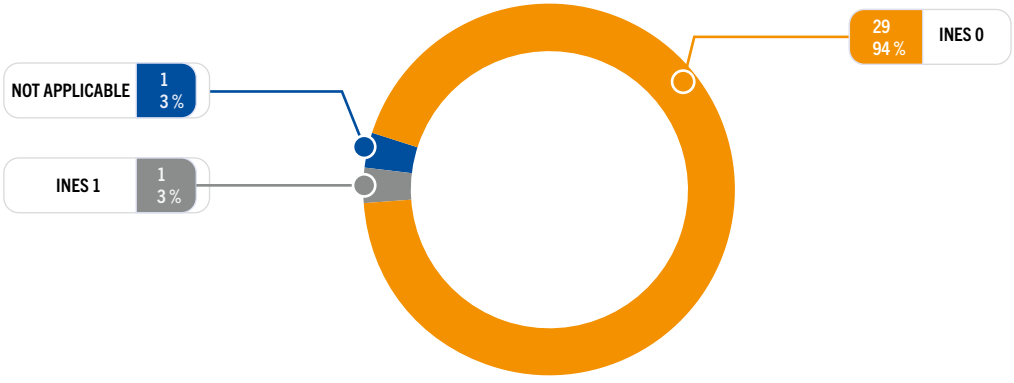


4.1.2.2. Reported events, proposals for disciplinary proceedings and warnings

During 2025, a total of 31 events were reported by the licensees of operating power plants to the CSN in accordance with the provisions of Nuclear Safety Council Instruction IS-10, Revision 2.

Twenty-nine of the events were classified as Level 0 on the International Nuclear Event Scale (INES), while ISN No. 6 – the inoperability of the steam generator A relief valve at Vandellós II nuclear power plant – was classified as Level 1. The INES classification does not apply to ISN No. 1 at Trillo nuclear power plant, as it was due to a workplace accident with no impact on nuclear safety or radiation protection.

Figure 4.1.2.2.1. INES classification of events reported to the CSN in 2025



In 2025, the CSN issued six warnings and did not propose to the Ministry for Ecological Transition and the Demographic Challenge that any sanctions' proceedings be initiated against nuclear power plants in operation.

Table 4.1.2.2.1 summarises the relevant information on the causes that have led to these enforcement actions.

Table 4.1.2.2.1. Information on warnings issued in 2025

WARNINGS	
Almaraz I and II	• Warning for non-compliance with Article 9 of CSN Instruction IS-21, concerning abnormal conditions relating to design modifications. • Warning for non-compliance with section 4.9 of CSN Instruction IS-23, concerning in-service inspection of nuclear power plants.
Vandellós II	• Warning for two breaches of section 5 of complementary technical instruction CSN/ITC/SG/VA2/20/06, associated with condition 8 (relating to the operation licence). • Warning for two non-compliances identified by the CSN as a result of its inspection activities regarding aspects of the facility's physical safety.
Cofrentes	• Warning for non-compliance with Article 5 of CSN Instruction IS-44, on requirements for planning, preparedness and response to emergencies. • Warning for non-compliance with Article 9 of CSN Instruction IS-21, on requirements applicable to modifications at nuclear power plants.

4.1.3. General topics and operating experience monitoring and analysis

A general issue is defined as any safety-related issue that may affect several power plants and which requires special monitoring by the CSN. The CSN's monitoring may include sending instructions or generic letters to the power plants, requesting an analysis of the applicability of new requirements, the carrying out of inspections and assessments by specialist departments, and the inclusion of analyses in the plants' Operating Experience (EO) reports, among other possible actions. No new general topic was initiated in 2025.

The most significant milestones regarding the status of operating nuclear power plants during 2025 are summarised graphically below.

4.1.3.1. Almaraz nuclear power plant

Figure 4.1.3.1.1. Key activities at Almaraz nuclear power plant (2025)



4.1.3.2. Ascó nuclear power plant

Figure 4.1.3.2.1. Key activities at Ascó nuclear power plant (2025)



4.1.3.3. Cofrentes nuclear power plant

Figure 4.1.3.3.1. Key activities at Cofrentes nuclear power plant (2025)



4.1.3.4. Vandellós II nuclear power plant

Figure 4.1.3.4.1. Key activities at Vandellós II nuclear power plant (2025)



4.1.3.5. Trillo nuclear power plant

Figure 4.1.3.5.1. Key activities at Trillo nuclear power plant (2025)



4.2. Nuclear power plants at decommissioning stage

There are currently three nuclear power plants undergoing decommissioning in Spain, at different stages of progress: Vandellós I, located in Tarragona and currently at the latency stage; José Cabrera, in Guadalajara; and Santa María de Garoña, in Burgos.

Table 4.2.1 provides a summary of the nuclear power plants undergoing decommissioning, including their location, licensing milestones, etc.

Table 4.2.1. Nuclear power plants at decommissioning stage

PLANT	MILESTONES	STATUS	DECOMMISSIONING PROJECT
Vandellós I (Vandellós, Tarragona)	Start of operation: Feb 1972. Declaration of cessation: July 1990. Decommissioning: Jan 1998. Latency: Jan 2005.	Latency (decommissioned to Level 2)	1998–2004
José Cabrera (Zorita de los Canes, Guadalajara)	Start of operation: Oct 1968. Declaration of cessation: Apr 2006. Decommissioning: Feb 2010.	Implementation of the Decommissioning and Closure Plan	2010–2023
Santa María de Garoña (Santa María de Garoña, Burgos)	Start of operation: May 1970. Declaration of cessation: July 2013. Decommissioning and transfer of ownership to Enresa: July 2023.	Implementation of Phase 1 of the Decommissioning and Closure Plan	2023–2026

The most significant milestones regarding the status of the nuclear power plants at different stages of decommissioning during 2025 are summarised graphically below.

4.2.1. Vandellós I nuclear power plant

Figure 4.2.1.1. Key activities at Vandellós I nuclear power plant (2025)



4.2.2. José Cabrera nuclear power plant

Figure 4.2.2.1. Summary of information relating to José Cabrera nuclear power plant (2025)



4.2.3. Santa María de Garoña nuclear power plant

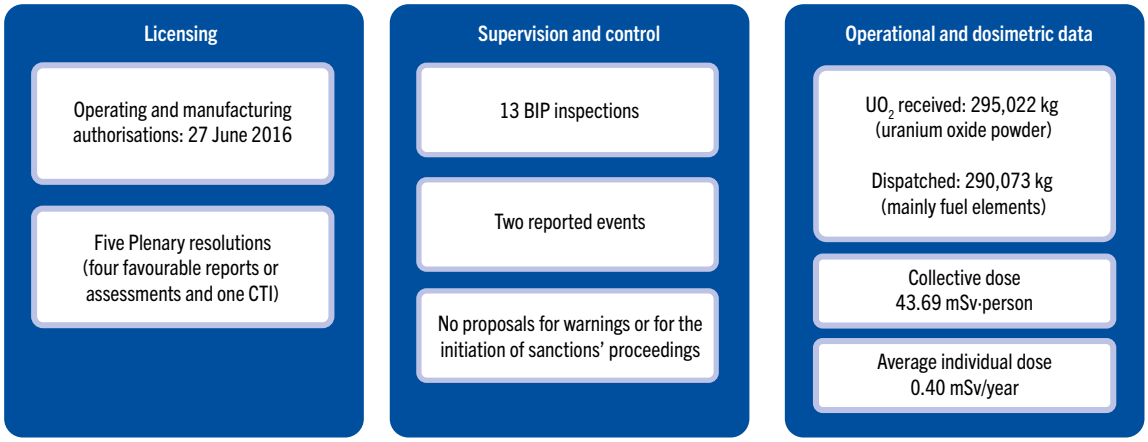
Figure 4.2.3.1. Summary of information relating to Santa María de Garoña nuclear power plant (2025)



4.3. Fuel cycle facilities, radioactive waste storage and Ciemat

4.3.1. Juzbado nuclear fuel factory

Figure 4.3.1.1. Key activities at Juzbado nuclear fuel factory (2025)



4.3.2. El Cabril radioactive waste storage facility

El Cabril Storage Facility (CA) is a nuclear facility for the storage of low and intermediate level waste (LILW) and very low level waste (VLLW).

It began operations in 1992 and has held a valid license since 5 October 2001.

Figure 4.3.2.1 shows the most relevant activities relating to El Cabril radioactive waste storage facility in 2025.

Figure 4.3.2.1. Key activities at El Cabril storage facility in 2025



4.3.3. Centre of Energy, Environment and Technology Investigations (Ciemat)

Figure 4.3.3.1. Relevant activities at Ciemat (2025)



4.3.4. Uranium concentrate processing plants and uranium mining operations

Table 4.3.4.1 provides a summary and comprehensive overview of all the facilities falling under this heading.

Table 4.3.4.1. Overview of uranium concentrate production plants and uranium mining

FACILITY		STATUS	DESCRIPTION 2025
Saelices Mining Centre	Elefante Plant	Dismantled and restored (in the compliance phase since 2005)	• Subject to a long-term Monitoring and Control Programme that includes various radiological monitoring programmes and controls.
	Quercus Plant	Decommissioning (authorisation for decommissioning and closure applied for in 2015; Phase 1)	• Programmes for environmental radiological monitoring, radiation protection of workers, physical protection, discharge control and waste management remain in place.
	Mining facilities	Restored in 2008	• Monitoring and maintenance programmes approved by the CSN in 2010 and 2012 are in operation.
Former Andújar Uranium Concentrate Plant (FUA)		Dismantled and restored (in the compliance phase since 2015)	• The long-term monitoring programme is operational.
Former mines at Valdemascaño and Casillas de Flores (Salamanca)		Dismantled and restored (compliance period since 2008)	• Surveillance and maintenance programmes (PVM) in operation.
LOBO-G (La Haba former uranium ore processing plant, Badajoz)		Decommissioned in 2004 (tailings stabilised on site)	• Long-term monitoring in compliance with Order ITC/2942/2004 of 2 August, declaring the closure of the restored site.

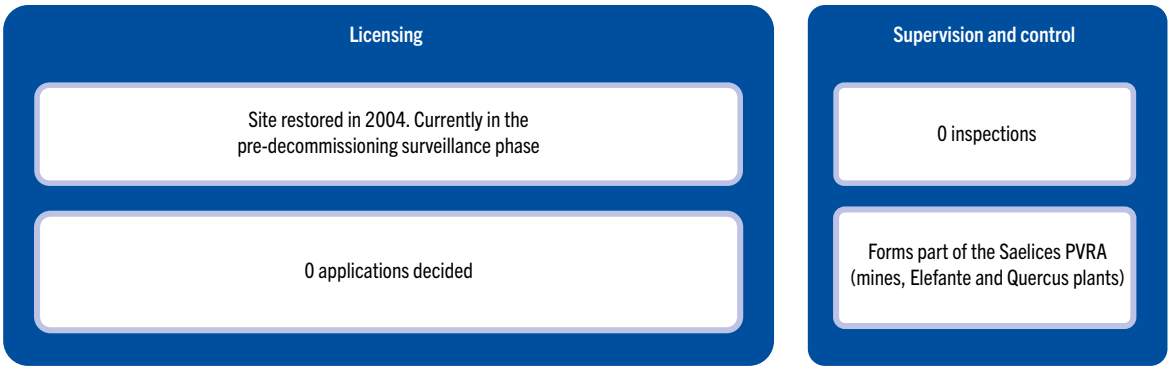
4.3.4.1. Quercus plant

Figure 4.3.4.1.1. Key activities at Quercus plant (2025)



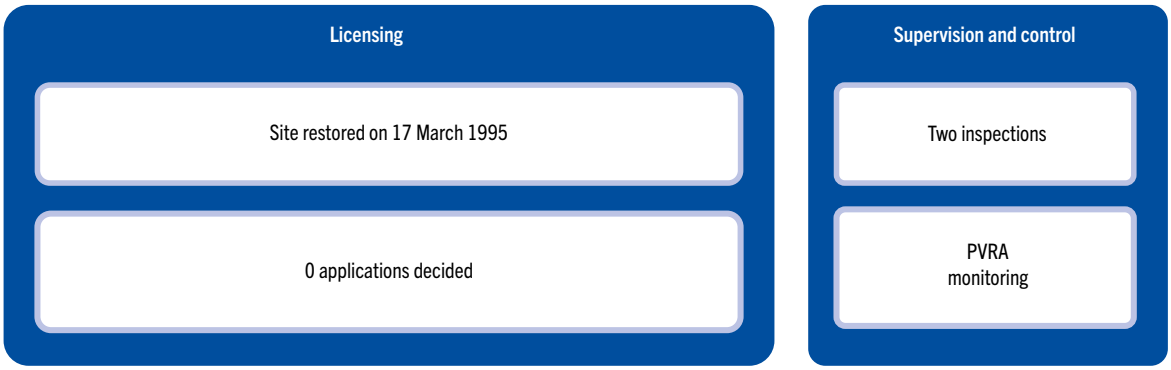
4.3.4.2. Elefante plant

Figure 4.3.4.2.1. Most significant activities at Elefante Plant (2025)



