CSN
ANNUAL REPORT

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PRESENTATION

The Nuclear Safety Council, the independent regulatory body in charge of controlling nuclear and radioactive facilities in Spain in order to prevent the harmful effects of ionising radiations from affecting persons or the environment, began its activities in 1980. Thirty years later, the institution may claim to have carried out its task in accordance with the international criteria, as was endorsed by the IRRS Mission performed by the International Atomic Energy Agency in 2008, which analysed the operation of the CSN in detail.

From the very beginning, the fundamental mechanism for compliance with the task commissioned to the CSN was the availability of a technical capacity sufficient to control installations as complex as those to be found in the nuclear and radiological environments. The Council's technical staff, and its human resources in general, is the best guarantee of the CSN's capacity to fulfil its mission of controlling the safety and protection of the members of the public.

This important technical task would be incomplete if the members of the public did not perceive and appreciate this work and really feel that their safety was guaranteed. For this reason, as was set out in the 1980 Law that created the CSN and underlined in the revised version of this Law published in 2007, information and transparency are crucial aspects in the work of the CSN. This report, which describes the most relevant events that have occurred on the regulatory scene during 2009, is an example of this open and informative attitude. For information additional to that presented herein, the reader may refer to the Annual Report submitted by the Council to Parliament and to the extensive and varied documentation that is available on the CSN website: www.csn.es.

CSN

chapter 1

INSTITUTIONAL FRAMEWORK

Nuclear materials and ionising radiations have numerous applications in different fields, among them power generation, medical diagnosis and treatment, industrial processes and research activities. Their use is, therefore, varied and beneficial, although the ionising nature of the radiations brings with it certain risks. Consequently, it is necessary to control and oversee their use in order to ensure that they do not affect health or the environment.

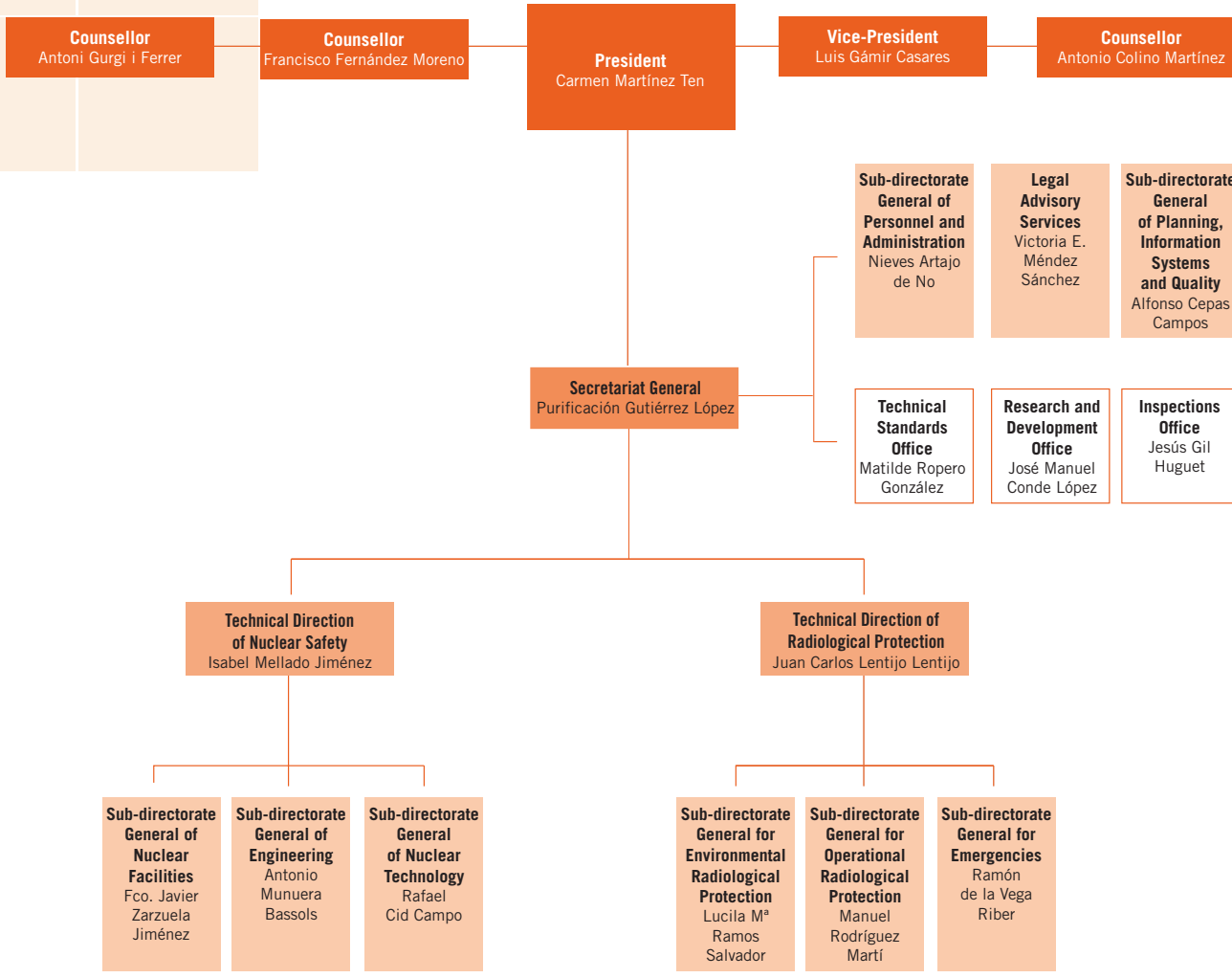
The institution charged with the tasks of authorising, tracking and controlling nuclear and radioactive facilities and with environmental radiological surveillance throughout the Spanish territory is the Nuclear Safety Council (CSN), the functions, structure, competences and organisation of which were modified

in October 2007 through a reform of the Law by which it was created. This reform dealt with two aspects that have been essential in CSN management since the body was set up: independence and transparency.

This independence is exercised with respect to both the Administration of the State and the industry and sectors involved in the CSN's area of activity. The CSN reports directly to the Parliament.

The CSN licences, regulates and controls installations relating to nuclear energy, the fuel cycle and radioactive facilities using radioactive isotopes or generating ionising radiations in medicine, industry or research; oversees the radiological quality of the environment and grants the corresponding licences to the persons operating these installations. It also participates in the drawing up of nuclear or radiological emergency plans, provides technical support in the event of any emergency in this area, controls the radiation doses that might be received by the workers or the general population, develops and promotes research plans, proposes and dictates standards and maintains information channels open permanently with the

Structure and functions



Counsellor Antoni Gurguí is sworn in at the CSN headquarters in March 2009.

general public and Parliament. At international level it is the body that represents Spain before the organisations involved in its field of activity.

Until the Council was created, its functions were carried out by the Nuclear Energy Board, an institution set up in 1950 to "exploit the energy possibilities of the atom", which is now a public research organisation operating in the field of energy and the environment as the Centre for Energy-Related, Environmental and Technological Research (Ciemat). The first steps for the development and control of the safety of the nuclear power plants constructed in Spain were taken under the auspices of the aforementioned Nuclear Energy Board; however, the need to guarantee an objective and independent control led to the setting up of the regulatory authority in April 1980, using the Nuclear Regulatory Commission, the US regulatory body, as a model.

The CSN is now a collegiate organisation comprising a president, a vice-president and three counsellors, whose presence is limited to two terms of six years each. Prior to being appointed by the Government, in response to a proposal by the Minister of Industry, Tourism and Trade, they are required to appear before the Congressional Commission for Industry in the terms set out in the Regulations of the Congress.

Throughout 2009 the Board of the Council was made up as follows:

President: Carmen Martínez Ten.

Vice-president: Luis Gámir Casares.

Counsellor: Julio Barceló Vernet (up to the month of March).

Counsellor: Francisco Fernández Moreno.

Counsellor: Antonio Colino Martínez.

Counsellor: Antoni Gurguí Ferrer (who replaced Julio Barceló in March).

In the performance of its functions the Board is assisted by a Secretariat General to which report the technical organisations that are included within the Nuclear Safety and Radiological Protection divisions. The administrative and legal services also report to the Secretariat General.

For the performance of the obligations for which it is responsible the CSN has a team of people that includes qualified experts in nuclear technology, radiological protection and environmental surveillance and control.

With a view to channelling the demands of society to the CSN, a non-binding Advisory Committee is planned, the aim being for it to represent the widest possible spectrum of interests and opinions. The mission of this committee will be to issue recommendations in order to improve transparency, access to information and public participation in relation to issues for which the Council is the competent body. The start-up of the committee is subordinated to the entry into force of the new Statute of the CSN.

Summary of CSN functions

1	Issuing of reports for the authorisation of facilities.
2	Inspection and control of facility operation.
3	Proposing sanctions proceedings and requiring corrective actions.
4	Proposing regulations and drawing up and approving standards.
5	Granting of operating licences.
6	Collaboration in emergency and security plans.
7	Control of the radiological protection of the workers and public.
8	Surveillance and control of the radiological quality of the environment.
9	Collaboration in programmes for the radiological protection of persons subjected to diagnosis or treatment procedures using ionising radiations.
10	Reporting on criteria for the definition and classification of radioactive wastes and plans for their management.
11	Collaboration in compliance with the commitments undertaken by Spain in relation to safeguards. Official relationships with similar overseas bodies and participation in the activities of international organisations.
12	Establishment and tracking of research plans relating to nuclear safety and radiological protection.
13	Information for public opinion and the national, regional and local authorities.
14	Advisory services for the Courts and the bodies of the public administrations in relation to nuclear safety and radiological protection.

Main legal standards governing CSN activities

Laws

- Nuclear Energy Act, Law 25/1964.
- Law 15/1980, of April 22nd, Creating the Nuclear Safety Council, modified by Law 33/2007, of November 7th.
- Law 14/1999, of May 4th, on Public Fees and Prices for services rendered by the Nuclear Safety Council.
- Law 27/2006 regulating rights to access to information, public participation and access to justice in relation to environmental matters.
- Law on the Assessment of the Environmental Impact of projects of January 11th 2008 (Royal Legislative Decree 1/2008).
- Law 11/2009, of October 26th, regulating quoted limited companies investing on the real estate market.

Regulations

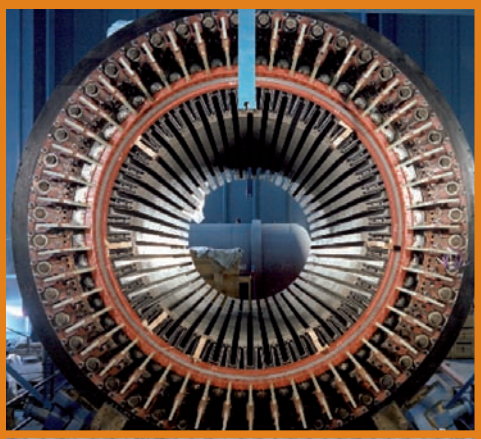
- Royal Decree 2177/1967 approving the Regulation on the Coverage of Nuclear Risk.
- Royal Decree 1157/1982 approving the Charter of the Nuclear Safety Council.
- Royal Decree 1428/1986, of June 13th, on Radioactive Lightning Rods.
- Royal Decree 1132/1990 establishing fundamental measures for the radiological protection of persons subjected to medical examination and treatment.
- Royal Decree 158/1995 on the Physical Protection of Nuclear Materials.
- Royal Decree 783/2001 approving the Regulation on the Protection of Health against Ionising Radiations.
- Royal Decree 1546/2004 approving the Basic Nuclear Emergency Plan.
- Royal Decree 551/2006 regulating the transport by road of hazardous goods in Spain.
- Royal Decree 35/2008, which modifies Royal Decree 1836/1999 approving the Regulation on Nuclear and Radioactive Facilities.
- Royal Decree 243/2009, of February 27th, regulating the surveillance and control of transfers of radioactive wastes and spent fuel between member States or from or to countries outside the community.
- Royal Decree 1085/2009, of July 3rd, on the installation and use of X-ray apparatus for the purposes of medical diagnosis.
- Royal Decree 1428/2009, of September 11th, modifying the Basic Nuclear Emergency Plan, approved by Royal Decree 1546/2004 of June 25th.

European Union Provisions

- Council Directive 89/618/Euratom, relating to public information on applicable measures and response in the event of a radiological emergency.
- Council Directive 90/641/Euratom on the operational protection of off-site workers running a risk of exposure to ionising radiations due to their intervening in the controlled zone.
- Council Directive 92/3/Euratom, relating to the surveillance and control of transfers of radioactive wastes between member States or from or to countries outside the community.
- Regulation (Euratom) No 1493/1993 of the Council of the European Union relating to the transfer of radioactive substances between member States.
- Directive 96/29/Euratom, establishing basic standards on the protection of the health of the workers and the general population against the risks posed by ionising radiations.
- Directive 97/43/Euratom, relating to the protection of the health against the risks posed by ionising radiations in medical exposures.
- Council Directive 2006/117/Euratom, relating to the surveillance and control of transfers of radioactive wastes and spent nuclear fuel.
- European Parliament and Council Directive 2008/68/CE on the land transport of hazardous goods.
- Directive 2009/71/Euratom, establishing a community framework for the nuclear safety of nuclear facilities.


SENADO

CSN



chapter 2

LICENSING AND CONTROL OF FACILITIES

NUCLEAR POWER PLANTS

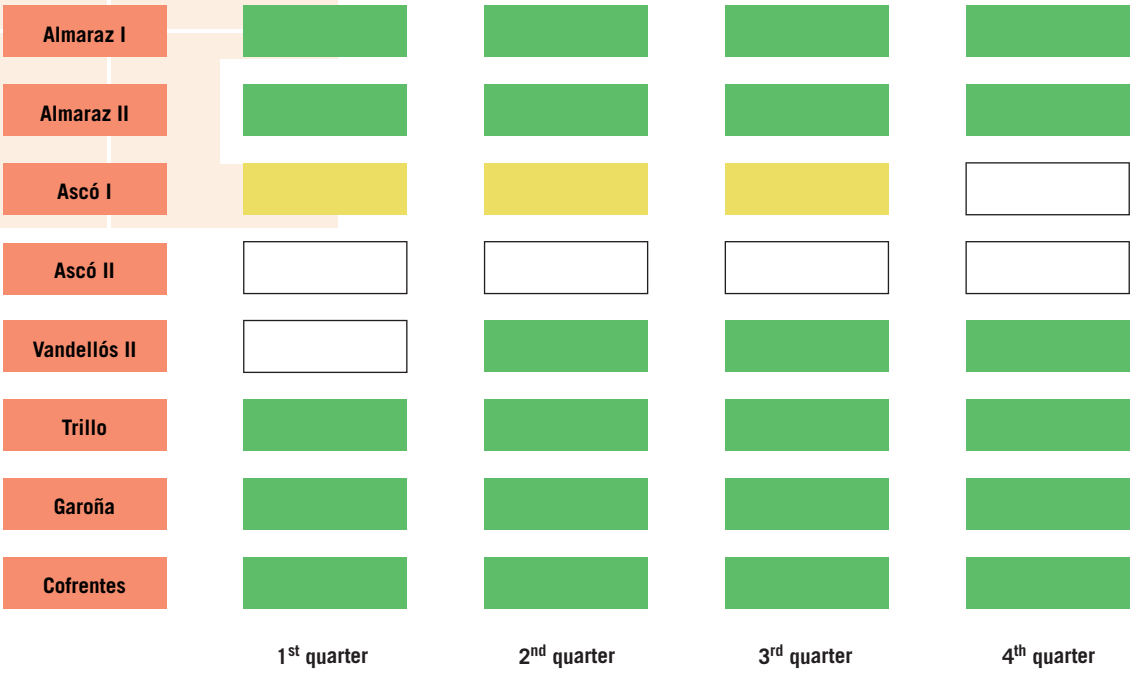
In Spain there are currently six nuclear power plants in operation with a total number of eight nuclear reactors. In 2007 the Integrated Plant Supervision System (SISC) was implemented for the systematic evaluation of these facilities and to control their safety. This system takes into account both the findings of inspections and the data provided by certain operating indicators that are obtained automatically. Consideration is given also to other aspects, such as reported events, radiological impact,

Operating nuclear power plants

the dosimetry control of exposed workers, relevant modifications proposed, warnings and sanctions and operating events.