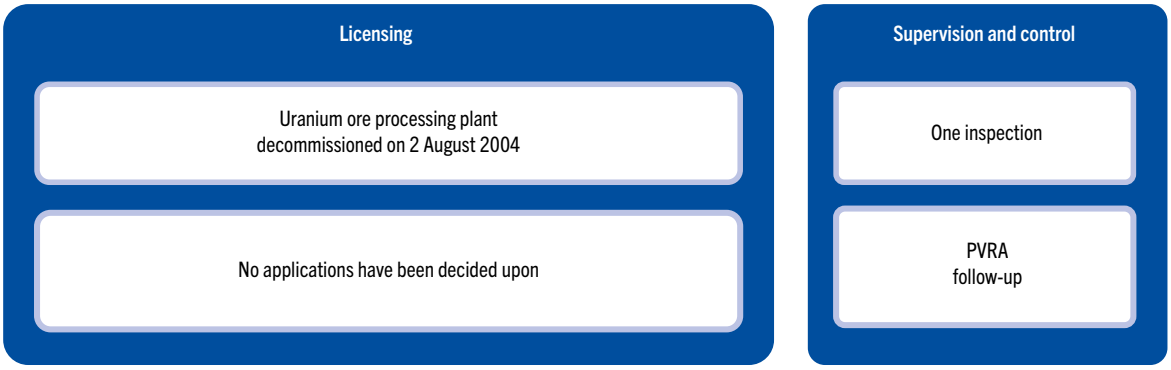
4.3.4.3. Andújar Uranium Plant (FUA)

Figure 4.3.4.3.1. Key activities at Andújar Uranium Plant (FUA) (2025)



4.3.4.4. Lobo-G plant

Figure 4.3.4.4.1. Key activities at Lobo-G plant (2025)



4.3.4.5. Saelices el Chico site

Enusa's project for the restoration of the Saelices el Chico mining site (Salamanca) was approved on 13 September 2004 by the Regional Department of Industry, Trade and Tourism of the Regional Government of Castile and León.

Throughout 2025, Enusa has continued with the programme to monitor groundwater and the stability of structures in order to commence the post-mining restoration phase, which the CSN assessed favourably on 19 March 2014.

4.3.4.6. Valdemascaño and Casillas de Flores sites

The restoration of these sites was completed in 2007, and they are currently in the compliance period, the purpose of which is to verify that the restoration works are performing as intended. During this period, the Surveillance and Maintenance Programme (PVM) applies; this was approved by the CSN on 8 September 2010 for the Valdemascaño mine and on 11 April 2012 for the Casillas de Flores mine.

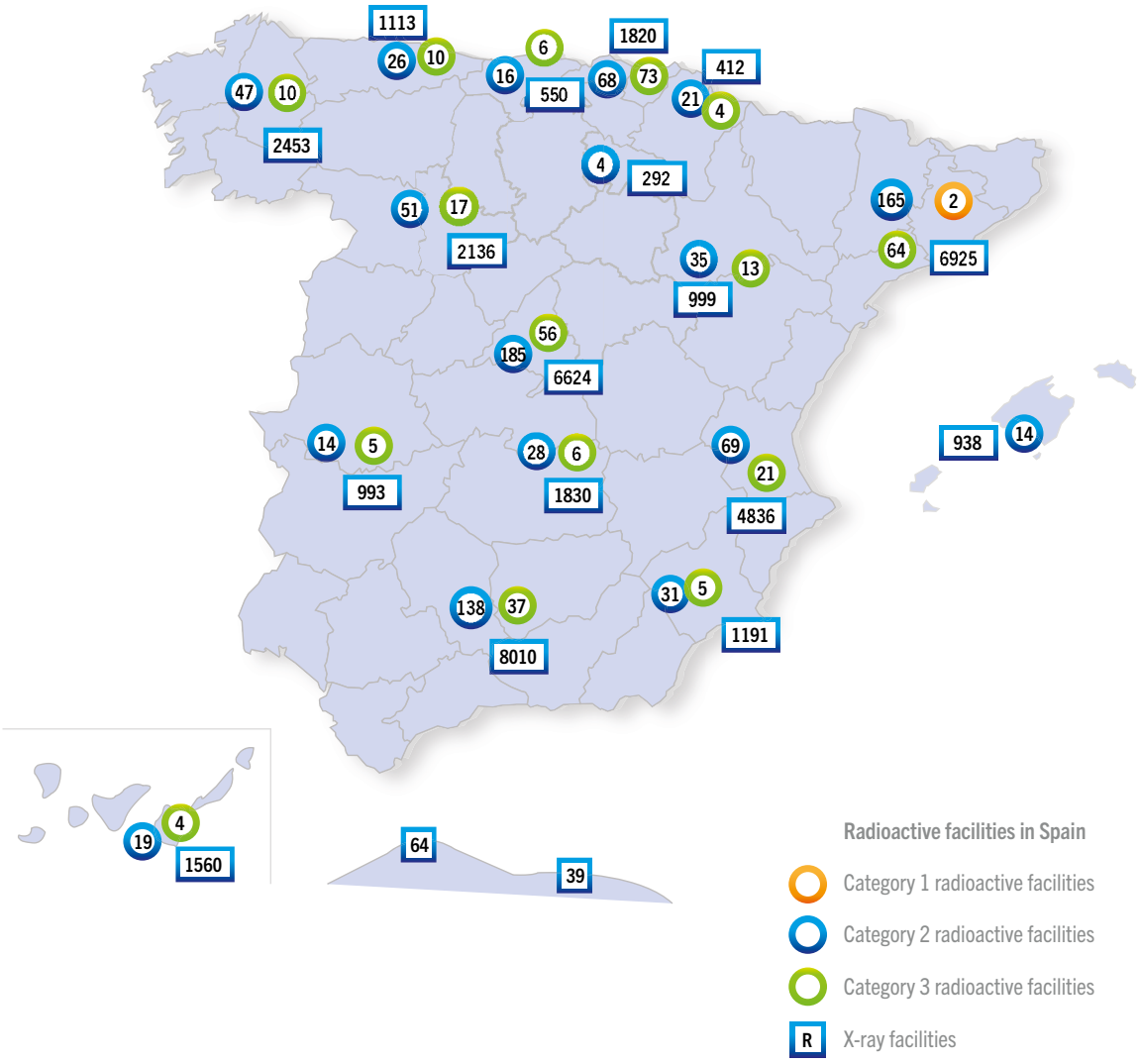
The PVMs carried out by Enusa during the compliance period were initially established to last for a minimum of three years. Following a request from the licensee to cease operations, the CSN has been extending the validity of these PVMs in both cases.

During 2025, Enusa has continued with the surveillance and maintenance programme for both mines and has submitted the required periodic activity reports to the CSN.

4.4. Radioactive facilities

Figure 4.4.1 shows the distribution of radioactive facilities by category and autonomous community at the end of 2025.

Figure 4.4.1. Distribution of radioactive facilities by category and autonomous community (as at 31 December 2025)



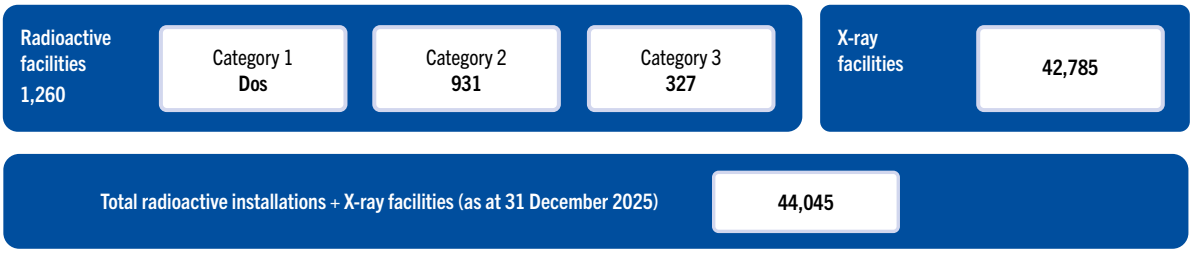
4.4.1. General aspects

As at 31 December 2025, executive powers over Category 2 and 3 radioactive facilities had been transferred to the autonomous communities of Aragon, Asturias, the Balearic Islands, the Canary Islands, Cantabria, Catalonia, Castile and León, Ceuta, Extremadura, Galicia, La Rioja, Madrid, Murcia, Navarre, the Basque Country and Valencia, although the CSN is responsible for monitoring the operation and inspection of radioactive facilities once they have been authorised, including X-ray facilities for medical diagnosis, with the assistance of the autonomous communities under assignment agreements.

In this regard, it should be noted that the CSN currently has assignment agreements with nine Autonomous Communities covering inspection functions, with three of these agreements also including functions relating to the assessment of radioactive facilities. The Autonomous Communities with an assignment agreement are currently Asturias, the Balearic Islands, the Canary Islands, Catalonia, Galicia, Murcia, Navarre, the Basque Country and Valencia.

Figure 4.4.1.1 provides a schematic overview of the number of radioactive facilities nationwide at the end of 2025.

Figure 4.4.1.1. Overall data on radioactive facilities in Spain (as at 31 December 2025)



The operation of radioactive facilities for scientific, research, medical, agricultural, commercial and industrial purposes took place throughout 2025 in accordance with the established requirements regarding radiation safety and protection, without any situations of undue risk arising.

4.4.2. General issues

A general issue is defined as any problem relating to radiation protection or safety that may affect several facilities and which requires special monitoring by the CSN; this may include the issuance of instructions or circulars to all radioactive facilities, or to specific sectors, to request action, make enquiries or provide information on relevant developments.

General issues may also derive from the analysis of experience at Spanish or foreign facilities, as well as from standards issued by international organisations or regulatory bodies in other countries. The CSN has the Panel for the Review of Operational and Regulatory Experience at Radioactive Facilities and Incidents (PIRA), as well as the Incident Review Panel (PRI) and the International Incident Review Panel (PRIN), comprising CSN specialists in the field who meet periodically to review such experiences, determine their applicability in the Spanish context and assess the appropriate actions to be taken.

Table 4.4.2.1 below summarises the general actions carried out by the CSN in 2025.

Table 4.4.2.1. General activities carried out by the CSN in 2025

GENERAL ISSUE	SITUATION IN 2025
Radioactive facilities with economic viability issues	In 2025, no action was taken regarding radioactive facilities facing economic viability issues; a meeting is scheduled for April 2026, the conclusions of which will be used to update the report on the status and inventory of the facilities covered by this protocol. 131 facilities have resolved their situation.
Implementation of regulations on the physical safety of radioactive sources	In 2025, the CSN issued favourable reports on six PPFs relating to industrial radioactive facilities.
Cooperation Agreement on Radiological Protection (CSN – Ministry of Health)	During 2025, within the framework of the Cooperation Agreement signed in 2010 by the CSN and the Ministry of Health, work continued on the coordination of activities relating to the radiation protection of patients.

4.4.3. Licensing, inspection, monitoring and control of radioactive facilities

Table 4.4.3.1 summarises the CSN's most significant activities in 2025 relating to the licensing and control of radioactive facilities.

Table 4.4.3.1. Key licensing and control activities relating to radioactive facilities

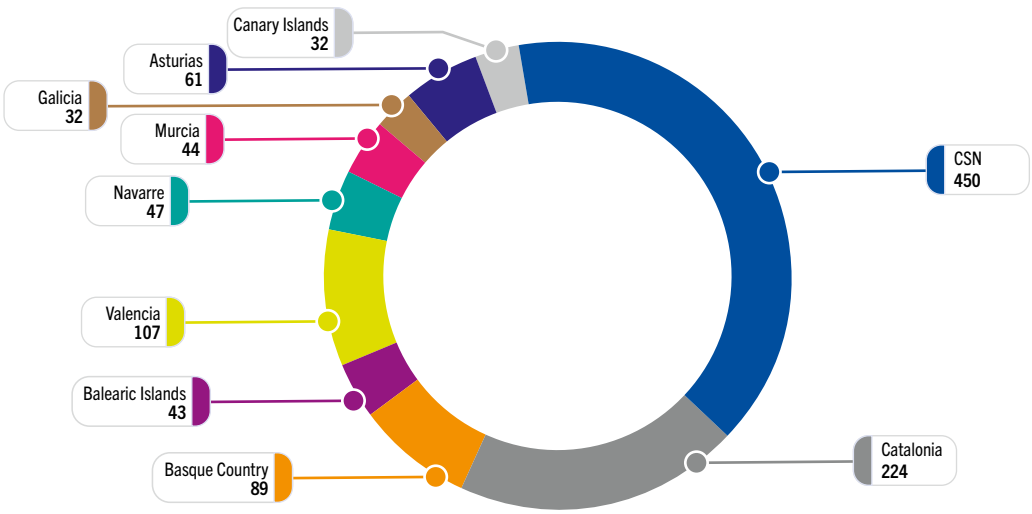
ACTIVITY	DATA FOR 2025
Licensing	In 2025, 314 technical opinions were issued regarding authorisations for radioactive facilities. CSN staff prepared 267 assessment reports for the issuance of technical opinions, while the remaining 47 were prepared and assessed by technical staff from the respective autonomous communities entrusted with assessment functions.
Inspection and control	1,129 inspections of radioactive facilities and the assessment of 1,267 annual installation reports.
Complaints	53 complaints concerning radioactive facilities and medical radiodiagnostic facilities. By the end of the year, all but eight had been resolved.
Reported events	13 events were reported to the CSN, in accordance with CSN Instruction IS-18 on the criteria for reporting radiological events at radioactive facilities.
Warnings	Five warnings were issued to radioactive facilities and one to an outside company.

Table 4.4.3.2. Most notable licensing processes in 2025

SCOPE OF ACTIVITY	KEY LICENSING PROCESSES IN 2025
INDUSTRIAL	• There continues to be a high volume of registrations and deregistrations regarding authorizations for scintigraphy facilities, necessitating the review of Radiological Protection Plans (PPF) as well as assessments for new facilities. • The rise in the use of new radiopharmaceuticals in nuclear medicine has led to an increase in authorization requests related to their commercialization. Furthermore, the conditions governing commercialization and technical assistance activities have undergone significant changes since they were first regulated under the Regulation on Nuclear and Radioactive Facilities (approved by Royal Decree 1836/1999 of December 3). In this context, a working group has been established to address the implementation of Article 107 of the Regulation on Nuclear and Radioactive Facilities and Other Activities Related to Ionizing Radiation Exposure (approved by Royal Decree 1217/2024 of December 3) regarding commercialization and technical assistance activities. A document has been prepared outlining the evolution of the applicable regulations and analyzing the authorization status of entities performing commercialization and/or technical assistance activities, based on the specific activity and the radioactive equipment or materials involved. • In addition to reporting on hospital proton therapy facilities, the IRIN unit issues reports on requests for technical assistance and daily commissioning operations at each site. In 2025, favorable reports were issued authorizing the operation of technical assistance and daily commissioning facilities for proton therapy located in Santiago de Compostela (Galicia) and Fuenlabrada (Madrid).
MEDICAL	• The boom in the development and use of new radiopharmaceuticals for nuclear medicine therapy continues, leading to a significant increase in applications—both for clinical trials and for radiopharmaceuticals already authorized by the Spanish Agency of Medicines for patient use. Aware of this interest and need, the CSN maintains constant contact with key stakeholders involved in developing these techniques. • In this context, the mechanism established in Article 113 of Royal Decree 1217/2024 (approving the Regulation on nuclear and radioactive facilities and other activities involving exposure to ionizing radiation) was utilized in 2025. Under this provision, the CSN issued a favorable assessment report regarding the radiation protection program design for the use of a radiopharmaceutical in clinical trials. This approval streamlines and accelerates the application and processing of nuclear medicine authorizations related to this drug for all hospitals participating in the clinical trial. • In 2025, a favorable report was issued regarding the operating authorization for the first two proton therapy facilities within the National Health System, located in Santiago de Compostela (Galicia) and Fuenlabrada (Madrid); both are part of the joint project between the Ministry of Health and the Amancio Ortega Foundation. • Additionally, the CSN received three new applications for proton therapy facility authorizations under the aforementioned project; the initial pre-operational phases for these are scheduled to take place throughout 2026, alongside another of the remaining facilities for which an application was submitted in 2025.

In 2025, 1,129 inspections were carried out at radioactive facilities. Figure 4.4.3.1 details the inspections carried out by the CSN and by the autonomous communities under a assignment agreement in 2025, broken down by type of inspection and radioactive facility.

Figure 4.4.3.1. Inspections carried out by the CSN and the Autonomous Communities with an assignment agreement in 2024 distributed by type of inspection and radioactive facility



4.4.4. Coercive actions

As a result of its supervision and control activities at the facilities, the CSN issued three warnings to radioactive facilities in 2025, two to medical radiodiagnostic X-ray facilities and one to an outside company. In each case, the non-conformities identified were set out and the corresponding corrective measures required.

4.5. Service organizations, licensed personnel and other activities

Table 4.5.1 summarises the CSN's activities in 2025 in relation to these areas.

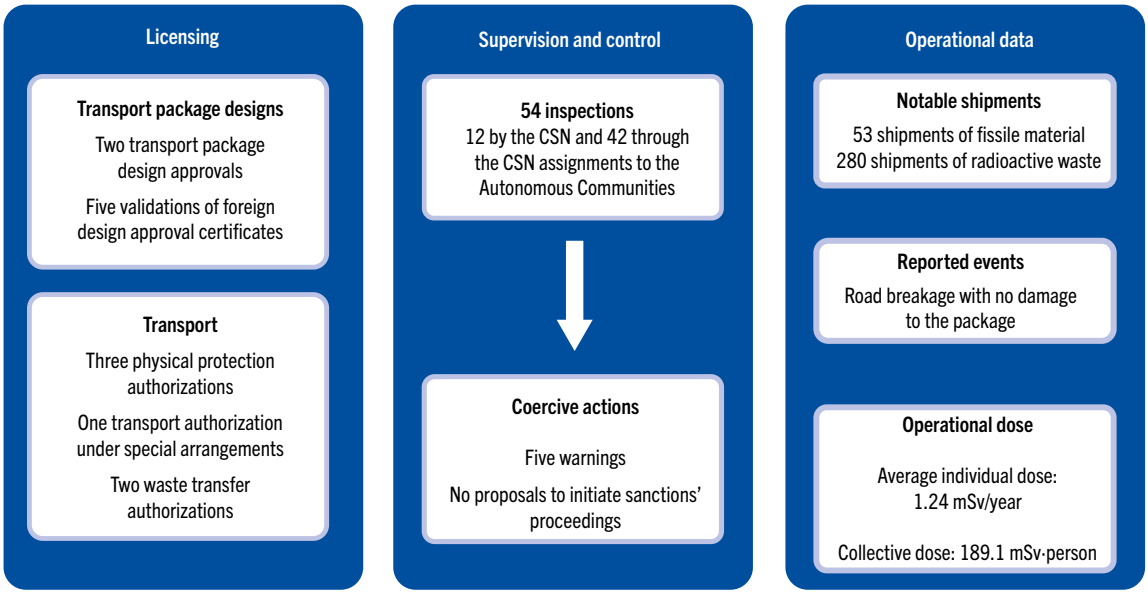
Table 4.5.1. The CSN's activities in relation to service organizations during 2025

SERVICE	IN FORCE	ACTIVITY IN 2025
Radiation Protection Services (SPR)	98	• One new authorisation. • One deregistration.
Radiation Protection Technical Units (UTPR)	45	• One new authorisation. • 10 operational amendments. • One deregistration.
Personal Dosimetry Services (SDP)	19 (external), 9 (internal)	• One new authorisation. • 10 license amendments. • Two licensing inspections. • One compliance inspection.
Outside companies (contractors)	2,475	• Monitoring through operational RP inspections during refuelling outages. • Two control inspections.
Medical X-Ray sales and support (EVAT)	378	• One new authorisation. • Three operational amendments. • Nine proposals to close a case.
Other Regulated Activities (ORA)	142	• Nine new entities notified. • 11 reports on changes to authorisations. • One closure.
Licenses and accreditations	21,017 (radioactive facilities), 226,625 (IRX), 245 (NPP), 170 (fuel cycle)	• Radioactive facilities: 2,450 grants and 127 extensions • IRX: 5,366 accreditations issued and 5,889 via certificates for approved courses. • Nuclear power plants: 15 grants and 29 renewals. • Fuel cycle and decommissioning facilities: 17 licenses and nine renewals.
Entities approved for radioactive facility and IRX courses	39 (radioactive facilities), 83 (IRX)	• Nine new approved entities. • 23 amendments to approvals. • 65 training course inspections. • 488 courses supervised and monitored.
Type approval of equipment	276	• Eight reports on new approvals. • 16 reports on amendments to approvals.

4.6. Transport of radioactive material

Figure 4.6.1 below summarises the CSN's main activities in 2025 in relation to the transport of radioactive material.

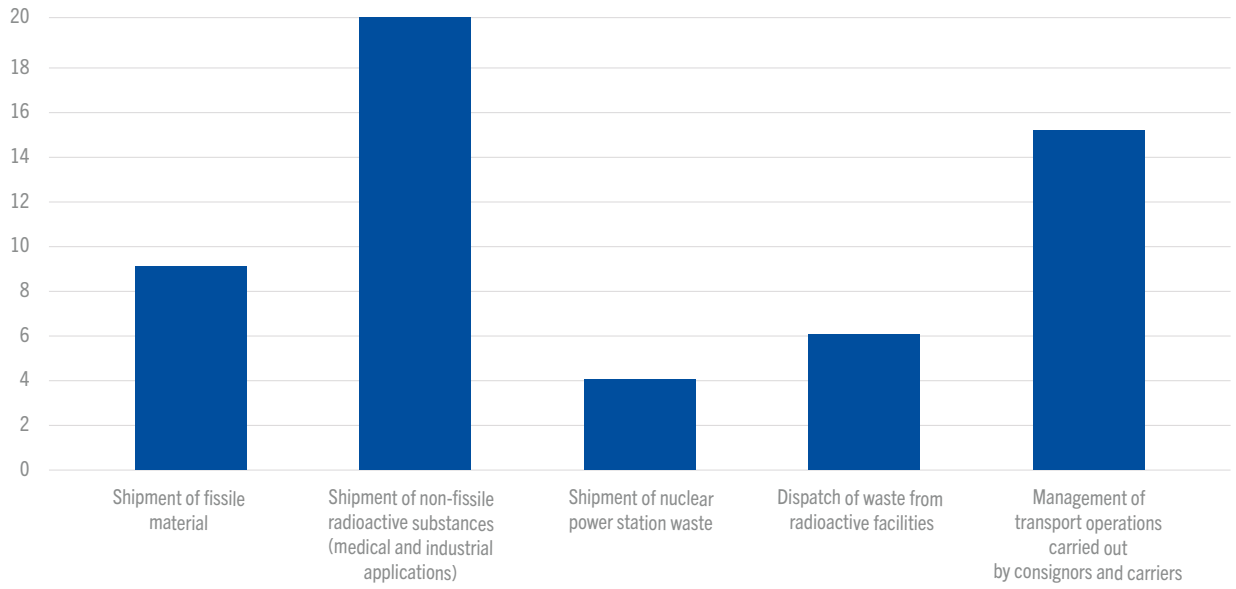
Figure 4.6.1. The CSN's transport-related activities in 2025



In 2025, 54 inspections specifically related to transport were carried out, 12 by the CSN itself and 42 by the Autonomous Communities under assignment of functions.

Figure 4.6.1 breaks down the total number of inspections carried out during 2025 by type of inspection.

Figure 4.6.1 (bis). Types of transport inspections in 2025



4.7. Activities and facilities not covered by nuclear regulations

Radioactive material detected at seaports

In June 2010, the CSN, the Ministries of the Interior, Public Works (at the time) and Miterd, the State Tax Administration Agency (AEAT) and Enresa jointly signed the Protocol on action to be taken in the event of the detection of unauthorised movement or illicit trafficking of radioactive material in ports of general interest (Algeciras, Valencia, Barcelona, Bilbao, Vigo, Tarragona and Santa Cruz de Tenerife), establishing the framework for the radiological monitoring of goods entering Spain by sea. This protocol is commonly referred to as the Megaport Protocol.

In 2025, five detections were reported, of which three were at the port of Valencia and two at the port of Barcelona.