From the evaluation of all these issues it may be deduced that throughout 2009 the Spanish nuclear power plants operated correctly and within the safety limits established, without any situations of undue risk occurring. In addition to offering a systematic evaluation of the status of the facilities, the SISC facilitates the planning of the CSN's regulatory activity and is a highly efficient instrument within the Council's policy of transparency, since its results are available to the general public via the CSN website (www.csn.es/sisc/index.do) and are offered in an easily understood and summarised manner by means of a colour code that allows the safety status of each installation to be seen at a glance.

Action matrix status. SISC 2009



Unacceptable operation

Unacceptable risk: situation involving an unacceptable risk that prevents the plant from operating for safety reasons.

Acceptable operation

Multiple degradations:
Degraded pillar:
Regulatory response:

→ Situations involving anomalies, with an increasing need for reinforced inspection and deficiency correction programmes.

Licensee response:

→ Basic situation of normality with the application of standard inspection and deficiency correction programmes.

According to the results of the SISC, all the plants have operated in an acceptable manner throughout 2009. The Ascó I nuclear power plant has been for three quarters with a *degraded pillar* or area due to the effect of events remaining over several quarters, in this case due to the incident that involved the leakage of radioactive particles from the fuel building and that was detected during the second quarter of 2008.

Whenever an incident occurs at a nuclear facility, the licensee is obliged to notify to the Nuclear Safety Council, which depending on the characteristics of the event will initiate the adequate response and classify the incident on the International Nuclear and Radiological Events Scale (INES). This scale contemplates eight degrees ranging from 0 (no safety significance) to 7 (serious accident). During 2009 the licensees of the Spanish nuclear power

plants reported a total 87 events. All of these were classified as level 0 with the exception of one, which was classified as level 1 (anomaly) on the INES scale. This event occurred on September 22nd 2009 at the Cofrentes nuclear power plant when a spent fuel assembly was dropped into the pool while being handled during an inspection.

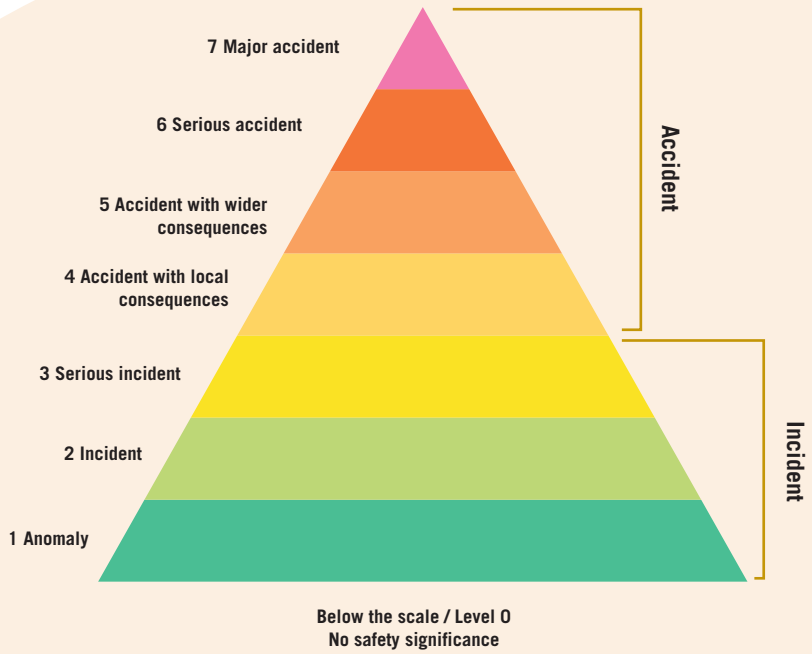
During 2009, the CSN proposed that the Ministry of Industry, Tourism and Trade initiated sanctions proceedings against Almaraz nuclear power plant and issue three warnings, one to Cofrentes nuclear power plant and two to Trillo, nuclear power plant.

During this period the Council dealt with a large number of licensing proceedings in response to requests from the nuclear power plants, among them 54 decisions regarding authorisations and 18 favourable reports, most of them relating to requests for the revision of official operating documents. Particularly significant among the licensing activities, both for its impact in the media and for the intense efforts that it required from the CSN, was the request for renewal of the *Operating permit for the Santa María de Garoña* nuclear power plant for a period of ten years, which implied exceeding the originally foreseen 40 years of operation lifetime. The study of this request involved an intensive work plan, carried out over almost three years, in support of the decision, which was translated into dozens of assessments and inspections.

The Nuclear Safety Council carries out intense inspection activities for the tracking and control of nuclear power plant safety. There is a Basic Inspection Programme (BIP) that contemplates both the systematic work of the resident inspectors and the inspections performed by CSN experts in different areas.

During 2009, 121 inspections were performed within the BIP's of the six Spanish nuclear power plants in

General description of INES scale levels



View of Vandellós II nuclear power plant.

operation (eight reactors), although the total number of inspections amounted to 200. This is due to the fact that in addition to the inspections scheduled by the BIP, other complementary inspections are performed in response to specific indicators or findings or operating events and incidents, as a result of new standards, licensing requests or generic events detected at one plant and potentially affecting others. In 2009, 81 supplementary inspections were performed, particularly significant among which were the 30 carried out at the Santa María de Garoña nuclear power plant as a result of the request for renewal of the operating permit and the 13 performed at the Ascó I nuclear power plant.

The CSN also has in place transverse programmes for nuclear power plant safety improvement, among which the following were particularly significant during 2009:

Periodic safety review programmes

The evaluation of the periodic safety review of the Santa María de Garoña nuclear power plant, associated with the renewal of the facility's operating permit, concluded in 2009, while those for the Almaraz and Vandellós II nuclear power plants continued for the renewal of their corresponding operating permits, in June and July 2010 respectively.

Generic issues

A generic issue is understood as being any safety-related problem identified at any national or overseas nuclear power plant that might affect other plants. The CSN monitors such issues, analyses their applicability to the Spanish plants and adopts corrective measures to prevent problems. The following incidents were analysed during 2009:

- At Vandellós II, seals not complying with the watertightness design criterion.
- At Almaraz II, the failure of a control rod insertion logic relay.
- At Ascó I, an incongruity in the Operating Technical Specifications regarding the operability and setpoint value of safety valves.
- At Ascó, the inoperability of diesel generators due to a motor bearing manufacturing defect.

Vandellós II Safety Management Improvement Plan (Pamgs)

All the actions included in the four Pamgs programmes having been completed, the plan focussed in 2009 on verifying their efficiency. The final report includes the evaluations of the OSART mission performed by the IAEA. This year has seen the start-up of the new safeguards cooling system, following the design modifications deriving from the plan. For the CSN, the supervision of the project and its implementation and testing have required the performance of 11 inspections.

Ascó Procura Plan

In December 2009 the Council approved the Ascó nuclear power plant Organisational, Cultural and Technical Reinforcement Plan (Procura) that was implemented as a result of the emission of radioactive particles reported in April 2008, following its review and the incorporation of improvements imposed by the CSN. The licensee has finished the cleaning of the ducts affected by the leakage of the particles and is carrying out special radiological surveillance programmes, among many other measures contemplated in the plan.

Nuclear power plant action plans for the period 2010-2014

In response to a request by the CSN, the plant licensees have updated the reports and forecasts presented the previous year, adapting them to the period 2010-2014. These reports contain the improvement plans and the investments contemplated for the maintenance and reinforcement of safety aspects, including technology updating, maintenance of the installation, organisational improvements, personnel training, the analysis of operating experience, equipment renewal and staffing.

RADIOACTIVE FACILITIES

As of 31st December 2009 there were 31,862 facilities registered in Spain using radioactive isotopes or radiation generators for scientific, medical, agricultural, commercial and industrial purposes, 30,475 of which were registered as X-ray facilities for medical diagnosis. All of these installations are subject to a system of preliminary authorisation, licensing, inspection and

Evolution of the number of radioactive facilities

Category	Field of application	2005	2006	2007	2008	2009
1ª	Irradiation	1	1	1	1	1
	Subtotal	1	1	1	1	1
2ª	Commercialisation	49	46	51	53	53
	Research and teaching	84	80	85	89	102
	Industry	600	582	597	604	586
	Medicine	276	287	309	315	320
	Subtotal	1,009	995	1,042	1,061	1,061
3ª	Commercialisation	12	13	14	15	17
	Research and teaching	90	89	95	95	94
	Industry	145	152	157	156	165
	Medicine	66	57	52	51	49
	Subtotal	313	311	318	317	325
	Medical X-rays	25,222	25,902	28,438	29,714	30,475
	TOTAL	26,545	27,209	29,799	31,093	31,862

Control of processes for the measurement of the density of fluids flowing through piping.

control by the CSN, either directly or in collaboration with the autonomous communities with which function assignment agreements are in place. During 2009 all these radioactive facilities carried out their activities within the framework of the safety standards set up for the radiological protection of public and the environment.

During the year, 362 reports were issued in relation to this type of facilities: 55 regarding operating permits, 46 on the declaration of decommissioning and 261 for the authorisation of various modifications.

Throughout the year, 1,741 inspections were performed at radioactive facilities, by either the CSN or the autonomous communities with function assignment agreements; of these, 141 were associated with licensing, 1,269 with the control of radioactive facilities, 304 with the control of radiodiagnosis installations and 27 with incidents, complaints or irregularities.

In addition to inspections, the control of these facilities rests on the review of periodic reports. During 2009 the CSN received 1,091 annual reports from radioactive facilities and 22,500 from X-ray diagnosis installations, along with 260 quarterly commercialisation reports.

During the year, 20 incidents were recorded at radioactive facilities, five attributable to operating faults, nine to equipment failures, three to the loss or theft of radioactive equipment or sources and a further three to fires at or in the vicinity of the facility. In addition, 18 complaints were received; these gave rise to inspection visits and the complaining parties were subsequently informed of the results.

The CSN proposed the initiation of six sanctions proceedings. The reasons, for which sanctions proposals are normally made, are the performance of activities requiring authorisation without such authorisation having been granted, the operation of facilities by non-licensed personnel and non compliance with the instructions and requirements in force. Likewise, as a result of evaluation and inspection activities for the control of the facilities, the CSN issued 82 warnings, identifying the deviations found and requiring their correction.

Royal Decree 1085/2009, approving the Regulation on the Installation and Use of X-Ray Generators for Medical Diagnosis, was published in July 2009, replacing Royal Decree 1891/1991. Particularly significant among the novelties introduced is the detailed regulation of the radiological protection services and technical units operating in the field of medical radiodiagnosis, the classification of these facilities on the basis of risk and the corresponding grading of the requirements, and the requirement that must be a radiological protection programme specific for each facility.

In November 2009, following the tests performed throughout the year with a view to implement the INES Scale for the classification of events at radioactive facilities, the CSN approved a working programme aimed at initiating the application of this scale during the early months of 2010. The objective of the new scale is to inform the public of the impact on safety of events and incidents at these facilities, rapidly and in a coherent manner.

NUCLEAR FUEL CYCLE FACILITIES

This group includes the Juzbado fuel assembly manufacturing facility, the El Cabril waste disposal facility and the Centre for Energy-Related, Environmental and Technological Research (Ciemat). All of these installations operated throughout 2009 within the established safety criteria.

Throughout the year, the CSN reported 13 authorisations of different types at these installations, many referring to the approval of new revisions of official operating documents. Particularly significant among the decisions taken were the approval of revisions of the Operating Technical Specifications and Emergency Plan of the Juzbado fuel assembly manufacturing facility, a new revision of the Security Plan of the El Cabril waste disposal facility and authorisations relating to different Ciemat 2nd category radioactive facilities.

Furthermore, there was approval for an extension of the authorisations for the import and export, handling, processing, storage and transport of nuclear materials at the three aforementioned installations. In addition, the CSN granted both the Juzbado facility and the El Cabril centre an extension to the term for compliance

Fuel rods.

with the Complementary Technical Instruction that was sent to both on July 31st 2008 regarding the radiological surveillance of "off-site" areas.

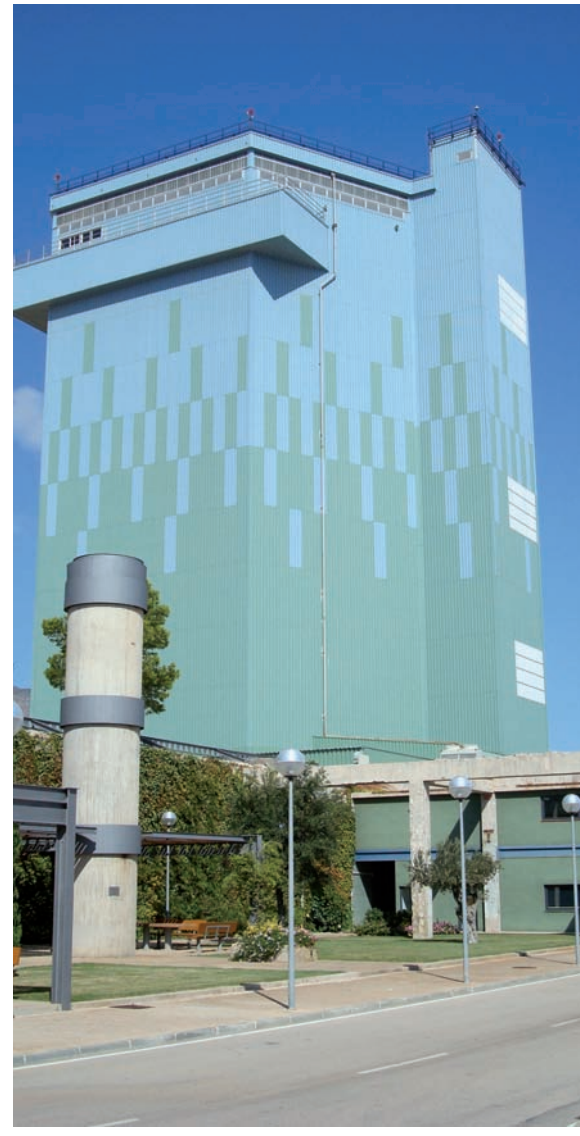
The CSN carried out a total 33 inspections within the framework of the programme for the control of these installations: 11 at the Juzbado fuel assembly manufacturing facility, 12 at El Cabril and 10 at Ciemat.

There were two reportable events at the Juzbado manufacturing facility and three at the El Cabril waste disposal facility, the latter consisting of a larger than established quantity of water being collected in the leachate drains network of storage cell 29, used for very low level wastes. None of these events implied any risk for the workers, the public or the environment.

Mention should be made of the fact that the Integrated Plan for Improvement of the Ciemat Facilities (PIMIC) continued throughout 2009, this having included dismantling and rehabilitation activities affecting various areas and buildings. In addition, the filling of cell 17 and closure of cell 23 began at El Cabril, both of these being on the South platform.

FACILITIES IN DISMANTLING AND DECOMMISSIONING PHASE

The following nuclear or radioactive fuel cycle facilities have now been definitively shut down or are in the phase of dismantling and decommissioning: the Vandellós I nuclear power plant, which is currently in the dormancy phase following the initial phase of dismantling; the José Cabrera nuclear power plant, which has been definitively shut down; the Elefante uranium concentrates plant, which has been dismantled and is currently in the period of compliance; the Quercus plant, which is shut down; the Andújar Uranium Mill, which is in the period of compliance following dismantling, and the Lobo-G plant, which has been decommissioned. The activities carried out at each of the facilities during 2009, in keeping with their respective status, have been



Current status of Vandellós I Nuclear Power Plant.

performed within the established safety limits and without any undue impact for public or the environment.

Throughout 2009 the CSN issued six decisions and two favourable reports. Particularly significant were those relating to the José Cabrera plant, such as the extension to the authorisation for the performance of activities relating to the import and export, handling, processing, storage and transport of nuclear materials; the approval of the Security Plan and authorisation for the transfer of ownership of the plant to Gas Natural. There was subsequent authorisation of the transfer of such ownership to Enresa and of the dismantling of the facility, both of which were pending of definitive approval by the Ministry of Industry, Tourism and Trade at the end of the year. As regards the Quercus plant, mention should be made regarding the approval of the new revisions of the Site Emergency Plan and of the favourable decision regarding the Surveillance and Maintenance Plan.

In performing the facility control programmes, the CSN performed a total of 27 inspections: three at the Vandellós I nuclear power plant, three at the Quercus plant, one at the Elefante plant, four at the Andújar uranium mill, two at the Lobo-G plant and 14 at the José Cabrera nuclear plant. At all these facilities, the programmes for environmental radiological surveillance, the radiological protection of the workers, security, the control of releases and, where appropriate, waste management remain operative. There were no deviations in the performance of any of these programmes during the year.