Control of radioactive material detected in metallic materials

As a result of the implementation of the Collaboration Protocol on Radiological Monitoring of Metallic Materials signed in 1999, in 2025 the CSN was notified of the detection of radioactivity in metallic materials on 58 occasions, bringing the total to 2,384 detections since 1998.

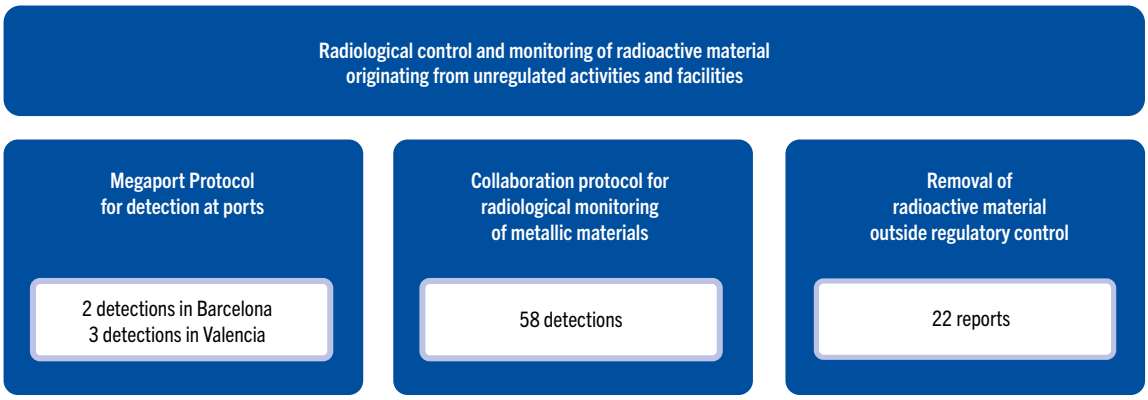
A list of all the facilities participating in the cooperation protocol on the radiological monitoring of metallic materials can be found on the website.

Removal of unauthorised radioactive material

In 2025, the CSN reported 22 authorisations for the transfer to Enresa of various radioactive materials and sources from research institutes, hospitals, universities and other institutions. In 14 of these transfers, the requesting entity did not hold authorisation as a radioactive facility.

Figure 4.7.1 summarises the CSN's work in 2025 in relation to these unregulated activities. Figure 4.7.1. Summary of activities carried out at facilities not regulated by nuclear legislation.

Figure 4.7.1. Summary of activities carried out at facilities not covered by nuclear regulations (2025)



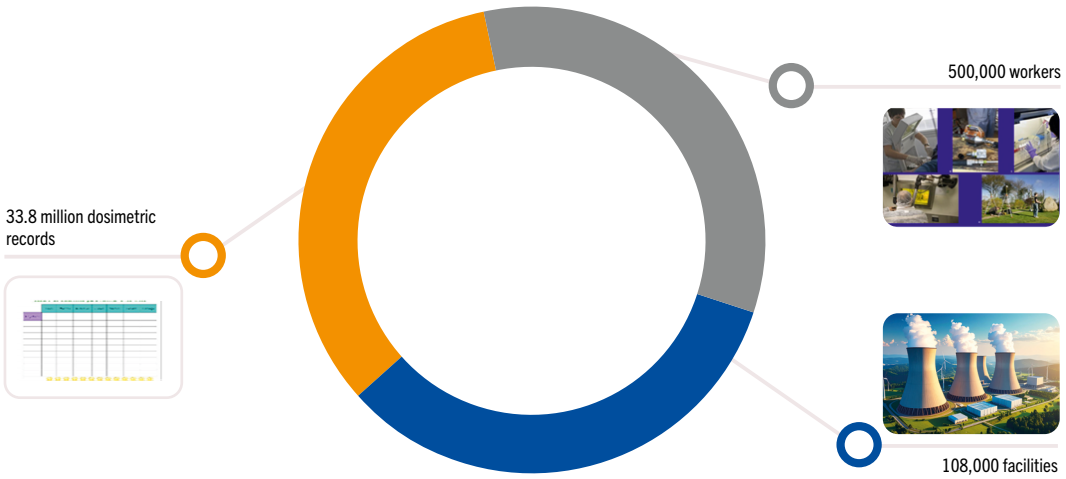
5. RADIATION PROTECTION OF EXPOSED WORKERS, THE PUBLIC AND THE ENVIRONMENT

5.1. Radiation protection of workers

In 1985, the CSN established the National Dosimetry Bank as the database in which the dosimetry records of workers exposed at nuclear and radioactive facilities are centralised.

Figure 5.1.1 summarises information on the types of records available in the National Dose Register (NDR) at the end of 2025.

Figure 5.1.1. Data contained in the NDR. 2025

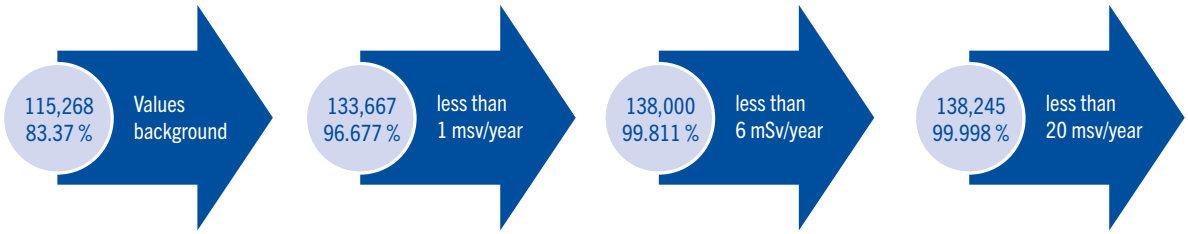


Summary of dosimetric data for 2025

In 2025, the number of workers subject to dosimetric monitoring was 136,281, corresponding to a collective dose of 15,978.96 mSv·person and an average individual dose of 0.77 mSv/year, representing 3.85 % of the maximum annual dose established by legislation (20 mSv/year).

Figure 5.1.2 shows the number of workers and their percentage, indicating those with dose levels similar to environmental background levels, and those receiving doses below 1 mSv, 6 mSv and 20 mSv.

Figure 5.1.2. Number of workers and percentage by dose received



In 2025, 15 cases were recorded where the annual dose limit established by legislation was potentially exceeded, four of which related to industrial facilities and the remaining eleven to medical facilities. In all cases, the CSN has initiated an analysis and investigation process which, at the time of writing this report, has not been completed, with the exception of two of the cases at industrial facilities, both of which were resolved as doses not received by the exposed worker.

Figure 5.1.1 shows the average individual dose by sector. It is worth noting that the transport sector has the highest average individual dose (1.29 mSv/year).

Figure 5.1.1 (bis). Average individual dose by sector

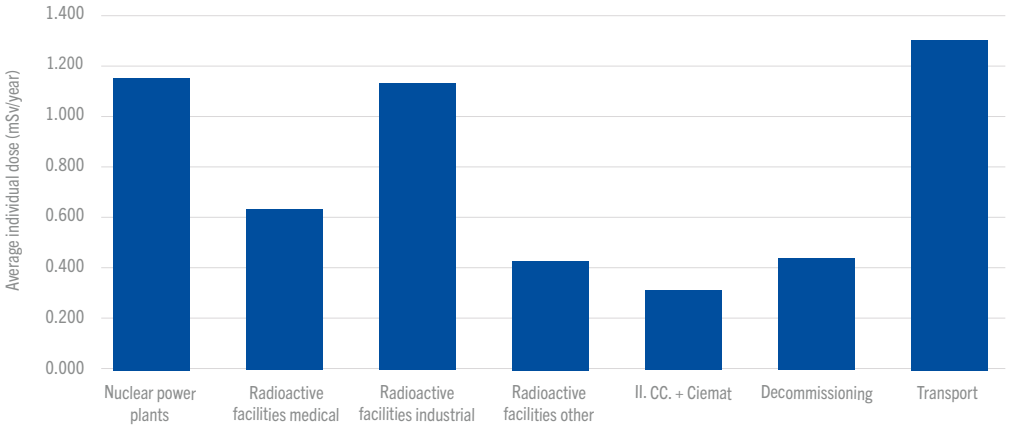


Table 5.1.1 details the doses received by workers in each of the sectors.

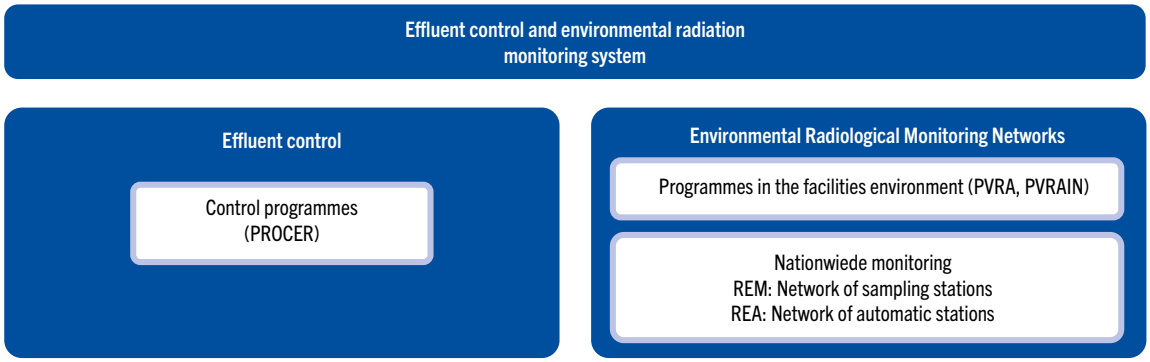
Table 5.1.1. Doses received by workers, by sector (2025)

FACILITIES	NUMBER OF WORKERS	COLLECTIVE DOSE (MSV·PERSON)	AVERAGE INDIVIDUAL DOSE (MSV/YEAR)
Nuclear power plants	7,858	3,407.96	1.14
Fuel cycle facilities, waste storage and research centres (Ciemat)	741	45.18	0.39
Radioactive facilities			
Medical	108,012	12,401.9	0.70
Industrial	8,702	2,107.08	1.17
Other	13,237	366.64	0.46
Facilities undergoing decommissioning and closure	722	28.08	0.42
Transport	258	216.34	1.42

5.2. Discharge control and environmental radiation monitoring

Figure 5.2.1 outlines the activities relating to effluent control and environmental radiation monitoring.

Figure 5.2.1. Summary of activities relating to effluent control and environmental radiation monitoring



Environmental radiation surveillance in the vicinity of facilities

In 2025, the effective doses attributable to liquid and gaseous radioactive effluents from nuclear facilities, estimated using realistic criteria for members of the public, did not in any case exceed 0.8% of the authorised limit (0.1 mSv over 12 consecutive months).

With regard to the environmental radiation surveillance plans (PVRA), the results for 2024 are presented below, as the results for 2025 are not available at the time of issuing this report, due to the time required for the processing and analysis of the samples.

The results of the 2024 PVRA campaign were similar to those of previous years and allow us to conclude that the environmental quality around the facilities remains within acceptable radiological limits, with no risk to the public arising from their operation or from the decommissioning and decommissioning activities carried out.

The CSN carries out independent environmental radiation surveillance programmes (PVRAIN), the volume of samples and measurements from which accounts for around 5 % of those carried out by the licensees themselves. The results of these programmes for the 2024 campaign did not show any significant deviations from those obtained in the corresponding programmes carried out by the licensees.

The data on environmental radiation monitoring for Spain can be accessed via the CSN website under the heading 'Environmental values. REM and PVRA'.

Figure 5.2.1 shows the number of PVRA analyses at nuclear power plants (2024 monitoring campaign).

Environmental radiation surveillance outside the vicinity of the facilities. REM

Environmental radiation surveillance outside the vicinity of the facilities. REM

In addition to monitoring in the vicinity of the facilities, the CSN carries out nationwide environmental surveillance through a surveillance network, known as Revira, in collaboration with other institutions. This network comprises automatic stations for the continuous measurement of atmospheric radioactivity (REA) and sampling stations where samples are collected for subsequent analysis (REM).

The measurements recorded in 2024, both in the surveillance network managed by the CSN and in the regional networks, were consistent with environmental background radiation levels, indicating the absence of any radiological risk to the population and the environment.

In 2024, there were no incidents of radioactive contamination, either within or outside our borders, that

Graphic 5.2.1. Number of PVRA analyses at nuclear power plants. 2024 campaign

Atmosphere

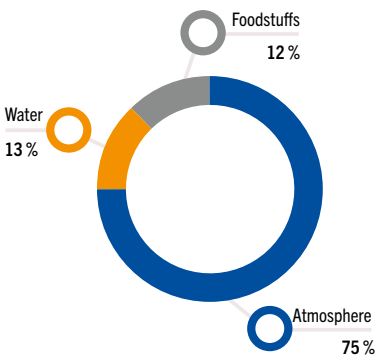
Dust particles	1,678
Iodine	1,678
TLD	380
Soil	40
Total precipitation	276
Total	**4,052**

Foodstuffs

Milk	408
Fish	52
Meat, poultry and eggs	89
Crops	137
Honey	8
Total	**694**

Water

Drinking water	204
Surface water	299
Groundwater	36
Seawater	63
Bottom sediments	52
Shoreline sediments	24
Indicator organism	41
Total	**719**



required specific monitoring by the national network of sampling stations.

Environmental radiation levels for different types of samples from each of the stations can be viewed in the aforementioned application and under 'REA Environmental Values'.

These links provide access to environmental radiological values for the period 2006 to 2024 for the PVRA, 2006 to 2025 for the REM's dense network, and from 2006 onwards for the REM's sparse network.

Euratom Article 35 verification missions

The European Commission carries out verifications of the radiation monitoring systems in air, water, soil and food in all Member States of the European Union in accordance with Article 35 of the Euratom Treaty, which stipulates that:

Each Member State shall establish the necessary facilities to carry out continuous monitoring of radioactivity levels in air, water, soil and food in order to ensure compliance with the basic standards. The Commission shall have the right of access to these facilities and may verify their operation and effectiveness.

5.2.1. Site-specific surveillance

Although this type of site is addressed in section 5.3 of this report, this section specifically highlights the sites at Palomares, the phosphogypsum ponds and CRI-9, where contamination is the result of accidents and for which the CSN has established specific surveillance programmes in the areas indicated in Figure 5.2.1.1, where residual contamination exists due to various reasons, as described below.

Figure 5.2.1.1. Areas with specific surveillance programmes



Environmental radiation monitoring in the Palomares area

In 1986, the CSN was tasked with overseeing the monitoring plans in the Palomares area, while Ciemat was given responsibility for the technical implementation of the Environmental Radiation Surveillance Programme (PVRA), with the obligation to report periodically to the CSN on the results obtained. The current Palomares PVRA was approved in 2012 and includes the collection and analysis of samples of air, rainwater or dry deposition, soil, food of animal origin, crops and various types of water, indicator organisms and sediments.

In 2025, Ciemat submitted to the CSN the annual report on the results for 2024. The results show that residual contamination in Palomares remains within the range of values recorded in previous monitoring campaigns. In no case has the reference level been exceeded: the average annual dose does not exceed 1 mSv; therefore, it can be confirmed that the exposure of the population of Palomares is very low and that the doses are negligible from the point of view of public radiation protection.

In 2025, the CSN carried out an inspection of the PVRA.

Mendaña Marshes Inert Waste Recovery Centre, CRI-9

As a result of the meltdown in 1998 of a caesium-137 source in one of the furnaces at the ACERINOX steelworks in Los Barrios (Algeciras-Cádiz), pond No. 9 at the Inert Waste Recovery Centre (CRI-9) in the Mendaña marshes (Huelva) was contaminated. Pond No. 9 (CRI-9) covers an area of approximately 1,600 m². This centre contains NORM waste generated by the operations of the company Fertiberia, which was decommissioned in 2010. During the restoration of the area, fill materials were used which EGMASA (the Pública de Medio Ambiente de la Junta de Andalucía) manufactured using inert waste (slag and fumes) from the steelworks.

As part of its monitoring and control procedures, the CSN carries out an annual inspection of the progress of the PVRA, and no significant findings have been reported.

Huelva phosphogypsum ponds

The company Fertiberia, S.A. carried out industrial activities involving the production of phosphoric acid, phosphate fertilisers and other related products for over 40 years on the left bank of the River Odiel, in the province of Huelva. As a result of the production process, waste enriched in natural radionuclides (NORM waste) was generated and piled up in phosphogypsum ponds.

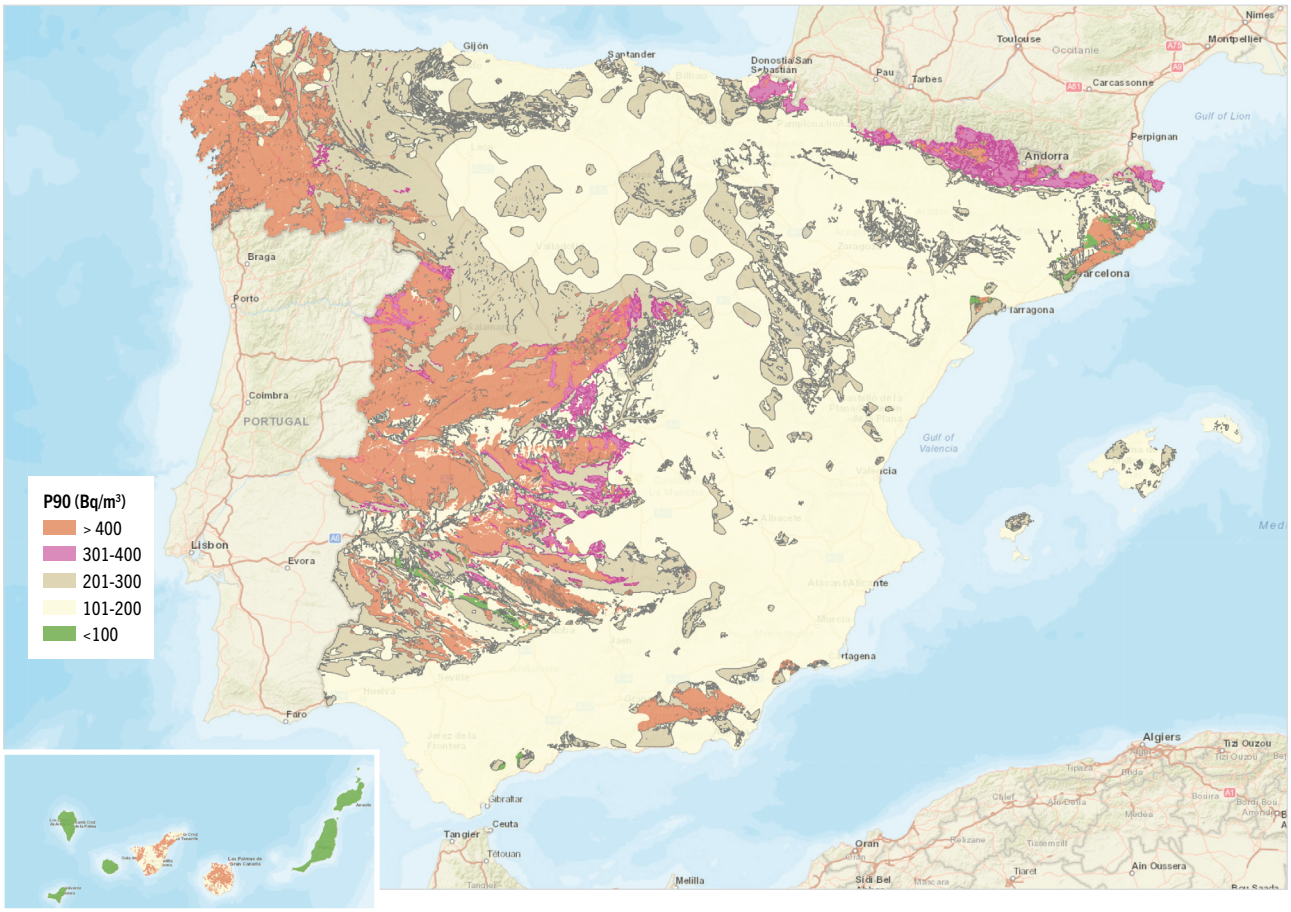
At its meeting on 18 May 2022, the Board of the CSN reported, subject to certain limits and conditions, on the radiation protection aspects of the project for the decommissioning of zones 2 and 3 of the phosphogypsum ponds. Among other requirements, it stipulated that an environmental radiation monitoring programme be carried out.

5.2.2. Protection against natural sources of radiation

The Earth's crust emits gamma radiation and radon gas. The natural gamma radiation maps (MARNA) and radon potential maps, developed by the CSN, enable the existing exposure levels in Spain to be visualised (see Figure 5.2.1.2). The latter map serves as the reference basis for the zoning by municipality established by the Technical Building Code (Basic Document HS, section HS 6 on 'Protection against exposure to radon'), with the aim of determining the construction measures against radon that buildings must incorporate.

Certain occupational activities result in increased exposure to natural radiation sources, which may be significant from the point of view of radiation protection. The

Figure 5.2.2.1. Map of radon potential in Spain



basic standards for radiation protection for occupational activities involving exposure to natural radiation in Spain are set out in the Regulation on the Protection of Health against the Risks Arising from Exposure to Ionising Radiation (RPSI), approved by Royal Decree 1029/2022 of 20 December. In particular, these activities include:

- Industrial activities involving the processing of naturally occurring radioactive materials (known as NORM materials), which are regulated as a planned exposure situation.
- Exposure to radon in certain workplaces, which is regulated as an existing exposure situation.

The table below summarises the most significant activities in this field during 2025.

The table below summarizes the most relevant activities carried out in 2025.

Table 5.2.2.1. CSN actions relating to NORM industries and radon in 2025

In 2025, the CSN carried out nine inspections, all of which took place at workplaces with significant exposure to radon. These actions focused on verifying compliance with the obligations applicable to activities involving a significant presence of radon in the working environment. Furthermore, during the year, a proposal to initiate sanctions' proceedings was submitted to the Generalitat Valenciana.
During 2025, significant steps were also taken to advance the review of the CSN's potential radon map and to update the list of priority municipalities.
Following the entry into force of the cooperation agreement signed in 2024 with the Labour and Social Security Inspectorate (ITSS), the CSN has begun to receive complaints referred by the ITSS; in 2025, eleven complaints and one notification from the ITSS's reporting channel were processed, all of which relate to Article 75.1(c) of the RPSI.
In 2025, two research projects relevant to improving knowledge of radon exposure were completed: the KARST Radon project and the RADosis project.
In 2025, the CSN stepped up its public awareness work on radon protection by taking part in various technical and training seminars.

Cosmic radiation

Cosmic radiation consists of charged subatomic particles (mainly protons) travelling at speeds close to that of light in a vacuum. Upon reaching Earth, these particles interact with the Earth's magnetic field, which deflects their trajectories, preventing most of them from reaching the atmosphere.

Article 81 of the RPSI requires airlines to establish a radiation protection programme in the event that aircraft crew members may receive a dose exceeding 1 mSv per calendar year, covering aspects such as the assessment of exposure using calculation codes, the organisation of work schedules to reduce exposure for staff receiving higher doses, providing information to workers, and applying dose limits to pregnant workers.

With the publication of the RINR at the end of 2024, progress is being made in the implementation of radiation protection programmes for aircraft crew members, with Article 106 setting out the requirements that these programmes must meet. Under that article of the RINR, airlines are required to submit annual information on the estimated doses received by aircraft crews for inclusion in the National Dosimetry Bank for Natural Radiation.

To comply with this requirement, the CSN has developed and brought into operation the Natural Radiation Dosimetry Database, analogous to the National Dosimetry Database, which compiles the information submitted by airlines to the CSN.