Aerial view of the Lobo-G plant.

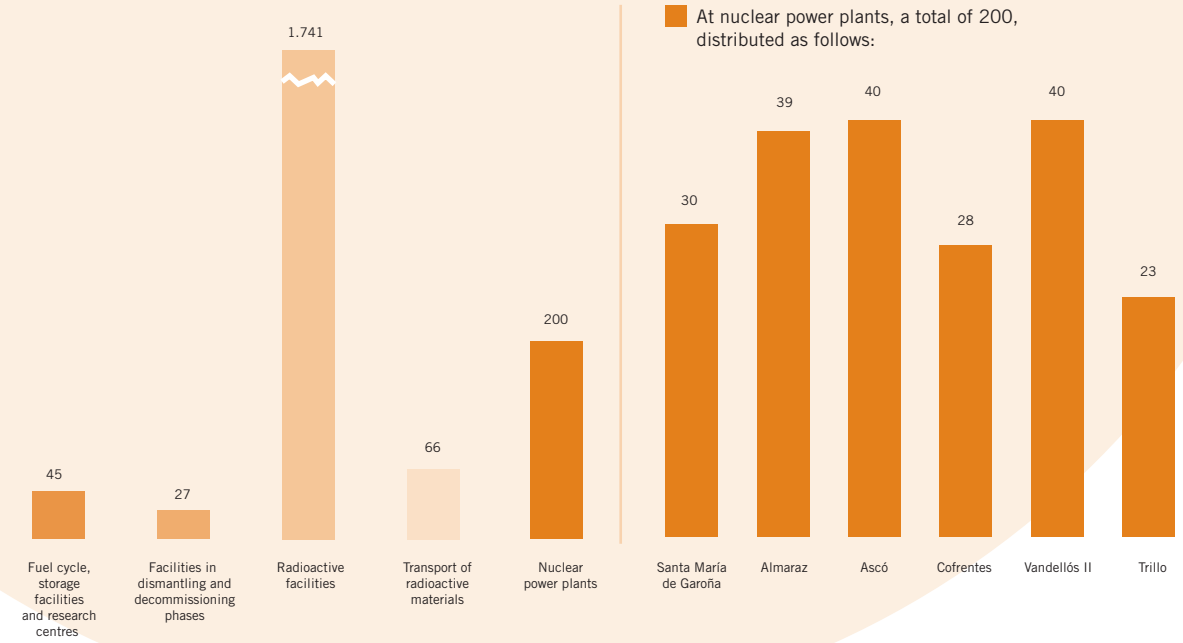
Likewise, the 377 fuel assemblies previously stored in the spent fuel pool at the José Cabrera plant were transferred to the temporary storage facility, where they are now housed in 12 HI-STORM dry storage casks. The transfer was performed without any significant incidents.

The two-year moratorium on licensing for the dismantling of the Quercus plant remains in force; meanwhile surveillance and maintenance measures are being applied to guarantee that the facility remains in safe conditions pending of a possible renewal of activities.

TRANSPORT OF NULEAR AND RADIOACTIVE MATERIALS

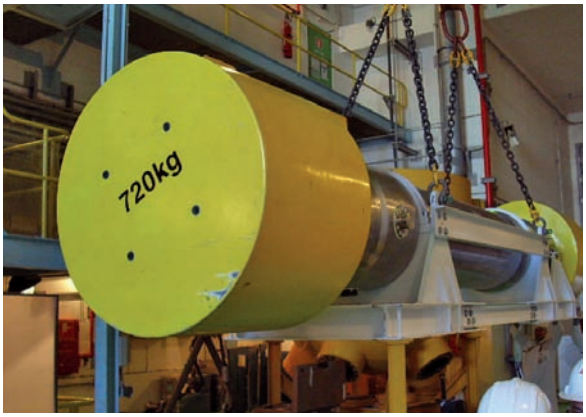
The authorisations required for the transport of certain radioactive materials may only be granted if there has been a favourable report by the CSN. Likewise, the

Number of inspections performed by the CSN in 2009



Council is in charge of verifying that the packaging and vehicles fulfil the national and international standards guaranteeing safety. The autonomous communities with which the CSN has function assignment agreements collaborate in this task.

During 2009, 66 inspections were performed in relation to the transport of nuclear and radioactive materials: 19 by the CSN itself and 47 by the autonomous communities with which function assignment agreements are in place. This control is completed with an analysis of the preliminary notifications and performance reports required by the CSN for shipments of fissile materials, high level radioactive sources and wastes. Throughout the year, 80 such reports were analysed in relation to fissile material shipments and 248 on radioactive waste transport operations carried out by Enresa, 202 from nuclear facilities and 46 from other installations.



Loading of a package onto a vehicle for transport.

Close up of a package stowed for transport.

In 2009 five incidents were recorded during the transport of radioactive material: a road accident that did not imply any damage to the radioactive packages, the mislaying of two packages containing iodine-123 for medical use and implying a low level of risk because of their short life (both cases occurred during shipment by air and one of the packages was recovered), the theft of a vehicle carrying a radioactive soil density measuring equipment (not recovered) and the return to the supplier of a package containing a radioactive source due to the detection of activity attributable to radioactive contamination inside the package, this ruling out any risk in its handling.

PERSONNEL LICENCES

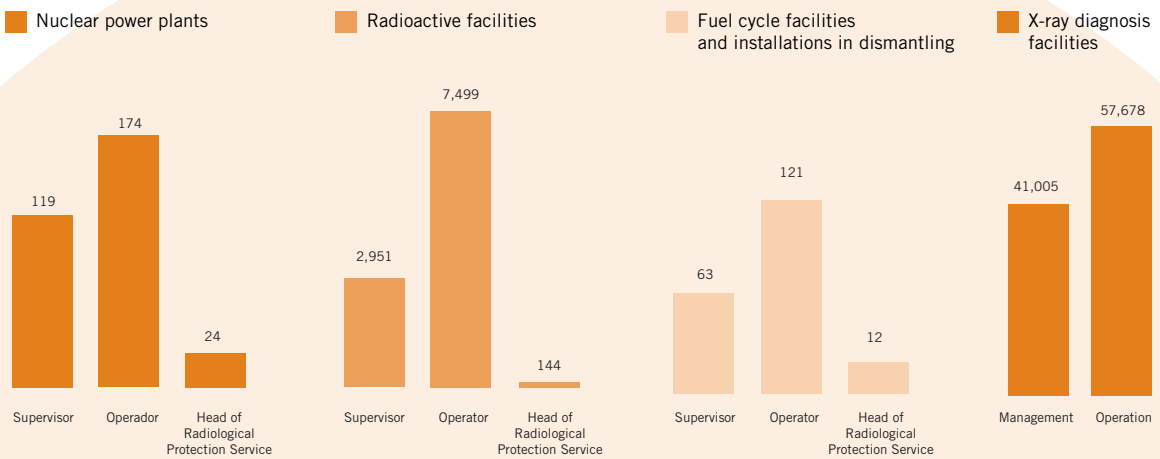
The workers that operate or supervise radioactive facilities require a licence that is granted by the CSN and that is renewed periodically. In 2009 the CSN issued the following licences and accreditations:

At nuclear power plants, 7 supervisor licences, 33 operator licences and 2 for the Heads of Radiological Protection Services were issued, and 41 operator licences and 64 supervisor licences were extended.

At fuel cycle and storage facilities and installations in the dismantling phase, 10 supervisor licences, 10 operator licences and one for a Radiological Protection Service Head were issued and 11 supervisor licences and 16 operator licences were extended.

At radioactive facilities, 434 new supervisor licences, 1,223 operator licences and 12 for the Heads of Radiological Protection Services were issued and 147 supervisor licences and 451 operator licences were extended.

Number of personnel licences as of December 31st 2009



At medical radiodiagnosis facilities, 504 accreditations were issued for the management of such installations and 1,778 for their operation.

As of December 31st 2009, the number of licensed workers stood at 10,914; of these 3,126 held supervisor licences, 7,788 operator licences and 180 a diploma as the head of a radiological protection service. A further 41,005 workers held the accreditation required to manage medical radiodiagnosis facilities and 57,678 that corresponding to their operation.

The CSN homologated three new courses for the licences and accreditations required at radioactive facilities and authorised the modification of one that had previously been homologated, along with five new courses for the accreditation of the personnel of X-ray facilities and the modification of another nine that were already homologated. The Council website (www.csn.es) provides sufficient teaching material for the delivery of these courses.

SERVICE ENTITIES

In order for the facilities to be able to suitably comply with the standards in force in relation to radiological protection, there are companies that specialise in rendering services in this area. Among these are the Radiological Protection Services (SPR), the Radiological Protection Technical Units (UTPR), companies selling medical X-ray equipment and providing technical assistance, Personal Dosimetry Services and registered external companies. All of these are subject to licensing and control by the CSN.

During 2009, the Council requested the implementation of three new SPR's, authorised one and decommissioned another. It also licensed three new UTPR's and modified the authorisations of two already in existence. Twenty-two inspections were performed in relation to SPR's and 23 to UTPR's, with the collaboration of those autonomous communities with which function assignment agreements have been signed. Furthermore, as a result of inspection and control activities, sanctions proceedings were initiated against two UTPR's and another was temporarily suspended for safety reasons.

At year end, 72 SPR's and 48 UTPR's had been authorised, 26 of the latter rendering services only in the field of radiodiagnosis facilities. The CSN-SEPR-SEFM Forum on Radiological Protection in the Healthcare Field has had two working groups active throughout 2009, one on the human and technical resources that the UTPR's should have, and another for the preparation of a type contract for the rendering of services to medical X-ray facilities.

In addition, the CSN reported on the authorisation of 16 new sales and technical assistance companies, the modification of the authorisations of five, the decommissioning of three others and the filing of three applications. At the end of 2009, 296 entities had this authorisation.

As of December 31st 2009 there were in total 1,369 firms included on the register of external companies, the vast majority of these active in relation to the nuclear power plants.

OTHER LICENSING AND CONTROL ACTIVITIES

The CSN is responsible for reporting on authorisations for the manufacturing of radioactive equipment and for granting type approvals for equipment incorporating radioactive substances and radiation generators. During 2009 the CSN issued two decisions regarding authorisation for the manufacturing of radioactive equipment, relating to six models of devices for the inspection of packaging. The Council also reported on 13 type approvals for radioactive devices, this implying the exemption of 22 models as regards consideration as radioactive facilities on the grounds of their intrinsic safety, all of these fitted with X-ray generators with the exception of one that incorporated a source of Ni-53.

In March 2009, in view of the proliferation of requests for permits for uranium ore prospecting, research and exploitation, the CSN informed the autonomous communities of Castilla y León, Castilla-La Mancha, Catalonia and Extremadura of the obligatory nature of the Council's report on radiological protection prior to granting such permits. During 2009, the CSN reported on 55 such requests, 34 from the Regional Government of Castilla y León, eight from Castilla-La Mancha and 13 from the Regional Government of Extremadura. In addition, inspections were performed at various mining sites in Salamanca with research permits issued by the Regional Government of Castilla y León.

As of December 31st 2009, there were 35 companies authorised for the activities contemplated in section VII

Radioactive lightning rod.

of the Regulation on Nuclear and Radioactive Facilities in relation to the addition of radioactive substances in the production of consumer goods, the import, export, commercialisation and transfer of radioactive materials, radiation-generating equipment and consumer goods incorporating radioactive substances and technical assistance for such equipment and goods. During 2009 reports were drawn up on 12 new authorisations for the performance of these activities and two applications were filed.

In 2009, the CSN was informed on 71 occasions of the detection of radioactivity in metallic materials, within the framework of application of the *Protocol on collaboration in the radiological surveillance of metallic materials*. The radioactive sources detected, which included indicators with radioluminescent paint, ion smoke detectors, radioactive lightning rods, pieces of uranium, products containing radium and thorium and contaminated parts, were transferred to Enresa for management as radioactive waste. As of the end of 2009, the number of metallurgical installations registered under the protocol amounted to 148.

CSN

chapter 3

RADIOLOGICAL PROTECTION

RADIOLOGICAL PROTECTION OF THE WORKERS

Thousands of people are exposed to ionising radiations because of the characteristics of their work. Carefully overseeing the radiation levels they receive in order to ensure that the exposure is kept as low as is reasonably achievable, and in any case below the regulatory dose thresholds, is an essential task and is undertaken by the Nuclear Safety Council. In this respect the Council inspects the facilities and checks that all the measures established in the legislation are used, these including assessment of the radiological risk associated with each activity, the radiological

classification and surveillance of the workers and workplaces, the supply of adequate information and training and medical surveillance.

As established in the Regulation on the Protection of Health against Ionising Radiations, the basic tool available to the CSN in this respect is the National Dosimetry Bank, created in 1985, where the dosimetry histories of professionally exposed workers are recorded and maintained. The annual dose limits established in Spain, which are identical to those in force in the European Union, are 100 mSv accumulated over five consecutive years for professionally exposed workers and 1mSv per year for the general public.

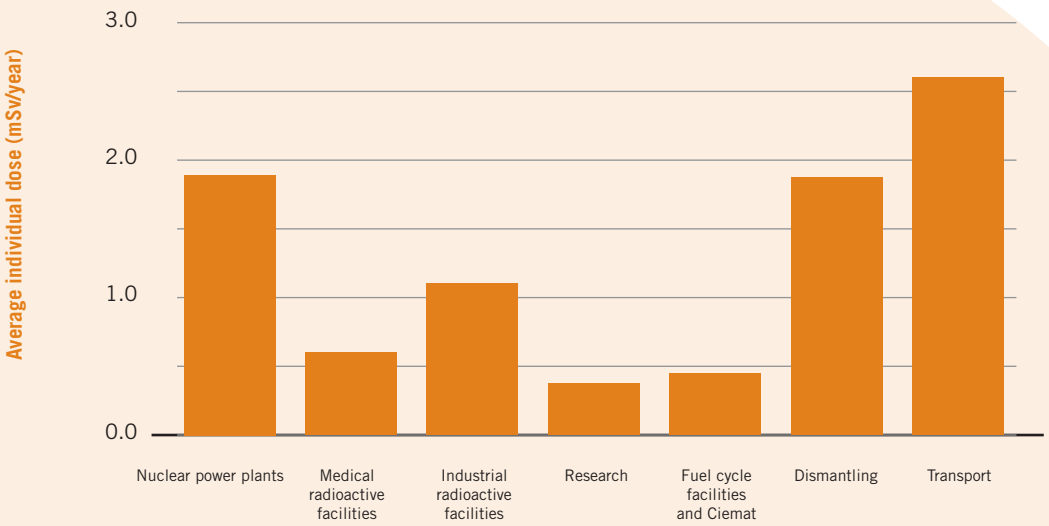
As of closure of the 2009 dosimetry year there were 15,672,000 dosimetry measurements registered in the National Dosimetry Bank, corresponding to some 285,000 workers and 59,900 facilities.

The number of dosimetrically controlled persons professionally exposed to ionising radiations in Spain in 2009 amounted to 103,671. The collective dose corresponding to the workers overall was 27,349 mSv.person, while the average individual dose was 0.88 mSv/year.

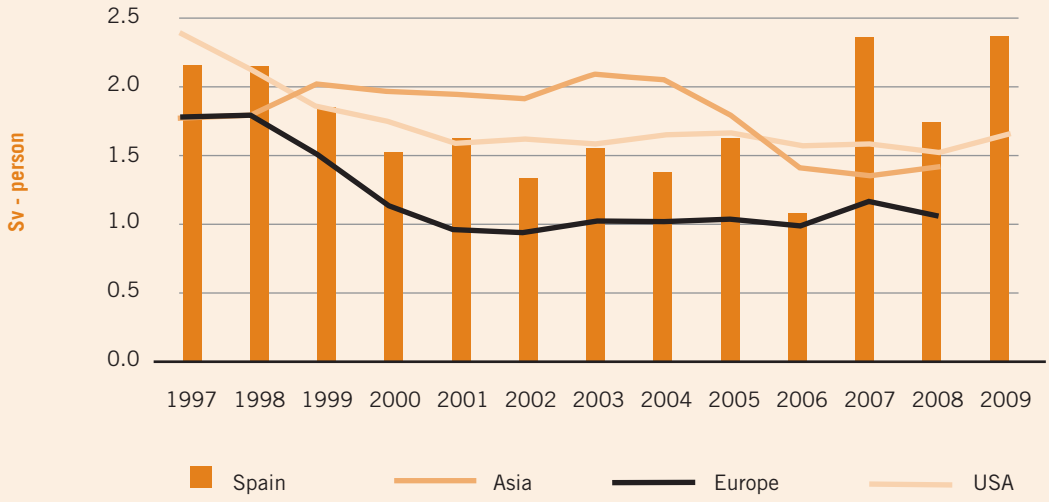
99.34% of the dosimetrically controlled workers received doses lower than 6 mSv/year, and 99.97% doses lower than 20 mSv/year. This distribution points to the favourable trend of doses at the country's nuclear and radioactive facilities as regards compliance with the regulatory limits applicable to professionally exposed workers (100 mSv over five years).