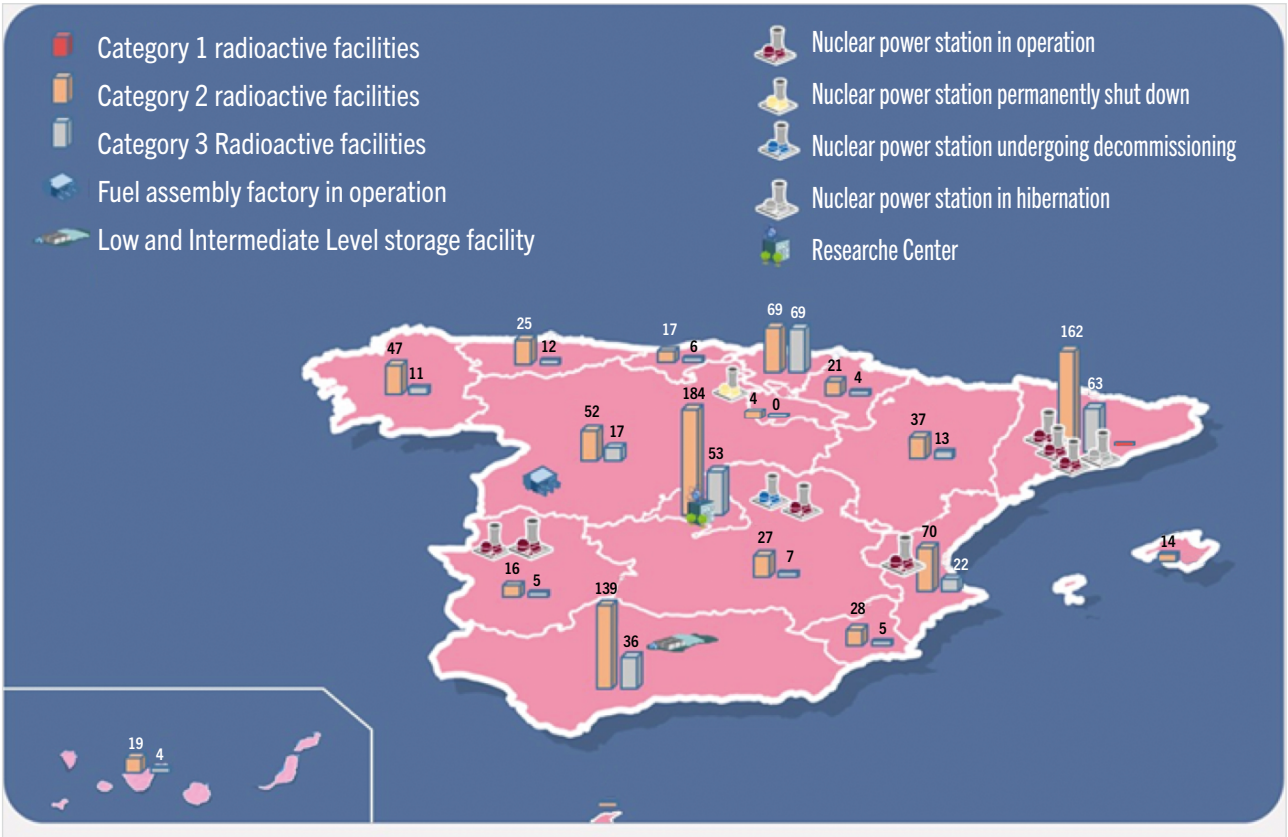
In 2025, the number of airline workers whose exposure was assessed stood at 11,104, corresponding to an estimated collective dose of 21,923 mSv. If only workers with significant doses are considered, the average individual dose for this group is 1.96 mSv/year.

In addition to the above, two inspections were carried out at airlines in 2025 to verify compliance with regulatory requirements regarding radiation protection for aircraft crew members.

6. MONITORING AND CONTROL OF SPENT FUEL AND RADIOACTIVE WASTE MANAGEMENT

In Spain, radioactive waste is generated at nuclear and radioactive facilities located throughout the country, as shown in Figure 6.1.

Figure 6.1. Facilities generating radioactive waste in Spain



The inventory of waste generated to date is broken down by source in Table 6.1.

Table 6.1. Activities generating radioactive waste

Operation of nuclear power plants (7 reactors at 5 sites).
Operations at Juzbado nuclear fuel factory (Salamanca).
Project to upgrade Ciemat's facilities in Madrid (PIMIC-D and PIMIC-R).
Operation of industrial, medical, agricultural or research facilities handling radioactive materials.
Operation of El Cabril low and intermediate level radioactive waste storage facility (Sierra Albarrana, Córdoba).
Decommissioning of José Cabrera nuclear power plant
Reprocessed fuel from Vandellós I nuclear power plant (generated during its operation), currently stored in France and awaiting return to Spain.
Decomissioning of Santa María de Garoña nuclear power plant.
Radiological incidents occurring at conventional facilities, such as those involved in scrap metal recycling and the remediation of affected sites.
Radioactive waste can also be generated by the presence of radioactive sources and other radioactive materials in facilities or activities not included in the regulatory system.

6.1. High-Activity radioactive waste and spent fuel

Spent fuel generated in Spain (excluding that from the Vandellós I NPP reprocessing plant, which is stored in France) is temporarily stored in the pools associated with the nuclear reactors and in containers located in the Individualised Storage Facilities (ISF) at Trillo, José Cabrera, Ascó, Almaraz and Cofrentes nuclear power plants.

In 2025, the CSN carried out the control and supervision of spent fuel management, the assessments associated with the licensing of containers – both in relation to the modification of design approvals and their renewal for existing containers – the supervision of pre-operational tests, loading into the ITFSs and management in the pools.

It is also worth noting that in 2025 the multidisciplinary team (MITERD, CSN and Enresa), established in 2020, continued to work on developing a roadmap for the Deep Geological Repository (DGP) project, which responds to the recommendations and suggestions included in the ARTEMIS component of the joint IRRS-ARTEMIS mission to Spain carried out by the IAEA in 2018.

As at 31 December 2025, the total number of fuel elements stored at nuclear power plants was 18,389 (10,505 PWR-type and 7,884 BWR-type). Of these:

- 13,772 (4,276 tonnes of uranium) are stored in pools.
- 4,617 (1,563 tonnes of uranium) are stored in containers at the ITFSs.

The number of containers stored in the ITFSs of the plants is 142.

Figure 6.1.1 shows the inventory of fuel stored in the spent fuel pools at Spanish nuclear power plants, and where applicable at the existing ITFSs, as at 31 December 2025.

Graphic 6.1.1. Inventory of spent fuel storage facilities at nuclear power plants (as at 31 December 2025)

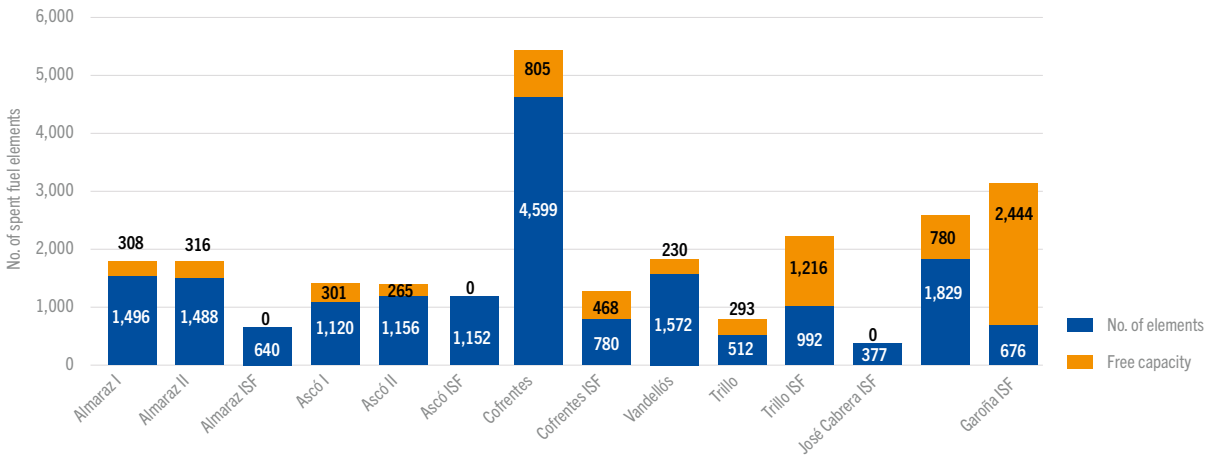


Figure 6.1.1 below summarises the main licensing, supervision and control activities carried out by the CSN in 2025 in relation to spent fuel management.

Figure 6.1.1. Main licensing, supervision and control activities carried out by the CSN in 2025 in relation to spent fuel management

Licensing and assessment

The required reports have been issued for:

- Enresa's application for favourable design assessment of the HI-STORM FW container (July 2025), as well as Enresa's subsequent application for authorisation of that container (October 2025).
- ENSA's application to amend the authorisation for the ENUN 32P container for the storage of spent PWR fuel, the purpose of which was to address conditions 6, 7 and 11 of the container's authorisation.
- The transfer of ownership of the ENUN 52B container from ENSA to Enresa, under the fifth transitional provision of the RINR.

In 2025, the process continued for the assessment of Enresa's application for authorisation for construction and assembly (AEM) of the Temporary Storage Facility (AT) at Vandellós I nuclear facility, the purpose of which is to enable the repatriation of high-level waste resulting from the reprocessing of the plant's spent fuel, which is currently stored in France.

Inspection (4)

Two inspections of the BIP at the Trillo and Vandellós II nuclear power plants.

Two inspections of the manufacturing processes and design modifications carried out by the licensee for the ENUN 52B container (ENSA, pending the transfer of ownership to Enresa) and the HI-STORM FW container (Enresa).

6.2. Low and intermediate level radioactive waste

In 2025, the CSN carried out the supervision and control of the various stages of the management of low and intermediate level radioactive waste (LILW) generated at Spanish nuclear facilities, as described below:

6.2.1. Operating nuclear power plants

In 2025, operating nuclear power plants generated 2,655 packages of low and intermediate level and very low level solid radioactive waste (VLLW), with an estimated activity of 32,363 GBq, which were conditioned in 220-litre drums and other types of metal containers. Table 6.2.1.1 breaks down the packages by facility and those transferred to El Cabril in 2025.

Table 6.2.1.1. Packages of radioactive waste (LILW and VLLW) generated at operating nuclear power plants and transferred to El Cabril in 2025

FACILITY	PACKAGES GENERATED	PACKAGES TRANSFERRED TO EL CABRIL
Almaraz I and II	457	884
Ascó I and II	639	141
Cofrentes	903	722
Vandellós II	295	198
Trillo	361	192
Total	**2,655**	**2,137**

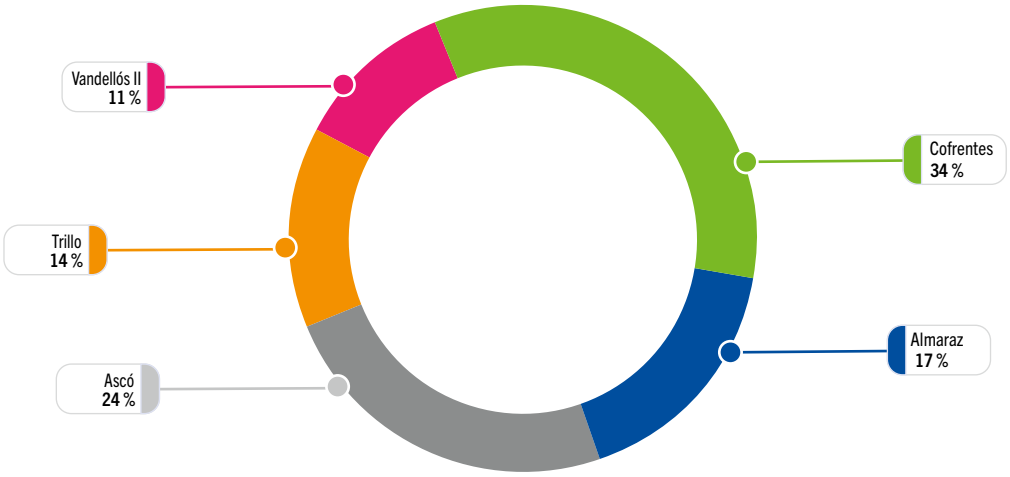
Table 6.2.1.2 shows, for each facility, the waste stored, the capacity of the temporary storage facilities and their occupancy rate as at 31 December 2025.

Table 6.2.1.2. Status of temporary waste storage facilities at operating nuclear power plants as at 31 December 2025

PLANT	ITEMS STORED (EQUIVALENT 220-LITRE DRUMS)	STORAGE CAPACITY (IN 220-LITRE DRUM EQUIVALENTS)	STORAGE FACILITY OCCUPANCY (%)
Almaraz	12,838	23,544	54.5
Ascó	5,868	8,256	71.1
Cofrentes	11,980	20,100	59.6
Vandellós II	3,309	9,432	35.1
Trillo	3,229	11,500	28.1
Total	**37,224**	**72,832**	**51.1**

Figures 6.2.1.1 and 6.2.1.2 show the percentage contribution of each plant to the total generation of radioactive waste packages and to the total activity content of these packages in 2025.