Furthermore, in order to control the protection of the workers of external companies (contracted professionals performing occasional work at the facilities), the CSN manages a register on which all entities performing

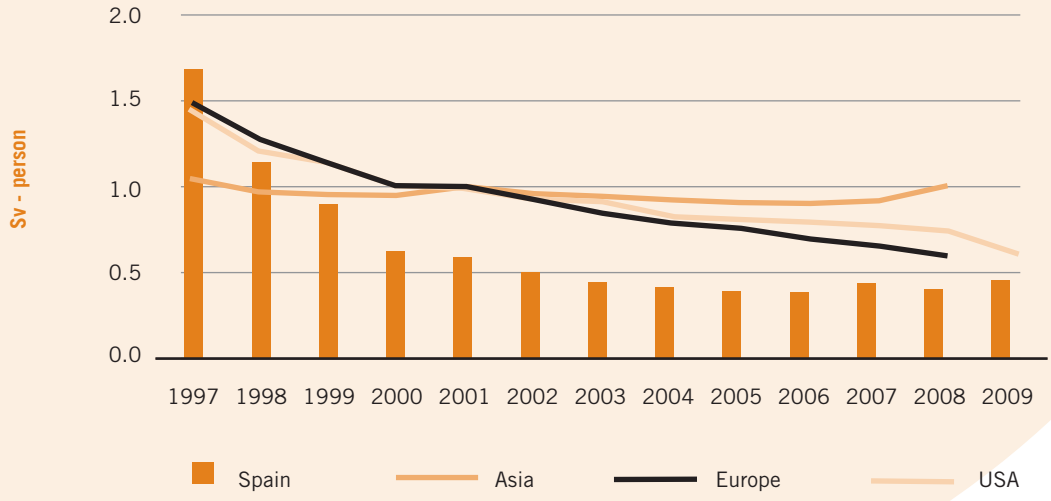
Average individual dose by sectors. 2009



Average three-yearly collective dose for BWR type reactors. International comparison



Average three-yearly collective dose for PWR type reactors. International comparison



activities in the controlled zones of nuclear and radioactive facilities are obliged to be included, their workers being obliged to possess a radiological work licence.

By the end of the year, the CSN has distributed 5,299 radiological work licences for the workers of 303 companies.

The figures show the evolution with time of collective dose by reactor type and compare this variable with the values recorded at international level. It should be remembered that in the case of the BWR reactors, the Cofrentes and Santa María de Garoña plants underwent refuelling outages, as did the Ascó I, Almaraz I and II, Trillo and Vandellós II plants in the case of PWR reactors.

Doses received by the exposed workers in each of the sectors

Facilities	Number of workers	Collective dose (mSv·person)	Average individual dose (mSv/year)(*)
Nuclear power plants	9,360	8,973	1.92
Fuel cycle and waste storage and disposal facilities and research centres (Ciemat)	1,204	87	0.51
Radioactive facilities			
· medical	80,341	14,386	0.65
· industrial	7,784	2,965	1.15
· research	5,489	475	0.37
Facilities in the dismantling and decommissioning phase	292	245	1.77
Transport	112	219	2.61

(*) The calculation of average individual dose considers only those workers that have had dosimetry readings higher than background.

The greatest contribution to the collective dose of the country's professionally exposed workers overall is made by the medical radioactive facilities, with 53% of overall collective dose, since the number of professionally exposed workers in this sector represents 77% of the total.

As in previous years, the highest average individual dose corresponded to the workers in the transport sector (2.61 mSv/year), and especially to those involved in the transport of radiopharmaceutical products by road. The high activity levels of the goods handled, the small size of the packages, their loading and unloading by hand and the fact that the supply is carried out by few companies and a small number of workers leaves little margin for significant dose reductions to be achieved, despite the special monitoring of this sector by the CSN.

During 2009 there were eight cases of the regulatory annual dose limits for workers being exceeded, all at radioactive facilities. These are being analysed in accordance with the established procedure.

ENVIRONMENTAL RADIOLOGICAL SURVEILLANCE

The radiological protection of the public and the environment is the essential objective of the control exercised by the CSN outside nuclear, fuel cycle and radioactive facilities and in their areas of influence. The aim is to assess the impact of such facilities and to oversee and maintain the radiological quality of the environment throughout the national territory.

The facilities have accurate release limits set out and the commitment to maintain systems to limit, oversee and control radioactive effluents.

The records kept show that during 2009 the radioactive releases from the facilities remained within the habitual values, comparable to those of other European and US installations. As in previous years, the calculated doses attributable to these releases were far below the regulatory dose limits for the public, representing a minor fraction of the release limits. In the specific case of the nuclear power plants, this fraction did not exceed 3.5% of the established dose restriction of 100 microSievert/year.

In order to control the radiological safety of the nuclear facilities, the licensees are required to apply

CSN network of continental and coastal waters sampling stations

environmental radiological surveillance programmes (PVRA) suited to the characteristics of each installation and its surroundings. In this respect, samples from the surroundings (dust, rain, soil, direct radiation, drinking water, groundwater, sediments) and of indicating organisms and foodstuffs (crops, meat, poultry, eggs, milk and fish) are collected and analysed in the laboratory.

In total, during 2008 (the last year for which data are available) 6,563 samples were taken from the areas surrounding the operating nuclear power plants, 2,100 from the vicinity of fuel cycle facilities and 2,155 from around facilities in the definitive shutdown, dismantling and decommissioning phase, the results reflecting an acceptable environmental radiological quality. The CSN verifies these data by analysing a 5% sample by means

CSN atmospheric and terrestrial sampling stations network: dense and open networks

Laboratories:

1992
- Bilbao: University College of Industrial Engineering and Telecom
- Santander: University of Cantabria
- León: University of León
- Salamanca: University of Salamanca
- Badajoz: University of Extremadura
- Cáceres: University of Extremadura
- Madrid. Polytechnic University of Madrid
- Seville: University of Seville
- Málaga: University of Málaga
- Granada: University of Granada
- Valencia: University of Valencia Polytechnic University of Valencia
- P. Mallorca: University of the Balearic Islands
- Tenerife: University of La Laguna

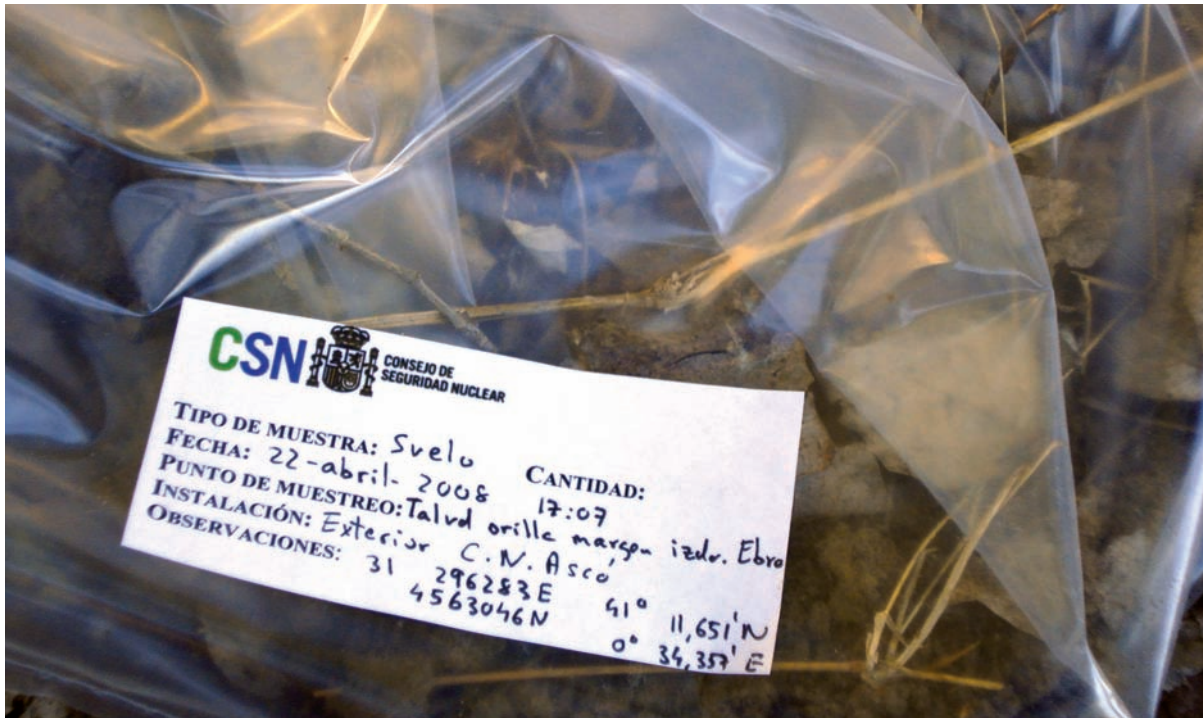
1997
- Ciudad Real: University of Castilla-La Mancha
- La Coruña: Polytechnic University of La Coruña
- Oviedo: University College of Mining Engineering
- Zaragoza: University of Zaragoza

2000
- Ciemat
- Barcelona: Polytechnic University of Catalonia

Spanish environmental radiological surveillance network (Revira). Automatic Stations Network (REA)

PVRA. Number of samples taken by the nuclear power plants in 2008

Sample type	Garoña	Almaraz	Ascó	Cofrentes	Vandellós II	Trillo
Atmosphere	782	778	811	768	819	766
Water	188	212	136	142	131	140
Foodstuffs	152	318	106	84	92	138
Total	1,122	1,308	1,053	994	1,042	1,044



Soil sampling.

of independent environmental radiological surveillance programmes (PVRAIN), no significant deviations having been observed.

The radioactive particle emission event that took place at Ascó I in 2007 required a specific radiological surveillance exercise that continued throughout 2008 and 2009. The search campaigns did not detect the presence of any new active particles or any increase in radiological activity in the area, in view of which this special surveillance was declared concluded.

The CSN also oversees the environmental radiological quality of the entire national territory through its Automatic Stations Network (REA), which continuously monitors the presence of radiation in the atmosphere at 25 locations throughout the country, and the Sampling Station Network (REM), made up of a total 20 laboratories that analyse samples of river and coastal waters, the atmosphere, the terrestrial medium and foodstuffs. The REM operates in two modes: the so-called dense network, which analyses a large number of samples at many locations throughout the country, and the open network, which deals with few samples but with a high degree of precision. The values obtained have been similar to those for previous years and reflect a satisfactory radiological status.

In order to guarantee the homogeneity and reliability of the results obtained from the different environmental radiological surveillance programmes, and in view of the fact that numerous laboratories participate in their performance, the CSN carries out periodic inter-comparison exercises with these laboratories and promotes working groups for the standardisation of environmental radioactivity sampling and measurement procedures.

Fuel cycle facilities and installations in the definitive shutdown, dismantling and decommissioning phase. Activity of liquid and gaseous effluents (Bq). 2009.

	Fuel cycle facilities			Installations in the definitive shutdown and dismantling phase			
Effluents	Juzbado	El Cabril	Ciemat	Quercus		Vandellós I[2]	José Cabrera
Liquid effluents	$2.09\ 10^7$	[1]	$7.51\ 10^7$	$1.92\ 10^7$	Except tritium	$3.18\ 10^5$	$6.73\ 10^7$
					Tritium	$2.78\ 10^7$	$2.57\ 10^{11}$
Gaseous effluents	$7.38\ 10^4$	Total alpha...$8.16\ 10^3$	LID	[3]	Particles	$1.31\ 10^4$	LID
		Total beta..$1.17\ 10^5$			Tritium	LID	$6.55\ 10^9$
		Gamma.....LID			C-14	$2.29\ 10^2$	—
		Tritium.....$4.55\ 10^9$					
		C-14. .....$1.62\ 10^9$					
Calculated	<1% of the established dose restriction	9.63% of the established dose restriction	<1% of the established dose restriction	<1% of the established dose restriction			

[1] Zero release facility.
[2] Emissions due to occasional reactor pile venting and specific characterisation operations.
[3] Does not generate gaseous effluents due to activities having ceased.

During the two-year period 2008-2009, an exercise was carried out for the determination of naturally occurring radionuclides in a sample of phosphogypsum from the reservoirs of the company Fertiberia, S.A. in Huelva, with the participation of 32 national and two overseas laboratories. The exercise, which concluded in October 2009, underlined the homogeneity of the results and the high percentage of correct determinations and, therefore, the suitable preparation of the participants for this type of analysis.

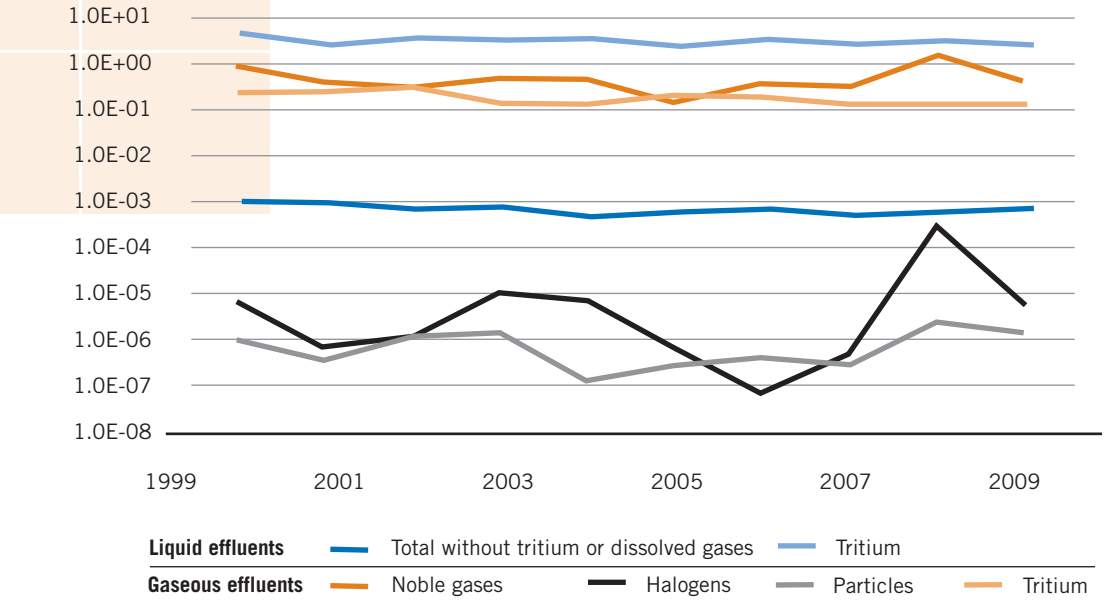
In September 2009, the European Union made a verification visit to the phosphogypsum reservoirs in the ria in Huelva and the area contaminated with Cs-137 of the Inert Materials Recovery Centre (CRI-9). The objective of the visit was to check for compliance with Spain's commitments regarding article 35 of the Euratom Treaty. The final report by the verification team, submitted in 2010, concludes that the radiological studies performed and the surveillance programmes put in place are adequate and efficient.

In 2009, Ciemat concluded an updated three-dimensional radiological characterisation study at Palomares, including an assessment of the volume of contaminated soils in this area, where in 1966 there was a military air accident involving the dispersion of plutonium. The study report has been endorsed by the IAEA. The study will allow a plan to be drawn up for the rehabilitation of the area. Furthermore, the personal surveillance programme performed by Ciemat with support from the US Department of Energy indicates that the accident has had no impact on the health of the inhabitants of Palomares.