Graphic 6.2.1.1. Distribution of the 2655 packages of radioactive waste (LILW and VLLW) stored at the operating and decommissioned nuclear power plants during 2025



Graphic 6.2.1.2. Distribution of activity (32,363 GBq) contained in radioactive waste packages (LILW and VLLW) generated in 2025 at operating nuclear power plants

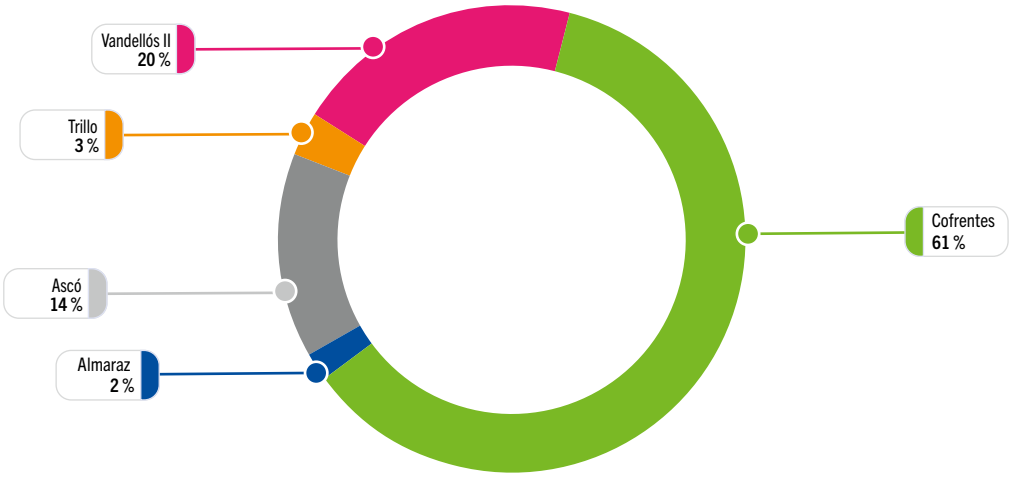
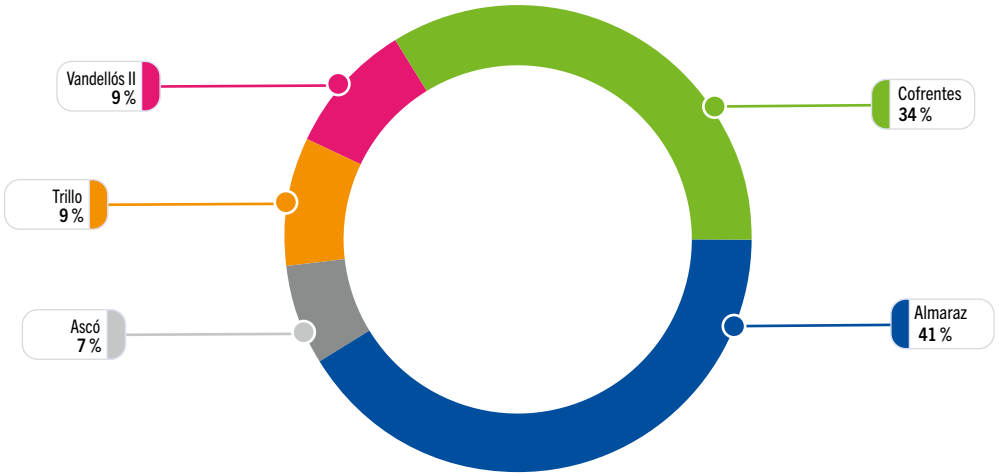


Figure 6.2.1.3 shows the distribution by facility of the 2,137 packages of radioactive waste transferred by Enresa to the El Cabril storage facility in 2025.

Graphic 6.2.1.3. Distribution by facility of the packages of radioactive waste transferred by Enresa to the El Cabril storage facility in 2025



6.2.2. Nuclear power plants undergoing decommissioning (Vandellós I - latency -, José Cabrera and Santa María de Garoña)

Table 6.2.2.1 lists the radioactive waste stored at the facilities available at Vandellós I, as at 31 December 2025. During 2025, the compactable waste generated was stored in a CMD-type container in the ATOC storage facility. In 2025, 324 packages were dispatched to the El Cabril storage facility.

Table 6.2.2.1. Storage of radioactive waste at Vandellós I as at 31 December 2025

STORAGE FACILITY	STORED WASTE
Temporary Container Storage Facility (ATOC)	31 × 220-litre packages of rubble. 298 packages of non-compactable material. 50 × 220-litre packages and 2 CMD-type containers of compactable material. 273 CMD-type containers of non-compactable heterogeneous solids. 24 × 220-litre drums containing concrete milling dust. 27 × 400-litre drums of concrete milling dust. 24 CMD-type containers with thermal insulation material.
Graphite Sleeve Storage Facility (DTG)	230 CME-1 containers of crushed graphite. 75 CBE-1 containers of supports and absorbers. 5 CBE-1 containers from the emptying of the pools. 11 CE-2a containers with 25 × 220-litre drums of non-compactable material. 166 × 220-litre drums of graphite.

CBE-1: Enresa shielding container. CME-1: Enresa metal container. CE-2a: Enresa container. CMT: Metal transport container. CMD: Container for declassifiable material.

Table 6.2.2.2 summarises waste management at the José Cabrera nuclear power plant in 2025.

Table 6.2.2.2. Management of conditioned radioactive waste at José Cabrera nuclear power plant in 2025

	GENERATED		TRANSPORTED TO EL CABRIL	
	PACKAGES (1)	STORAGE UNITS (2)	PACKAGES (1)	STORAGE UNITS (2)
Year 2025	261	0	1,901	0

(1) Waste packed into containers of various capacities (220, 400, 480, 750, 1,000 and 1,300 litres).

(2) Storage units in CE-2a containers.

As at 31 December 2025, José Cabrera NPP has a temporary radioactive waste storage facility (Storage Facility 4) and the storage facilities known as the 'Declassifiable Materials Shed' and 'DESCLA', where both very low level waste and potentially declassifiable waste can be stored. These two storage facilities, the "Declassifiable Waste Shed" and "DESCLA", are empty as at 31 December 2025. In 2025, decommissioning activities have generated various volumes of waste, which are grouped into Authorised Management Units (AMU), initially classified into one of the two categories: very low level or potentially declassifiable, and stored in the plant's storage facilities pending their final disposal.

Table 6.2.2.3 summarises waste management at CN Santa María de Garoña in 2025.

As at 31 December 2025, the Santa María de Garoña nuclear power plant has a temporary drum storage facility and the C6, C7, C9 and C10 storage facilities for potentially declassifiable material.

Table 6.2.2.3. Management of conditioned radioactive waste at the Santa María de Garoña nuclear power plant in 2025

	GENERADOS		TRANSPORTADOS AL CA EL CABRIL
	PACKAGES (1)	ASSESSMENT UNITS (2)	PACKAGES (1)
Year 2025	710	107	609

(1) Waste packed into containers of various capacities (220, 400, 480, 750, 1,000 and 1,300 litres).

(2) Assessment units for potentially declassifiable material stored at the C6, C7, C9 and C10 storage facilities.

6.2.3. Juzbado nuclear fuel factory

Table 6.2.3.1 summarises the management of LILW and VLLW radioactive waste at the Juzbado factory in 2025, indicating the packages generated, those transferred to the El Cabril storage facility and the occupancy of the facility's temporary radioactive waste storage facility and the facility's storage facility for declassifiable waste as at 31 December 2025. Specific data relating to the generation of VLLW waste in 2025 are detailed in section 6.3 of this report.

Table 6.2.3.1. Activities relating to the management of LILW and VLLW radioactive waste at the Juzbado factory during 2025

RADIOACTIVE WASTE MANAGEMENT ACTIVITIES (LILW+VLLW)	
Waste packages generated	88 220-litre packages
Packages with recyclable waste materials generated	21 220-litre packages
Packages transferred to El Cabril	43 220-litre packages
Packages transferred for external recycling	5 220-litre packages
OCCUPANCY RATE OF RADIOACTIVE WASTE STORAGE FACILITIES	
Temporary radioactive waste storage facility	57 %
Temporary declassifiable waste storage facility	6 %

6.2.4. Ciemat

Table 6.2.4.1 shows the occupancy rate of the temporary radioactive waste storage facilities within the PIMIC-Decommissioning project, as at 31 December 2025.

Table 6.2.4.1. Radioactive waste stored in the PIMIC-Decommissioning temporary storage facilities as at 31 December 2025

STORAGE FACILITY	TYPE OF CONTAINER	NUMBER OF CONTAINERS	CAPACITY (1 M^3 BIG BAG)	OCCUPANCY
E11-REACTOR	0.5 m^3 Big Bag	0	2,249	0.2 %
E11-ANNEX	CMD (2 m^3) and 0.5 m^3 Big Bag	2 / 0	483	0 %
CAZE EXTENSION	CMD (2 m^3)	89	504	35.32 %
BUILDING 55	Big Bag	124	140	44.3 %

6.2.5. Radioactive facilities

In the case of radioactive facilities, the segregation and classification of waste is carried out at the facilities themselves, while collection, treatment and conditioning are carried out by Enresa at the El Cabril storage facility.

In general, Enresa's treatment of waste generated at radioactive facilities is as follows:

- Incineration of biological waste, organic liquids and mixed waste (comprising organic liquids and vials).
- Compaction of solids such as clothing, gloves and laboratory equipment.

- Immobilisation of hypodermic needles, non-compactable solids and radioactive sources.
- Production of mortar: aqueous liquids.

6.3. Very Low-Activity radioactive waste

6.3.1. Waste from nuclear facilities

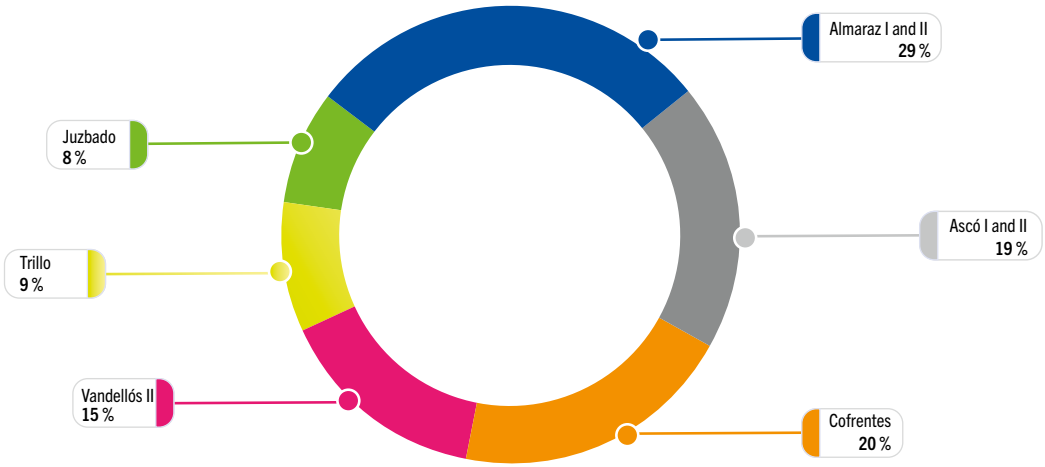
Table 6.3.1.1 details the generation of VLLW packages in 2025 at nuclear power plants in operation and those that have been permanently decommissioned, as well as at Juzbado nuclear fuel factory.

Table 6.3.1.1. Packages of very low level radioactive waste (VLLW) generated in 2025 at operating nuclear power plants and at Juzbado factory

INSTALACIÓN	BULTOS GENERADOS
Almaraz I and II	275
Ascó I and II	188
Cofrentes	190
Vandellós II	148
Trillo	90
F. Juzbado	73
Total	**964**

Figure 6.3.1.1 shows the percentage contribution of each nuclear power plant and the Juzbado factory to the generation of VLLW packages in 2025.

Graphic 6.3.1.1. Percentage distribution of VLLW radioactive waste packages conditioned at the nuclear power plants and at Juzbado factory in 2025



6.3.2. Waste generated by other activities

Quercus Plant waste. Process waste and wastewater treatment waste

In the static leaching area of the Quercus plant, 1,107,896 tonnes (t) of spent ore with a particle size between 10 and 1 mm have accumulated. Furthermore, 853,242 t of tailings from the dynamic leaching process have accumulated in the tailings dam.

In 2025, 425,267 $m^3$of pre-treated water was discharged, generating waste in the form of precipitate cakes, which were subsequently repulped and returned to the tailings dam.

6.4. Declassified radioactive waste

Table 6.4.1 lists the most significant milestones of 2025 relating to the declassification of waste at nuclear facilities.

Table 6.4.1. Key milestones for 2025 relating to the declassification of waste at nuclear facilities

FACILITY	KEY MILESTONES IN 2025
Ciemat	In November 2025, the Technical Directorate of Radiation Protection accepted the results of the testing plan for the declassification of equipment, surfaces and large components at Ciemat's IN-04 facility.
Almaraz NPP	In November 2025, the Board of the CSN viewed favourably the results of the test plan prior to the unconditional declassification of scrap metal from Almaraz NPP.

6.5. Disused consumer products

In 2025, seven lightning rods were removed, with no sources having been sent to the United Kingdom in 2025. As at 31 December 2025, the cumulative total of lightning rods withdrawn stood at 22,967 units, while the total number of sources sent to the United Kingdom stands at 59,796.

Table 6.5.1. End-of-life consumer products

CUMULATIVE NUMBER OF LIGHTNING RODS WITHDRAWN AS AT 31/12/2024	CUMULATIVE NUMBER OF LIGHTNING RODS WITHDRAWN AS AT 31/12/2025	LIGHTNING RODS WITHDRAWN IN 2025	AM-241 HEADS STORED AT CIEMAT AS AT 31/12/2025	NUMBER OF SOURCES SENT TO THE UNITED KINGDOM IN 2025	CUMULATIVE NUMBER OF SOURCES SENT TO THE UNITED KINGDOM AS AT 31/12/2024	CUMULATIVE NUMBER OF SOURCES SENT TO THE UNITED KINGDOM AS AT 31/12/2025
22,960	22,967	7	19,224	0	59,796	59,796

7. NUCLEAR AND RADIOLOGICAL EMERGENCIES

The CSN has an emergency centre called Salem. This is the Agency's operational coordination centre for emergency response. In addition, the CSN has an Emergency Communications System (SICOEM). This system ensures communications between the various bodies responsible for managing nuclear or radiological emergencies and the nuclear facilities. The CSN also has an contingency emergency room (Salem 2) located at the headquarters of the Military Emergency Unit at Torrejón de Ardoz Air Base (Madrid).

The activities carried out during 2025 are summarised in Table 7.1.

Table 7.1. Summary of international emergency activities in 2025

TYPE OF ACTIVITY	DEVELOPMENT	DATES
Participation in two exercises organised by the IAEA	ConvEx-1a	5 February
	ConvEx-1b	9 September
European Commission	European Commission communication test with Salem to verify its availability as the national contact point for the ECURIE system	11 November
	ECUREX 2025 exercise	24 and 25 June

Table 7.2. Execution of exercises and drills in 2025

EXERCISES OF THE RADIATION UNITS OF THE EXTERNAL NUCLEAR EMERGENCY PLANS IN 2025		
PLAN	TYPE OF EXERCISE	DATE
PENBU	Access control and route to Municipal Operational Coordination Centres	October 2025
PENCA	Sorting and decontamination station (Navalmoral de la Mata)	May 2025
	Access control and route to Municipal Operational Coordination Centres	November 2025
PENGUA	Sorting and decontamination station (Sacedón)	May 2025
	Access control and route to Municipal Operational Coordination Centres	November 2025
PENTA	Sorting and decontamination station (Requena)	March 2025
	Access control and route for Municipal Operational Coordination Centres (Vandellós)	October 2025
	Access control and route to Municipal Operational Coordination Centres (Ascó)	November 2025
PENVA	Access control and route for Municipal Operational Coordination Centres	June 2025
	Access control and route to Municipal Operational Coordination Centres	September 2025

RADIOLOGICAL EMERGENCY EXERCISES IN 2025	
TYPE OF DRILL	DATE
Management of a road transport accident involving radioactive material	December 2025

On 28 April 2025, the Interior Emergency Plan (IEP) was activated at all seven Spanish nuclear power plants, with a pre-emergency alert being declared due to the loss of external power supply. As a result, the Emergency Response Organisation (ORE) of the Nuclear Safety Council (CSN) switched to Mode 1, in accordance with current procedures. This situation also triggered the activation of the External Nuclear Emergency Plans (PEN) for the provinces of Tarragona, Valencia, Guadalajara and Cáceres.

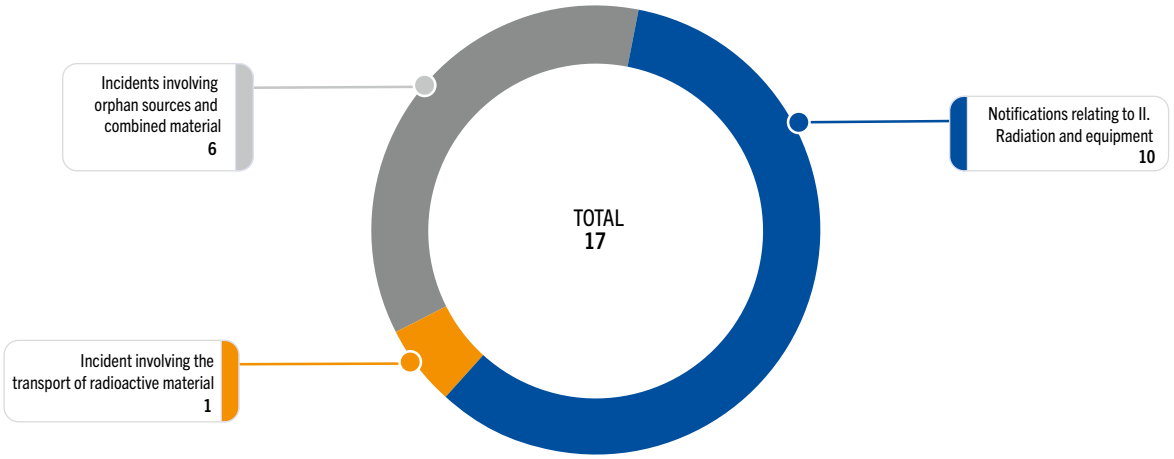
At the same time, the facilities at El Cabril, Santa María de Garoña, José Cabrera, Juzbado and CIEMAT reported their operational status to the Salem emergency centre. The safety systems functioned correctly in accordance with established procedures, with no impact recorded on staff, the public or the environment.

The situation was declared under control on 29 April, following the deactivation of the last PEN that remained active and the return of the CSN's ORE to mode 0.

Excluding nuclear facilities, a total of eleven reportable events were received by Salem: ten relating to radioactive sources and one linked to the transport of radioactive material. Following analysis by the Technical Directorate of Radiological Protection, nine of the events involving radioactive sources were classified as INES 0 and one as INES 1. The transport event was classified as level 0 on the INES scale.

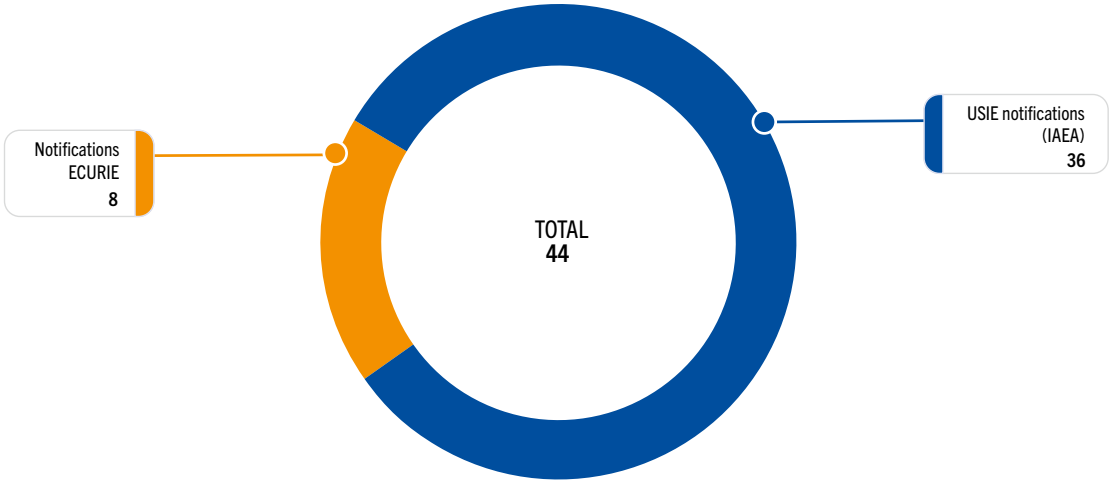
Furthermore, in accordance with the provisions of Royal Decree 451/2020 of 10 March on the control and recovery of orphan radioactive sources, a notification was received regarding the discovery of one such source. During 2025, five detections of abnormal radiation levels in containers at seaports of national interest where the Megaport protocol is applied were reported to Salem: two at the port of Barcelona and three at the port of Valencia. All five detections were caused by materials contaminated with natural radionuclides. Figure 7.1. Notifications received by Salem regarding radiological incidents in 2025 Incidents involving orphan sources and combined material.

Figure 7.1. Reportable events received by Salem in 2025 (excluding nuclear facilities)



In 2025, 44 international notifications were received, as shown in Figure 7.2. Figure 7.2. International notifications

Figure 7.2. International notifications received in 2025



ECURIE notifications generally relate to events occurring within the European Union, in the EU area, while USIE notifications cover events of global significance.

Table 7.3 includes a list of the seven drills carried out by Spanish nuclear facilities in 2025.

All drills under the Interior Emergency Plan (IEP) for these facilities were subject to on-site inspections by CSN technicians, always in compliance with the health recommendations and restrictions in force.

Table 7.3. Schedule and minimum scope of the IEP emergency drills at nuclear facilities in 2025

NUCLEAR FACILITY	DATE	BRIEF DESCRIPTION OF THE EXERCISE SCENARIO
Juzbado factory	20/03	An earthquake causing a spill of uranium oxide dust in the ceramics area (manufacturing hall), leading to a Category I declaration.
El Cabril	03/04	A lorry overturned while travelling towards the RT building, causing it to collide with the propane gas tank and sparking a fire; Category III.
Vandellós II NPP	10/04	The emergency begins with an earthquake that causes a fire, reaching at least Category III from the very outset.
Almaraz NPP	08/05	An operational event involving the loss of a heat sink, followed by a failure of the safety injection system in Unit I, with declaration of a general emergency (GGAS).
Cofrentes NPP	22/05	Based on a rapidly evolving physical safety event leading to the declaration of at least Category III and the ZBCE.
Santa María de Garoña NPP	05/06	Exercise based on physical safety events affecting safety systems, leading to the declaration of Category III.
Trillo NPP	26/06	Hostile action at the site requiring the intervention of the Civil Guard Response Unit, assisted by the plant's physical safety organisation; Category IV.
Vandellós I NPP (latency)	03/07	A fire lasting more than 10 minutes at the security post (area adjacent to the DTG), coinciding with a failure of the fire-fighting system; Category I.
José Cabrera ITFS	09/10	An event relating to physical safety affecting the shielding of a fuel container stored at the ITFS, requiring the declaration of Category III.
Ascó NPP	23/10	Scenario based on an external wind event (adverse weather conditions) affecting both units, causing operational problems and the declaration of the corresponding categories.
Ciemat	06/11	A Group 2 initiating event related to other systems at the facility, together with a Group 3 initiating event related to fire and a Group 6 event; Category II.

8. SECURITY OF NUCLEAR MATERIALS AND FACILITIES, RADIOACTIVE SOURCES AND TRANSPORT

Table 8.1 summarises the activities carried out during 2025 relating to the physical protection of nuclear materials and facilities, radioactive sources and transport, in accordance with Royal Decree 1308/2011 on the physical protection of nuclear facilities and materials and radioactive sources, currently under review:

Table 8.1. Physical protection assessments of nuclear facilities and materials and radioactive sources

FACILITY / LICENSEE	APPLICATION
Cofrentes nuclear power plant (Iberdrola)	Application for authorisation: "Temporary opening of a new access route for heavy goods vehicles due to the ITFS-100 works".
Trillo nuclear power plant (CNAT)	Assessment report on Revision Proposal 9 of Trillo Nuclear Power Plant Physical Protection Plan.
Ciemat	Application for approval of proposed amendment PT-Ciemat-17, edition 2, proposal 1, to the Ciemat Physical Protection Plan for Radioactive Sources, and associated procedures, edition 2.
Vandellós II nuclear power plant	Application for approval of proposed amendment PC-011 Rev. 0 to the Physical Protection Plan for Vandellós II Nuclear Power Plant.
Vandellós II nuclear power plant	Application for approval of proposed amendment PC-010 Rev. 0 to the Physical Protection Plan for Vandellós II Nuclear Power Plant, biennial review.
PHYSICAL SAFETY AUTHORISATIONS FOR TRANSPORT	
LICENSEE	**APPLICATION**
ETSA	Three applications from ETSA for specific authorisation for the physical protection of the transport of Category III nuclear material outside our borders.

Report of the Spanish Nuclear Safety Council to the Congress and the Senate

Year 2025

Summary Report

CSN CONSEJO DE SEGURIDAD NUCLEAR

Report of the Spanish Nuclear Safety Council to the Congress and the Senate Year 2025 Summary Report
CSN