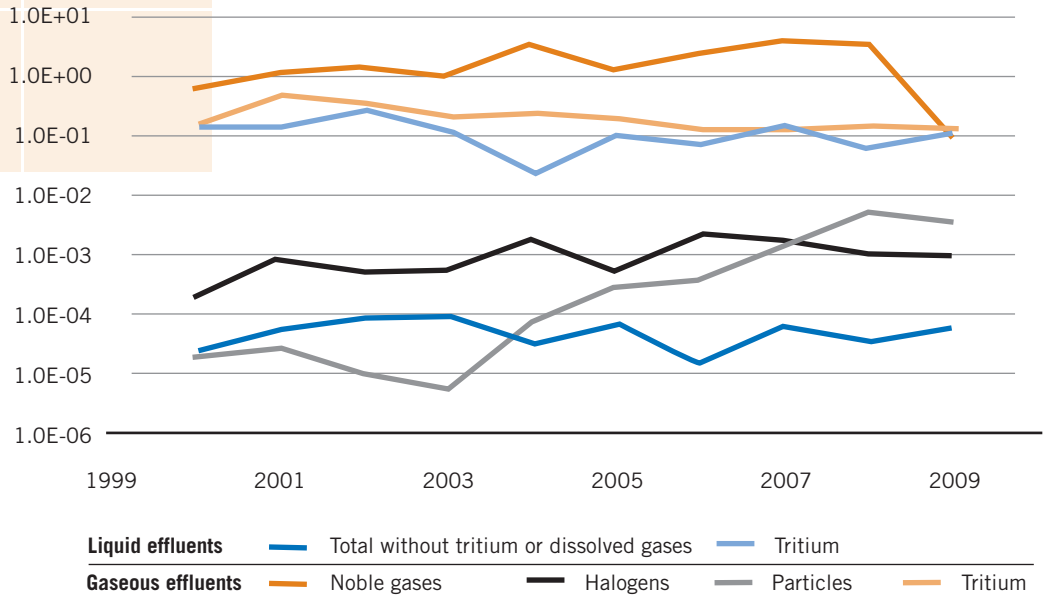
The CSN advises the competent authorities and companies carrying out non-regulated activities involving exposure to natural radiation sources, with a view to characterising radiological risk and applying adequate protective measures for the workers and the members of the public. The Regulation on the Protection of Health against Ionising Radiations requires that the licensees of such companies carry out a radiological impact study and in this respect the CSN has initiated a series of pilot studies on significant industrial activities, performed by different universities and scientific bodies.

Verification visit to the ria at Huelva by the European Union.

Liquid and gaseous radioactive effluents from PWR plants. Standardised activity (GBq/GWh)



Liquid and gaseous radioactive effluents from BWR plants. Standardised activity (GBq/GWh)



The year 2009 saw the conclusion of a study of the radiological impact of coal-fired thermal power stations, performed by Ciemat and the University of Extremadura; another on the concentration of radionuclides in mineral, mineromedicinal, spring and drinking waters in Galicia, performed by the University of Santiago de Compostela, and a project for the measurement of radon gas in homes in Galicia, also by the University of Santiago

In this same context, collaboration agreements have been signed with three universities and R&D aids have been granted to four others for the continued performance of programmes on protection against radon gas.

Furthermore, during 2009 the CSN reported on the control of exposures due to natural radiation during different activities to the Regional Government of Catalonia, the Government of the Region of Murcia, the Ministry of Industry, Tourism and Trade and the Ministry of the Environment and Rural and Marine Habitats.

In 2005 the Congress urged that an epidemiological study be carried out on the possible radiological impact of nuclear and radioactive fuel cycle facilities on the health of the populations residing in the vicinity. The CSN and the Carlos III Institute of Health (ISCIII) have been working on this study in recent years.

During 2009, the CSN has completed its estimates of artificial and natural doses in all the municipalities included in the scope of the study, and the ISCIII has completed the analysis of mortality due to cancer in the geographical areas covered, thus bringing the study to a close. What now remains is the submittal of the results to Congress and their dissemination among the general public.

Epidemiological Study

30, 50 and 100 km-radius boundaries around the facilities.

Areas at a distance from the facilities in which the effect of natural radiation has been studied.

(Background: Natural gamma radiation map)

These results indicate that the doses accumulated by the population in these areas are very low and that they cannot be related to any harmful effects for health. Likewise, no consistent results have been detected pointing to any statistically significant increase in cancer mortality due to either the facilities or to natural radiation.

CONTROL OF RADIOACTIVE WASTE

Management of spent fuel and high level waste

The CSN exercises exhaustive control over the inventory of spent fuel, the safety conditions of the fuel storage pools at the nuclear power plants and the individual temporary storage (ITS) facilities for dry storage in casks located at the Trillo and José Cabrera plants. The number of fuel assemblies in storage at the nuclear power plants as of December 31st 2009 amounted to 12,070.

During 2009 the spent fuel pool at the José Cabrera plant was emptied and all the assemblies were loaded into the plant's ITS facility casks. Also, remodelling of the east pool at Cofrentes was completed, thus putting off the saturation date of the plant from

Radioactive waste packages generated and disposed of at El Cabril in 2009 and packages stored on site at the facilities, equivalent to 220-litre drums

Facility	Conditioned activity GBq	Packages generated	Packages collected	Packages stored
José Cabrera	9,152.89	488	791	662
Santa María de Garoña	2,958.5	374	586	4,109
Almaraz I y II	9,237.02	597	525	7,427
Ascó I y II	4,082.20	451	477	2,783
Cofrentes	5,989.77	1,069	929	8,201
Vandellós II	38.37	235	246	1,203
Trillo	87.83	186	360	609
Totals	31,546.72	3,400	3,914	24,994

Inventory of irradiated fuel and situation of the storage facilities at the Spanish nuclear power plants at the end of 2009

Nuclear Power Plant	Total capacity	Reserve core	Effective capacity	Occupied capacity	Free capacity	Degree of occupation[1]	Year of saturation
José Cabrera (p)	NA	NA	NA	NA	NA	NA	NA[2]
José Cabrera ITS facility (c)	377	NA	377	377	0	100[3]	NA
Sta. Mª de Garoña (p)	2,609	400	2,209	1,972	237	89.27	2015
Almaraz I (p)	1,804	157	1,647	1,204	443	73.10	2021
Almaraz II (p)	1,804	157	1,647	1,132	515	68.73	2022
Ascó I (p)	1,421	157	1,264	1,100	164	87.03	2013
Ascó II (p)	1,421	157	1,264	1,016	248	80.38	2015
Cofrentes (p)	5,737[4]	624	5,113	3,469	1,644	67.85	2021[4]
Vandellós II (p)	1,594	157	1,437	908	529	63.19	2020
Trillo (p)	805	177	628	514	114	81.85	NA[5]
Trillo ATI facility (c)	1,680	NA	1,680	378	1,302	22.50	2040
Total	19,252	1,986	17,266	12,070	5,196	71.28	

(p) pool (number of irradiated fuel assemblies).

(c) casks (number of irradiated fuel assemblies).

[1] Like the free capacity, the degree of occupation refers in all cases to effective capacity, i.e. maintaining the reserve capacity for a complete core (a condition necessary for the operation of the plants).

[2] All the spent fuel assemblies previously in the pool at the José Cabrera nuclear power plant (337) have been loaded into dry storage casks and transferred to the Individual Temporary Storage (ATI) facility located on the plant site, as a preliminary step for authorisation for the dismantling of the plant.

[3] The ATI facility at the José Cabrera nuclear power plant has a capacity for 16 casks: 12 for spent fuel and 4 for special wastes. As a result, the degree of occupation as regards spent fuel has now reached 100% of the capacity foreseen for this purpose.

[4] The spent fuel storage capacity of the Cofrentes nuclear power plant has been extended by 1,201 positions, the total capacity increasing from 4,526 to 5,737 and the effective capacity from 3,912 to 5,113. This has allowed the saturation date to be put off from 2009 to 2021.

[5] In the case of Trillo NPP, and as the plant has an ATI facility, the saturation of the pool is not a problem. The capacity of the ITS facility (80 Ensa-DPT type casks) is sufficient to house the fuel produced throughout the currently contemplated plant operating period.

2009 to 2021. Furthermore, the CSN reported favourably on a request by the Trillo plant to use its ITS casks for the storage of fuel having a degree of burnup of up to 49,000 MWd/tU and with nine years of cooldown. Finally, in 2009 the CSN published safety instruction IS-20, which establishes the safety requirements applicable to spent fuel storage casks.

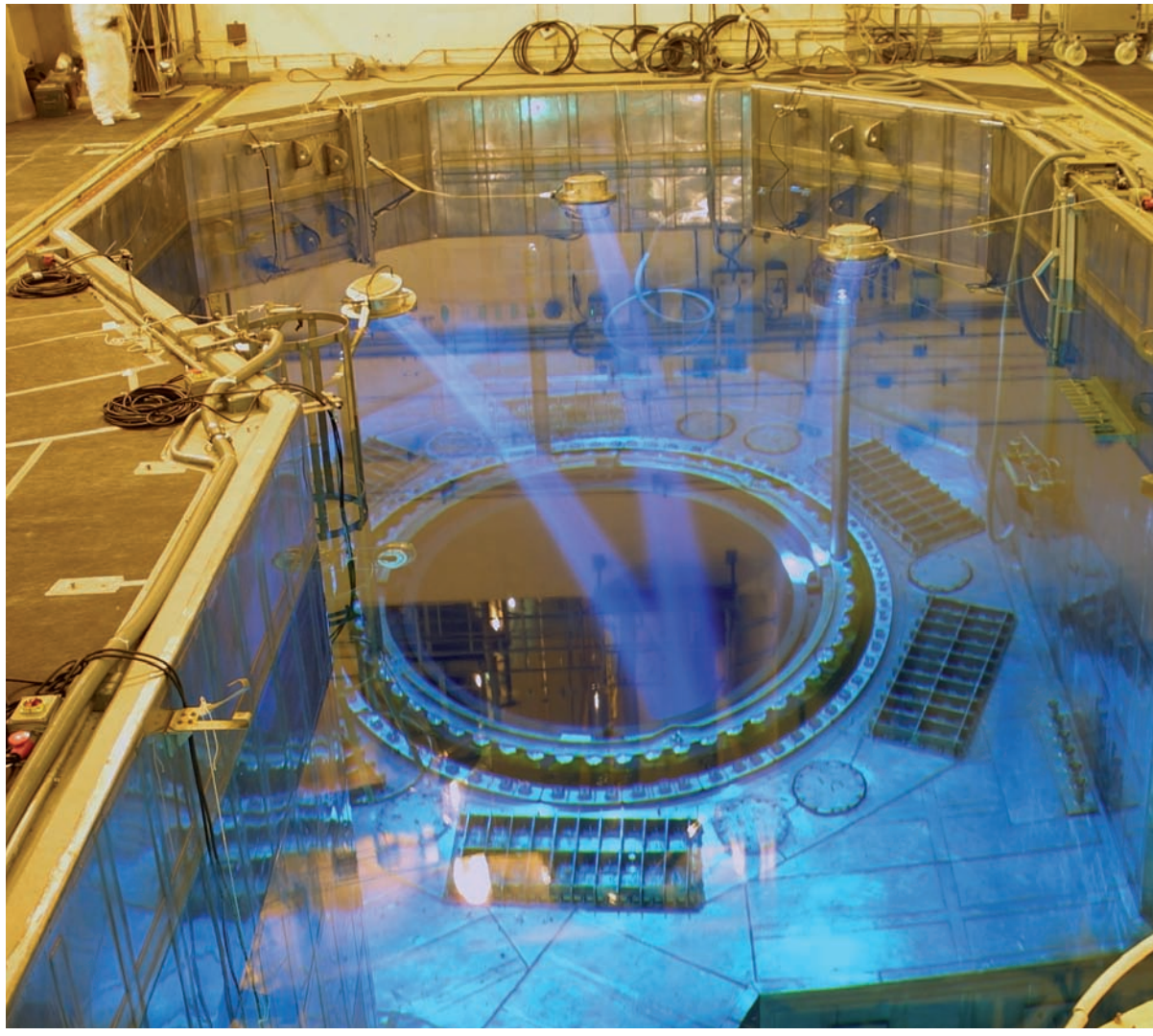
Management of low and intermediate level waste

Spain has a disposal centre for the management of low and intermediate level waste at El Cabril (Córdoba), managed by Enresa. In 2009, 6,122 waste packages or containment units were received at this facility, in addition to 17 samples of low and intermediate level

radioactive waste. Of these, 4,254 of the packages and the 17 samples came from nuclear facilities and 1,868 packages or containment units from radioactive facilities.

At the facilities the CSN maintained control over the radioactive waste treatment and storage systems and the type package acceptance processes. Three inspections relating to the above were carried out at the nuclear facilities during 2009. Also subject to tracking by the CSN was the management by Enresa of atypical radioactive wastes, such as unauthorised radioactive substances, contaminated metallic materials and radioactive lightning rods, of which 42 were removed during the year.

As regards very low level waste, the CSN has continued to oversee operations on the east platform at El Cabril, along with the management of uranium concentrate plant tailings and the restoration of uranium mines. Two inspections have been performed at the Saelices el Chico mining site (Salamanca). On February 26th of this year, the CSN approved the updating of the joint project for the declassification of oils from nuclear power plants.



CSN

chapter 4

EMERGENCY PREPAREDNESS

An essential part of the CSN's regulatory activities consists of addressing whatever nuclear or radiological emergencies might arise. Consequently, the Council is part of the national emergencies system as regards its areas of intervention. This participation is defined in the Emergency Response Organisation (ERO) protocol and consists of providing the technical and human resources available to it and of assisting the authority in charge of the emergency. For this purpose the CSN has an Emergency Response Room (Salem), an area equipped with sophisticated and redundant data processing and communication systems.

In carrying out this mission, the CSN collaborates closely with the Directorate General for Civil Defence and Emergencies (of the Ministry of the Interior), with which it shares data from the 903 automatic stations of the Radioactivity Alert Network, with the delegations and sub-delegations of the Government, with the Military Emergency Response Unit and with the autonomous communities, this guaranteeing a rapid and integrated response to any nuclear or radiological event.

The Salem is the Council's operational emergency response coordination centre. It is here that all the available information on an emergency is obtained and analysed and estimates are performed regarding the evolution of the emergency situation and the effectiveness of the measures adopted. For this purpose the Salem is equipped with a series of telecommunications systems, equipment for the real-time monitoring of operational and radiological parameters and powerful calculation and simulation resources, available to a group of highly specialised experts.

The CSN's Emergency Response Room is operational 24 hours a day, 365 days a year, permanently manned by a technician and a telecommunications officer. In the event of activation, it would also be manned by an emergency back-up team made up of 14 specialist technicians, who would arrive at the Salem in less than one hour. The ERO also has two mobile environmental radiological surveillance units and one mobile internal personal dosimetry service for the measurement of personal doses in the event of possible radiological contamination, which may be deployed anywhere in the national territory.

Exercise of the Pengua Radiological Group, involving the activation of the Classification and Decontamination Station (CDS) in Brihuega, carried out in June 2009.

Particularly significant among the activities performed during 2009 has been the collaboration with the Directorate General for Civil Defence and Emergencies (DGPCE) in drawing up the conclusions for the Basic directive on the planning of civil defence against radiological risks, whose final formalities for approval are currently under way.

As regards information for those actually intervening, or actors, the third edition of the course on nuclear emergencies has been delivered, along with the course on intervention in radiological emergencies. The Council has also collaborated in preparing other courses for specialists in NRBQ from the Ministries of the Interior and Defence.

In addition, 3,000 electronic direct reading (EPD) dosimeters and 28 reading units have been delivered to those responsible for the five off-site emergency plans.

As regards standards-related activities, in 2009 the CSN reported on the project of the Royal Decree Modifying

the Basic Nuclear Emergency Plan (RD 1428/2009 of September 11th) and the nuclear emergency master plans for Burgos (Penbu), Cáceres (Penca), Guadalajara (Pengua), Tarragona (Penta) and Valencia (Penva). In addition, Safety Guide 7.10 on the *Site emergency plan* for radioactive facilities has been drawn up and published and a working group has been set up between the CSN and Unesa to improve the application of the site emergency plans.

As it is mandatory, emergency drills were held during the year at the nuclear power plants and facilities under the supervision of the CSN and with the activation of the Salem. At international level, the Council participated in the performance of three European Union Ecurie exercises and three IAEA international Convex exercises, coordinating the intervention of other Spanish organisations where appropriate.

PHYSICAL PROTECTION OF NUCLEAR MATERIALS AND FACILITIES

During 2009, the CSN reported on the project for the Royal Decree on the protection of critical Spanish infrastructures, the transposition of the European Union Directive on this matter. In addition, the Council participated in the project for the reform of

CSN collaboration in training tasks and exercises for special NRBC units of the Guardia Civil. Exercise held on September 22nd 2009.

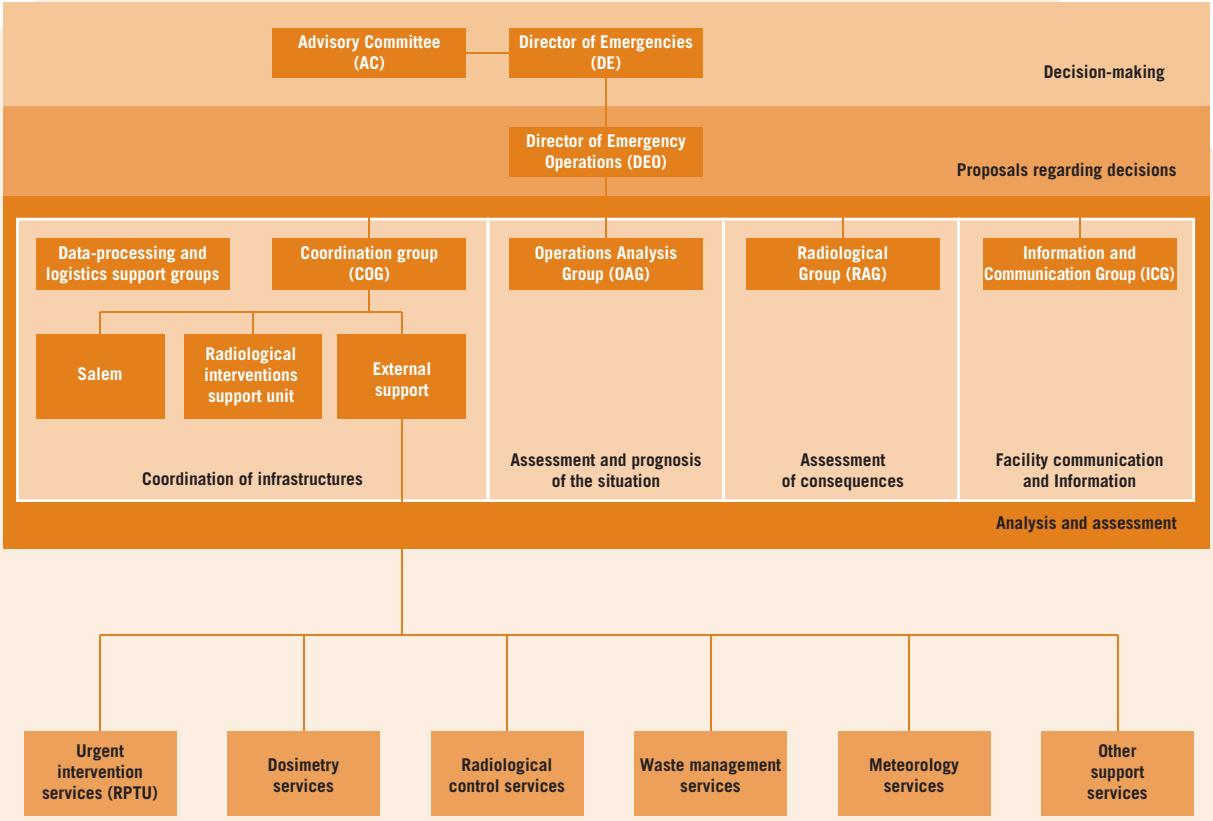
Royal Decree 158/1995 on the Physical Protection of Nuclear Materials. The Council also reported on the security plans for all the first category radioactive and nuclear facilities, in keeping with the new requirements of the Regulation on Nuclear and Radioactive Facilities.

During 2009 the security systems of the Cofrentes, Santa María de Garoña, Almaraz, Vandellós II, Ascó and Trillo nuclear power plants and the Juzbado manufacturing facility were inspected, in collaboration with specialists from the Ministry of the Interior, in relation to compliance with the requirements set out in CSN Instruction IS-9.

Furthermore, work began on integrating security as a strategic area in the Integrated nuclear power Plant Supervision System (SISC), in addition to the areas of nuclear safety and radiological protection currently in use.

In the area of international cooperation the Council participated in security-related activities promoted by the IAEA, such as the revision of various standards and the performance of two international courses. Furthermore, as a member of the European Nuclear Security Regulators Association (ENSRA), it attended the seventeenth meeting, held in Holland, and a meeting on the physical protection of radioactive sources, in Paris.

Organisational Flowchart of the CSN Emergency Response Organisation



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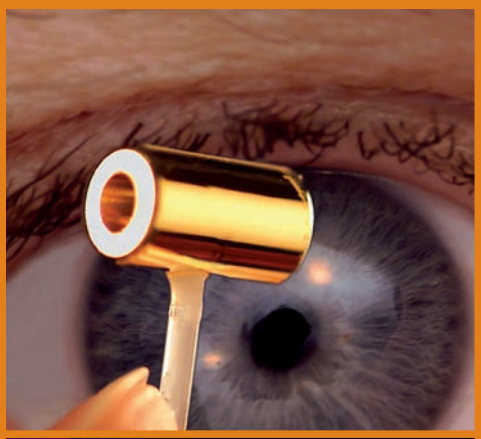
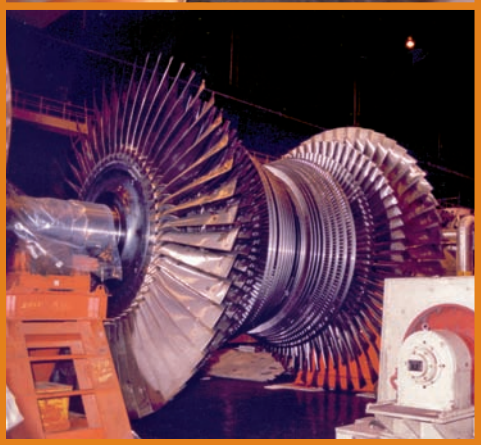




chapter 5

RESEARCH AND DEVELOPMENT

In order to guarantee technical competence in the performance of its functions, in areas of great complexity and in continuous technological evolution such as nuclear safety and radiological protection, the CSN maintains a programme of research and development activities. This is not done directly but through the promotion and financing of projects relating to its areas of interest, in accordance with a schedule that is set out in four-year plans.

The Research and Development Plan currently in force covers the period 2008-2011 and determines the actions of the CSN in this field, establishing the conditions

under which the projects to be undertaken throughout this period are to be carried out. Nevertheless, in order to increase the efficiency of the management of the projects and promote the technical feedback of their results, the activities of the Plan are subject to constant review. In addition, work is on-going on the implementation of a technology surveillance system accommodating its functions, relations and research budgets to a new model. Three computer tools have been developed during 2009 to improve the analysis, selection and assessment of projects, which will be implemented in 2010 and integrated in an Internet-based CSN R&D information and dissemination system.

The current plan is structured around the following eight programmes or courses of action:

- Nuclear fuel and reactor physics.
- Modelling and safety assessment methodologies.
- Materials behaviour.
- New technologies.
- Radioactive waste.
- Control of exposure to radiation.
- Dosimetry and radiobiology.
- Emergency management and incident analysis.

The main objectives of the Plan are as follows:

- Achievement of a high level of nuclear safety and radiological protection at the facilities to the end of their lifetime.
- Improvement of the surveillance and control of the exposure of the workers and public to ionising radiations.

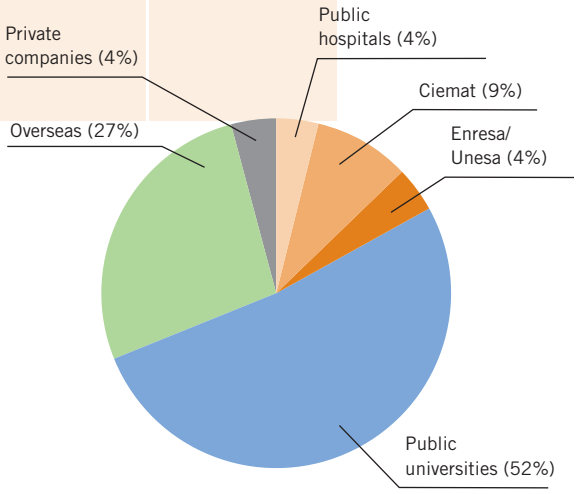
Bilateral meeting with the Swiss regulatory authority for the exchange of information on R&D projects.

- Progress in the development of radiological protection in medical exposures.
- Availability with sufficient notice of the know-how and technical resources required to appreciate the risks associated with future installations.

The invitation to bid for subsidies for new projects issued during the year attracted 36 public and private entities, which submitted a total 56 projects amounting to more than nine million Euros. Of these, 13, presented by 10 entities, were approved, to the sum of two million Euros.

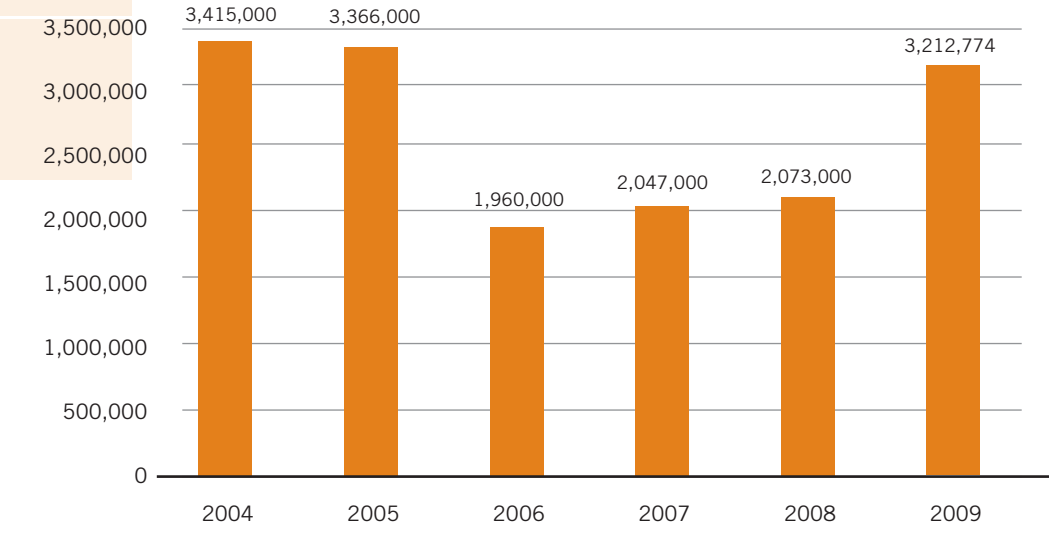
A total 68 R&D projects have been managed during 2009. Of these 15 were completed during the year, 35 got under way and another 18, initiated during previous years, remained active throughout and beyond the period. The budget for R&D activities in 2009 amounted to 3.2 million Euros.

Distribution of R&D costs among the different collaborating entities



The Council has started to make arrangements for participation, in consortium with other Spanish scientific institutions, in the so-called Melodi (Multidisciplinary European Low Dose Initiative) platform within the European Union's 7th Framework Programme, the objective of which is to revise the status of international understanding of the effects of low radiation doses on human health.

Evolution of the CSN R&D&i budget from 2004 to 2009

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CSN

chapter 6

INSTITUTIONAL RELATIONS

The activities that the Nuclear Safety Council carries out in performing the functions assigned to it require close relations with the public institutions at state, autonomous community and local level. These relations consist mainly of collaboration in shared or converging areas of competence, technical consultancy on matters for which the Council is responsible and the control of its own activities. Another basic branch of the CSN's institutional relations is permanent contact with professional and trade union organisations and with non-governmental associations and organisations relating to its areas of activity.

According to the Law by which it was created, the CSN is an independent body accountable to Parliament. In this respect the Council submits an annual report to Parliament describing in detail the activities performed during the previous year. In addition, the president of the Council appears every year before the Congressional Commission for Industry, Tourism and Trade in order to present this report in person to Parliament. Furthermore, as part of its relations with the legislative body, the CSN responds to the requirements of the different political groups, as set out through parliamentary questions and resolutions issued in relation to the annual report. During 2009, the CSN replied to 31 resolutions relating to the report for 2007 and to 10 parliamentary questions. The annual report is also presented to the parliaments of autonomous communities having nuclear facilities in their territory and to sectors relating to the activities of the CSN.

The CSN also maintains habitual relationships with different institutions of the General State Administration. During 2009 there was the habitual collaboration with the Ministry of Industry, Tourism and Trade, by way of the mandatory reports for the operation of the facilities. Particularly significant among those issues that had the greatest impact in the media in 2009 was the report on the request for renewal of the operating permit of the Santa María de Garoña nuclear power plant, which the CSN submitted to the Ministry of Industry, Tourism and Trade on June 5th.

Within the framework of the specific agreement signed in 2007, a Technical Commission was set up with the Ministry of the Interior and the work to be performed in relation to the State assessment of the design basis threat and the drawing up of communication protocols was set out. In addition, collaboration continued with

Meeting between the Minister of Industry, Tourism and Trade, Miguel Sebastián, and the President of the CSN, Carmen Martínez Ten.

the National Civil Defence and Emergencies School for the development of training programmes.

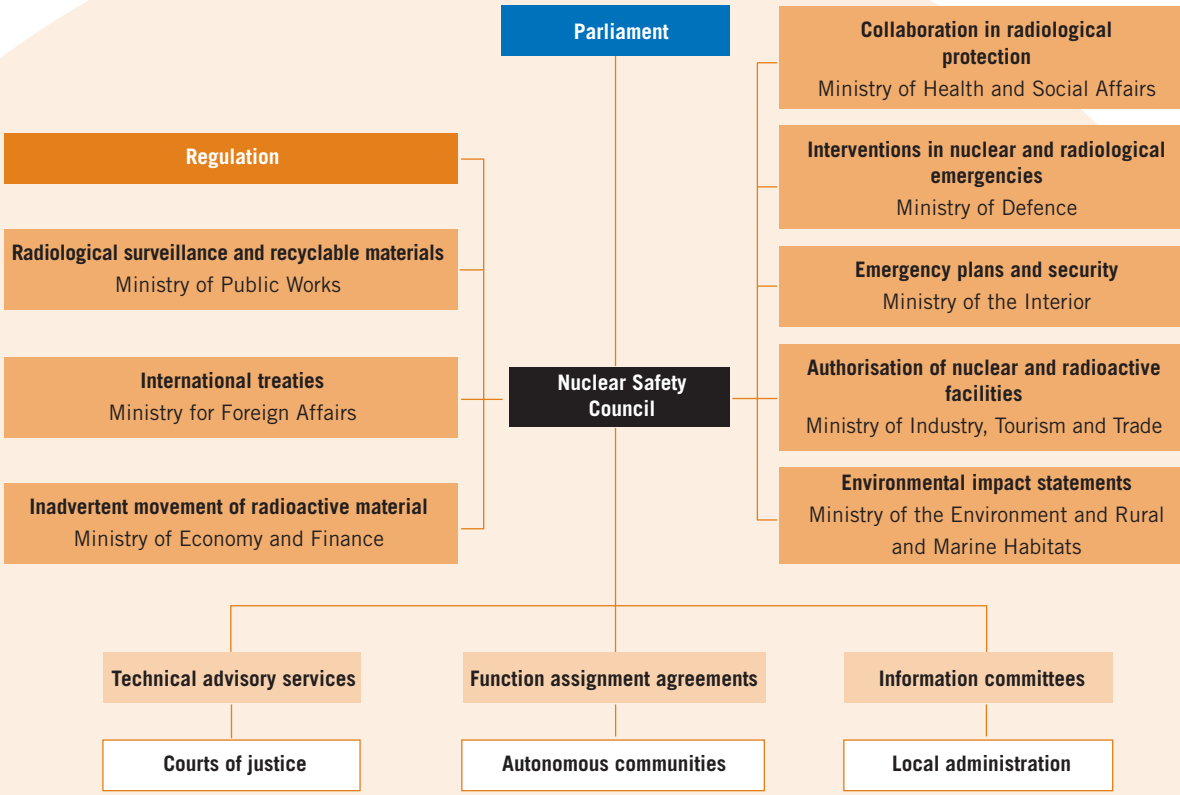
Work continued on the Epidemiological Study with the Ministry of Science and Innovation, through the Carlos III Institute of Health. Finally, there were institutional contacts with the Ministry of the Environment and Rural and Marine Habitats and with the Ministry of Health and Social Affairs in order to move forward on future collaboration framework agreements.

The CSN has worked throughout the year with the Ministry of Defence to prepare an agreement for collaboration in the exchange of information and the performance of functions and competences in nuclear or radiological emergency situations. This agreement was approved by the Plenary Session of the CSN on September 30th 2009.

As regards the autonomous communities, throughout 2009 the CSN has continued its contacts with the communities of Asturias, the Balearic Islands, Catalonia, Galicia, the Canary Islands, Murcia, Navarra, the Basque Country and Valencia, through the function assignment agreements. Contacts were maintained also with the autonomous community of Extremadura, with a view to setting up a future collaboration.

As regards the local administrations, the CSN collaborates regularly with those municipalities in which there are nuclear power plants, participating actively in the information committees that they hold

Institutional relations of the CSN



The CSN counsellor Antoni Gurguí during a visit to the Santa María de Garoña nuclear power plant.

annually. Likewise, there are fluid communications with the Association of Municipalities in Areas housing Nuclear Power Plants (AMAC), with which an exceptional meeting was held during the year to report on the process of renewing the operating permit for the Santa María de Garoña nuclear power plant.

In addition to the public institutions, the CSN has agreements with companies and organisations within its regulatory area of activity. During 2009 an agreement was signed with the Spanish Electricity Industry Association (Unesa), establishing mechanisms for the coordination and planning of research projects in the field of nuclear safety and radiological protection. The agreements with Ciemat, the continuity of the chairs through which the CSN collaborates with the Polytechnic University of Catalonia and the Polytechnic University of Madrid and the specific agreements with various universities in relation to environmental radiological surveillance also belong to this area. Additionally, fluid relations have been maintained with the trade unions and with the State Coordinator of Nuclear Power Plant Workers' Committees, and the CSN has responded to requests for information from non-governmental organisations involved in environmental protection and sustainable development.

Finally, within the framework of institutional relations, the aid programme for the performance of training, information and dissemination initiatives relating to the activities of the CSN has continued, with a budget of 75,000 Euros, as has the programme of institutional visits that began in 2008 with a view to promoting institutional collaboration and strengthening the transparency of the organisation. Ten institutions visited the CSN during 2009, among them journalism associations, associations involved in radiological protection, the Council of Chambers of Commerce, the Council for Economic and Social Affairs and the Panel of the Congressional Commission for Industry in charge of relations with the CSN.

CSN

chapter 7

INTERNATIONAL RELATIONS

The CSN is particularly active on the international scene as Spain's responsible for questions relating to nuclear safety and radiological protection, both as consultant to the Government and representative of the State for bilateral and multilateral relations.

These activities may be classified in three groups: those relating to compliance with the international conventions and treaties to which Spain subscribes, those that come about through bilateral or multilateral agreements with the regulatory authorities of other countries and inter-governmental institutions, and those of a technical nature, consisting of participation in

specialist forums or international R&D programmes, aimed at increasing know-how in the CSN's realms of competence.

Particularly significant among the activities performed in 2009 has been the CSN's participation in the development of Directive 2009/71/Euratom, establishing a community framework for the member States regarding the safety of nuclear installations. The CSN participated actively in the gestation of this Directive by way of the meetings of the European Nuclear Regulators Group (ENSREG) and Western

CSN participation in international organisations

European Union

- EU Council advisory group.
- Working groups advising the European Commission.
- Specific working groups for concrete issues.
- Subject-specific networks.

International Atomic Energy Agency (IAEA)

- Steering groups.
- Working groups.
- Expert missions.
- Technical committees.
- Advisory committees.
- Scholars and scientific visits.

Nuclear Energy Agency (NEA)

- Committees.
- Working groups.
- Research projects.
- Seminars and conferences.

CSN

Bilateral agreements

- General agreements.
- Specific agreements.

International conventions

- Convention on Nuclear Safety.
- Joint Convention on Safety in the Management of Spent Fuel and Safety in the Management of Radioactive Waste.
- Convention on the Physical Protection of Nuclear Materials.
- Agreement for the Protection of the Marine Environment of the North-eastern Atlantic.
- Convention on the Prompt Notification of Nuclear Accidents.
- Convention on Mutual Assistance in the event of a Nuclear or Radiological Emergency.

Other forums

- INRA, WENRA, HERCA.
- Iberoamerican Forum of Radiological and Nuclear Regulators (FORO).

The president of the CSN during the General Conference of the IAEA, held in Vienna.

European Nuclear Regulators Association (WENRA). The Directive obliges the member States to guarantee the effective independence of the regulatory authorities, which are required to have access to the human and financial assets necessary for them to comply with the obligations established by the directive.

In February the CSN organised the International conference on the control and management of inadvertent radioactive material in scrap metal in Tarragona, within the framework of its habitual collaboration with the International Atomic Energy Agency (IAEA). Particularly significant among the conclusions of the conference was the unanimous recommendation that an international convention be set up in relation to this issue. The Protocol on the Radiological Surveillance of Metallic Materials in force in Spain was considered to be an internationally applicable model.

During the third review meeting of the parties to the *Joint Convention on safety in the management of spent fuel and safety in the management of radioactive waste,* held at the IAEA headquarters in Vienna, Spain presented its national report describing the national infrastructure, strategy and policies in the areas covered by the Convention, with special emphasis on the regulatory system supporting the safety of these practices. The Spanish representation is made up of the Ministry of Industry, Tourism and Trade, the CSN and Enresa.

Throughout 2009 the CSN continued to actively participate in other organisations, such as the Nuclear Energy Agency (NEA/OECD) and international associations of nuclear safety and radiological protection regulators, especially the International Nuclear Regulators Association (INRA), the Western European Nuclear Regulators Association (WENRA), the European Association of Radiological Control Authorities (HERCA)

International Conference on Control and Management of Inadvertent Radioactive Material in Scrap Metal.

and the Iberoamerican Forum of Radiological and Nuclear Regulatory Organisations (FORO).

Within the framework of bilateral relations, the CSN and the NRC, the US regulatory authority, continued to collaborate closely and exchange technical information and personnel. In October the CSN hosted the bilateral meeting with the NRC, during which various technical areas of mutual interest were identified and commitments and channels for collaboration between the two organisations were established. The programme of joint activities shared with the French regulatory authority, ASN, continued, this including the exchange of personnel and cross-inspections. In November the CSN hosted a bilateral meeting with the ASN, during which the renewal of the framework collaboration agreement was signed, along with a specific agreement on the planning and preparedness for and management of nuclear or radiological emergencies.

An increasingly important aspect of the CSN's international relations is the assistance given to other countries with less experience in the field of regulation. In this context the Council has participated in a programme of technical assistance to certain North African countries, within the framework of the IAEA, to help them in relation to the control of radioactive sources. Likewise, the CSN has participated in the definition and performance of other regulatory assistance programmes in the EU.

In parallel to the above, the CSN has continued to collaborate with the countries of Latin America, for reasons of historic interest and as a result of the continuous requests for assistance from the Spanish-speaking countries. This assistance is developed both bilaterally and within the framework of FORO.

CSN

chapter 8

PUBLIC INFORMATION AND COMMUNICATION

The mission assigned to the Nuclear Safety Council is to guarantee the radiological protection of persons and the environment, but along with the technical competence required to carry out this mission, it is essential that the population clearly perceive this protection. For this purpose, the Council has developed the areas of Public Information and Communication, through which an insight into the work of the regulatory body is provided and the participation of the public and dialogue with society are promoted. In view of the technical complexity of much of the available information, a special effort is made to facilitate the dissemination of this information in a comprehensible and attractive manner, and

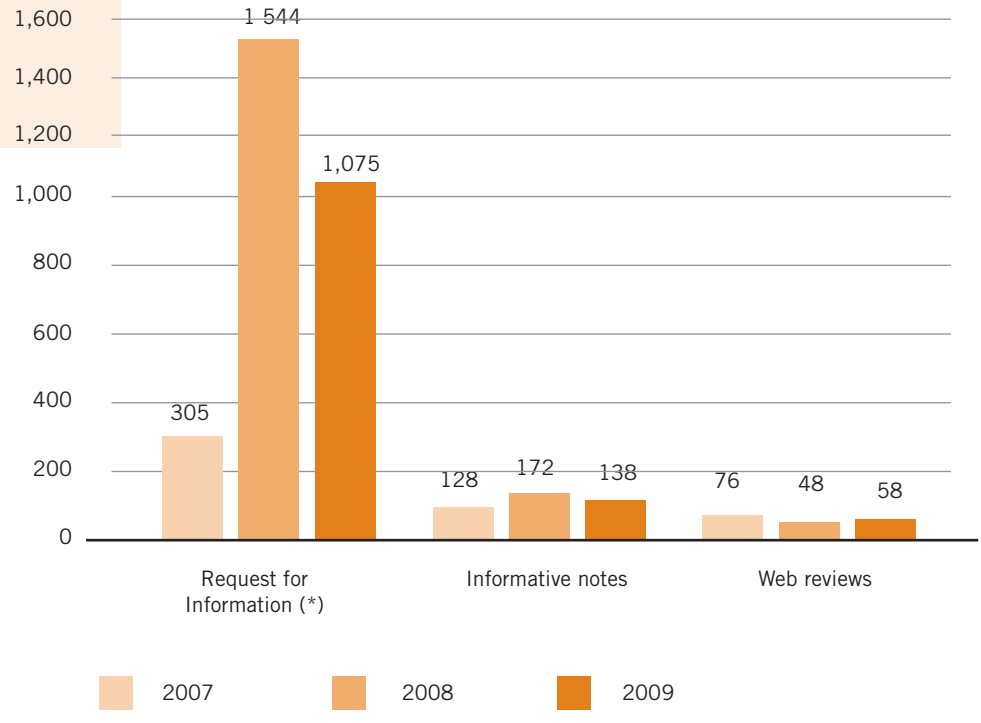
advantage is taken of the possibilities offered by new information and communication technologies.

Law 33/2007, which modified the Law by which the Nuclear Safety Council was created, contemplates the existence of an Advisory Committee for Public Information and Participation, made up of representatives of various social organisations and institutions, the mission of which will be to make recommendations to improve transparency and propose measures to stimulate access to information and the participation of the public in areas for which the CSN is responsible. This committee will be set up on approval of the new CSN Estatute, which will determine its composition and regulate its operation.

Throughout 2009 the CSN has published 138 press releases and has responded to 1,075 requests for information from journalists. The media published or issued 5,101 news items mentioning the CSN: 77.6% in the written press, 15.1% on the radio and7.3% on television. The issue that aroused the greatest interest in the media was the renewal of the operating permit for the Santa María de Garoña nuclear power plant.

The new CSN website (www.csn.es) went on line in early 2009. The new design facilitates access to information since it provides better accessibility, simplifies navigation and improves the mechanisms for interaction with the visitors. The new design also allows the information to be provided in other languages. The English version went on

Comparative graph of activities in the Area of Communication (2007-2009)



* Corresponds to requests received and dealt with.

Visit by schoolchildren from the Almaraz area to the CSN Information Centre.

line in December and work is on-going to incorporate all the official languages of the Spanish State. Throughout the year the Council website received 265,077 visits (201,783 during the previous year).

In 2009 the *CSN virtual office* was implemented as part of the communications with the public via Internet. This allows all the services rendered by the organisation to be provided on line, including formalities, requests, licences, accreditations, subsidies, complaints, notifications and records. The only requirement to access this service is the availability of digital certificates and an electronic signature.

As regards publications, 34 were issued during the year (42,082 copies) and a further 22 (50,500 copies) were re-published, these being both technical and informative in nature. In total 69,057 copies were distributed. In addition to the periodic publications and legal, technical or informative documents, mention should be made of the quarterly journal *Alfa*, the CSN magazine covering nuclear safety and radiological protection.

During the year the CSN Information Centre, which has been in operation at the CSN's headquarters since 1998 to support the organisation's informative activities, received a total 7,354 visitors, most from educational centres and institutions. Several of the modules at the centre were renewed during the year and the CSN collaborated with the Community of Madrid in the annual open day, welcoming anybody interested in learning of the CSN's activities.

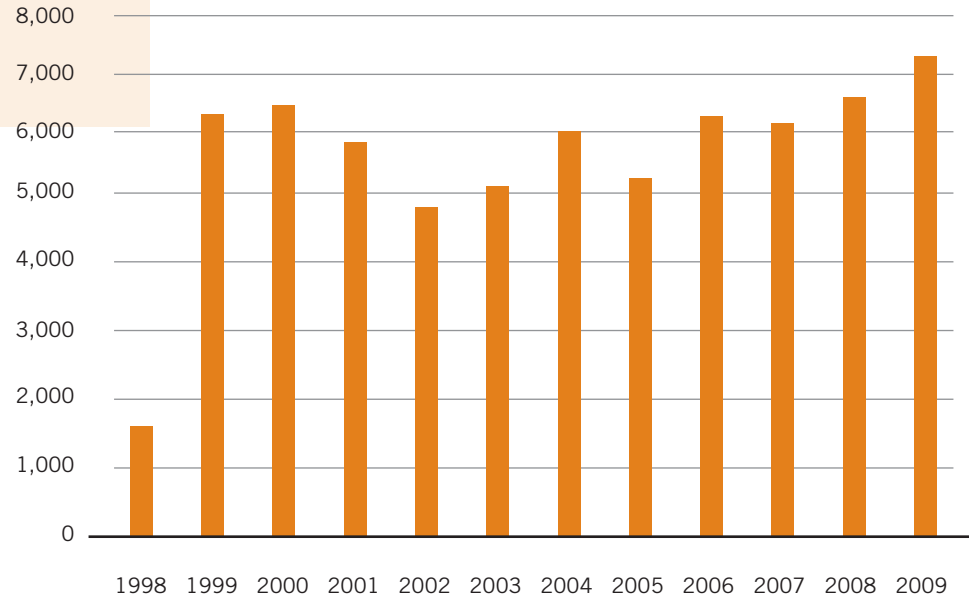
The CSN was present at the *Congress of the Spanish Medical Physics and Radiological Protection Societies, the 9th Castilla-La Mancha Science Week and the Nuclear Energy Day,* with a stand exhibiting technical and informative publications.

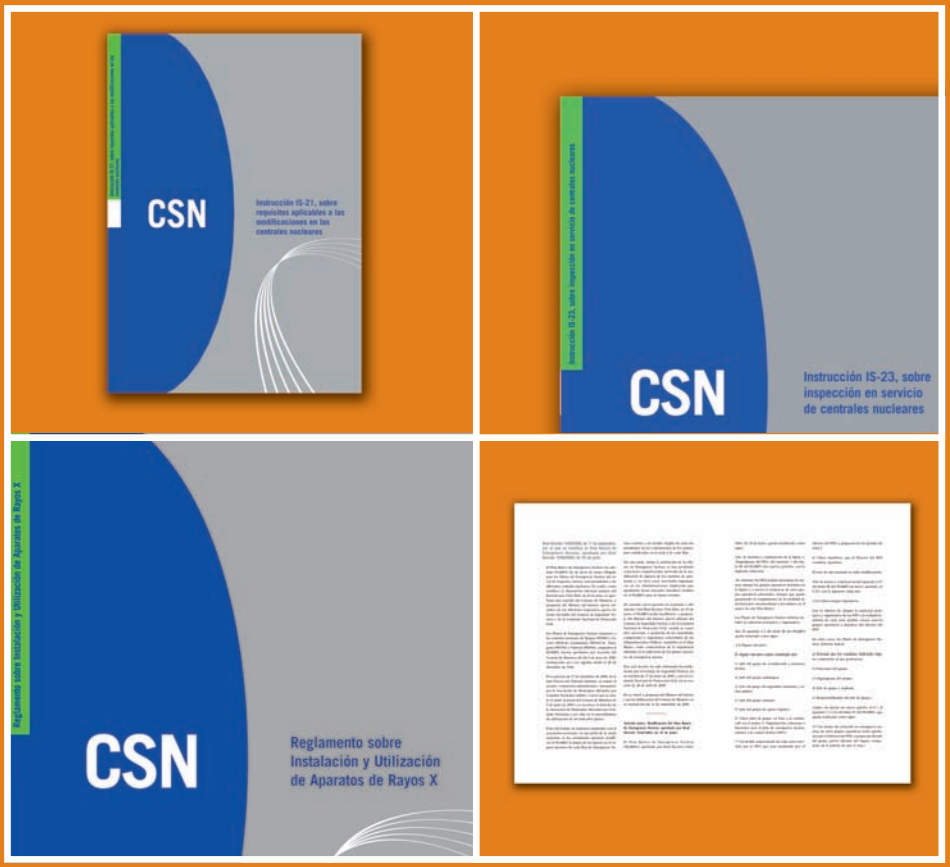
In 2009, four conferences were held in the CSN, with the following titles and speakers: The 7th Euratom Framework Programme, by Octavi Quintana, director general of Euratom; *Professional and social development in change management, the case of Microsoft,* by Elena Dinesen, director of Human

Resources of Microsoft España; *The Foundations of Nuclear Regulation in the 21st Century: Safety, Security and Global Communication,* by Dale E. Klein, ex-president of the US Nuclear Regulatory Commission, and *Nuclear Safety in Europe* by Andris Piebalgs, then European Commissioner for Energy. Between 100 and 150 people participated in these conferences on average.

Conference held at the CSN headquarters and delivered by Elena Dinesen.

Evolution of the number of visitors to the Information Centre since its creation in 1998





chapter 9
REGULATIONS

In order to be able to efficiently undertake its regulatory function, the CSN has the capacity to issue technical standards. This allows the licensees of the facilities to have available the information required for them to adequately meet their obligations in relation to nuclear safety and radiological protection.

The law confers legal status on the CSN Instructions, which are binding once they have been published in the Official State Gazette. The process of approval includes a mandatory period of information and participation open to the stakeholders and to the general public. In addition, they must be communicated to the Congress prior to approval by the Council. During 2009, the

Council has approved safety instructions IS-20, IS-21, IS-22 and IS-23.

The Council also issues other technical and orientative standards, such as safety guides, circulars, technical documents on certain events or circumstances and complementary technical instructions, which are provisions affecting specific licensees. In 2009 safety guide GS-07.10, corresponding to the Radioactive facilities Site Emergency Plan, was approved. Furthermore, pursuant to a suggestion made by the IRRS mission, the initial version of a glossary containing all the definitions used in the standards drawn up or reported on by the CSN has been produced.

The regulatory framework of the CSN was affected in 2009 by the approval and official publication of various provisions. Particularly significant were Law 11/2009, of October 26th, regulating quoted limited companies investing on the real estate market, Royal Decree 243/2009, of February 27th, regulating the surveillance and control of transfers of radioactive wastes and spent fuel between member States or coming from or destined for countries outside the Community, Royal Decree 1085/2009, of July 3rd, on the installation and use of X-ray apparatus for the purposes of medical diagnosis, and Royal Decree 1428/2009, of September 11th, modifying the Basic Nuclear Emergency Plan.

The CSN has also participated in the preparation of several draft Royal Decrees, among them the one modifying title VII (natural radiation sources) of the

Regulation on the Protection of Health against Ionising Radiations and the one on the Physical Protection of Nuclear Materials, and the Basic Directive on the Planning of Civil Defence against Radiological Risk.

Throughout 2009 the Council has participated in several international projects on standards of different rank, among them Council Directive 2009/71/Euratom, of June 25th 2009, establishing a community framework for the security of nuclear facilities. It has also contributed to the drawing up of the action plan

Nuclear Safety Council Instructions

Instruction IS-01, regulating the radiological work licence.

Instruction IS-02, on refuelling activities at nuclear power plants.

Instruction IS-03, on experts on protection against ionising radiations.

Instruction IS-04, on documentation at nuclear power plants in the dismantling phase.

Instruction IS-05, on exemption values for nuclides.

Instruction IS-06, on programmes for the training of outside workers.

Instruction IS-07, on fields of application of radioactive facility personnel licences.

Instruction IS-08, on criteria applied by the CSN to require advice on radiological protection.

Instruction IS-09, on physical protection criteria.

Instruction IS-10, on criteria for the notification of events at nuclear power plants.

Instruction IS-11, on nuclear power plant operating personnel licences.

Instruction IS-12, on requirements for the qualification and training of non-licensed, staff and off-site nuclear power plant personnel.

Instruction IS-13, on radiological criteria for the release of nuclear facility sites.

Instruction IS-14, on Resident CSN Inspectors at nuclear power plants.

Instruction IS-15, on monitoring of the efficiency of maintenance at nuclear power plants.

Instruction IS-16, on radioactive facility document and register retention periods.

Instruction IS-17, on the homologation of training courses and accreditations for the personnel directing or operating medical diagnosis X-ray equipment.

Instruction IS-18, on criteria for the notification of radiological events and incidents at radioactive facilities.

Instruction IS-19, on the requirements of the nuclear facility management system.

Instruction IS-20, establishing safety requirements applicable to spent fuel storage casks.

Instruction IS-21, on requirements applicable to modifications at nuclear power plants.

Instruction IS-22, on safety requirements for ageing management and the long-term operation of nuclear power plants.

Instruction IS-23, on in-service inspection at nuclear power plants.

deriving from the standards harmonisation work of the WENRA group for improvement of the regulatory process and in the drafting of a basic standard of legal rank for the management of low and intermediate level radioactive wastes. Likewise, it has collaborated with the IAEA in making the guidelines of this international organisation available in Spanish to the Spanish-speaking community.


CONGRESO DE LOS DIPUTADOS

CSN

chapter 10

CSN MANAGEMENT AND RESOURCES

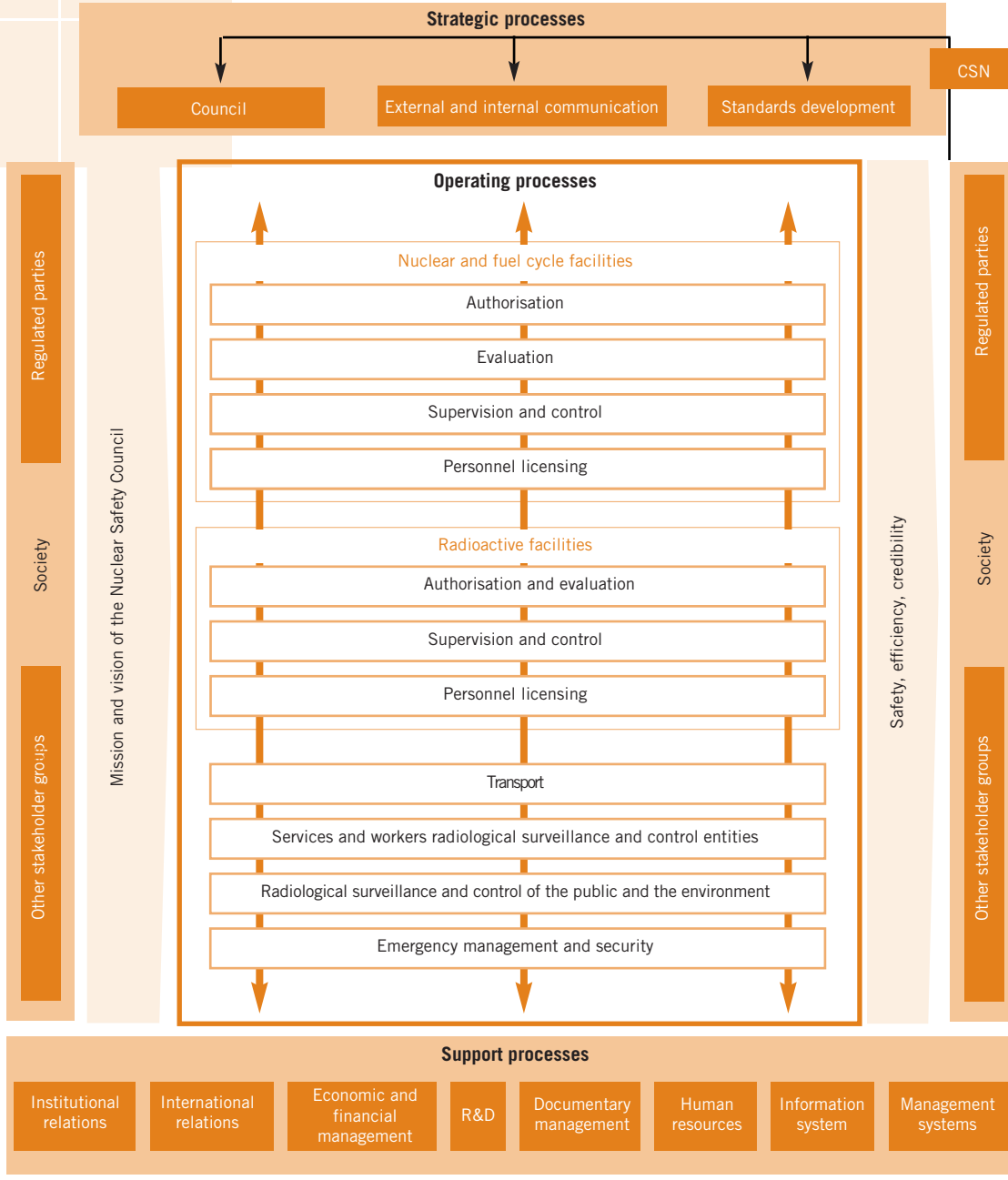
MANAGEMENT SYSTEM AND STRATEGIES

The Nuclear Safety Council has a management and quality system that is set out in the Strategic Plan establishing medium-term objectives. The current plan covers the period 2005-2010. This five-year plan is used as a basis for the drafting of the Annual Work Plan, which contains the operating objectives and the most significant activities to be performed during the year. The tracking of this plan is accomplished by means of a control panel including indicators of the evolution of the most significant activities planned and

comparing this evolution to the objectives previously mapped out. During 2009 the planning and management activities required 26,200 hours of work, this amounting to around 6% of the total activity for the year.

The CSN has implemented a process-oriented management system based on the requirements of the IAEA and the ISO standards. This system is documented in the Management System Manual, the Organisation and Operating Manual and the corresponding

Map of CSN processes



José Manuel Conde during the handing over of prizes to the personnel with 25 years of service in the Administration.

procedures. All these documents are available to all the personnel on the CSN Intranet, with exceptions justified for reasons of security or confidentiality.

A distinction is made between the following types of processes:

- Strategic processes, including the operation of the Council, information and communication and standards development.
- Operating processes, including authorisation, evaluation, the supervision and control of facilities and activities, personnel licensing, the radiological protection of the workers, the public and the environment, emergency management and security.
- Support processes, including institutional and international relations, research and development, economic management and management of human resources (including training), information systems, documentation and the administration of the management system.

The management system is subject to on-going improvement through the assessment of compliance with the plans and objectives, internal audits and external assessments by national and international organisations.

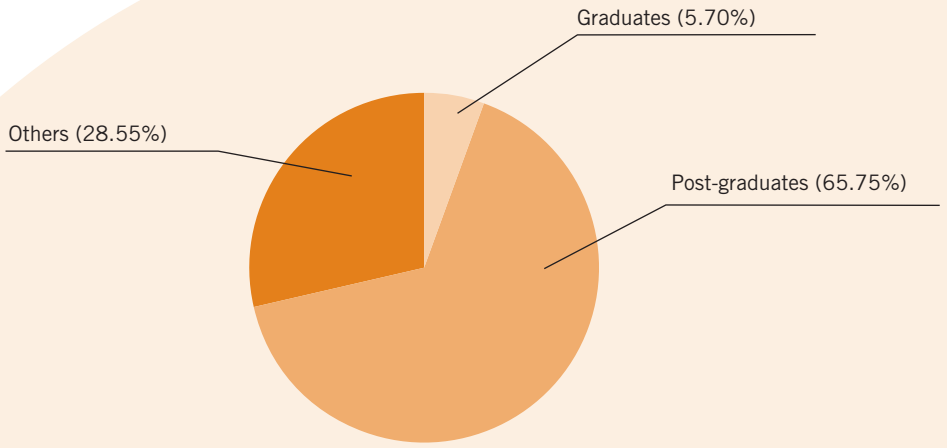
In 2009 the recommendations and suggestions made by the IRRS mission carried out in 2008, which analysed the operation of the Spanish regulatory system, were incorporated into the CSN Action Plan. During the year, the CSN requested that the IAEA perform an IRRS follow-up mission. This will be carried out during the early part of 2011 with a view to checking the degree of compliance in implementation of the recommendations and suggestions made in 2008.

HUMAN RESOURCES

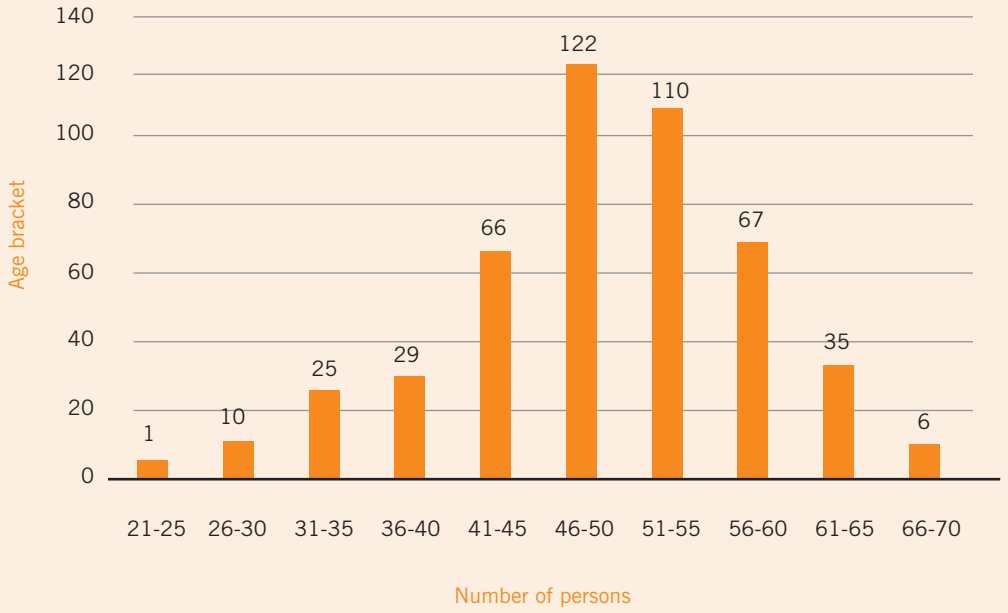
As of December 31st 2009, the Nuclear Safety Council workforce amounted to 473 people, five (1%) more than on closure of the previous year. The average age of the personnel is 49 years, and women amount to 51% of the total. From the point of view of their educational background, 65.75% are post-graduates, 5.70% are graduates and 28.55% have other qualifications.

In 2009, four posts were offered for the Nuclear Safety and Radiological Protection Corps, along with one for non public officer personnel outside the agreement, all by the general free access system. During the year the eleven candidates who passed the selective tests corresponding to the 2008 call were appointed as public officers belonging to the aforementioned bracket. Likewise, the candidate who passed the process of selection for the non public

Qualifications of CSN personnel



Distribution of CSN personnel by age



Evolution of CSN personnel training

Year	Workforce	Persons attending training	Average participation	Number of courses	Number of training hours	% hours training/working day	Total Cost
2007	453	947	2.09	75	39,282	5.28	476,584.14
2008	452	1,181	2.60	88	46,331	6.00	682,448.06
2009	478	1,201	2.50	128	37,510	4.95	701,923.27
Totals	1,383	3,329	7.19	291	123,123	16.23	1,860,955.47
Averages 2007- 2009	461	1,109	2.40	97	41,041	5.41	620,318.46

officer job post was approved. Additionally, three job posts were covered using the system of free appointment and 13 using the system of competition, and the model for the recognition of professional experience was applied for the fourth time, affecting 22 CSN civil servants.

With a view to improving the capacities of its workers, the CSN has an on-going personnel Training Plan, which in 2009 involved 375 people (79.28% of the total workforce). The total number of hours dedicated to training amounted to 37,510, equivalent to 5% of the working day, with a total cost of 701,939.27 Euros.

In 2009 the competence-based management model was implemented in the area of training, in keeping with the needs of the CSN, with a view to improving the preparation of the workers for their post within the organisation. In addition, the professional development assessment has been performed in relation to all the CSN personnel.

ECONOMIC RESOURCES

The CSN has its own economic assets and means for the performance of its functions, these coming from the fees and public prices for the services rendered and from the assignments established and applied to the General State Budget.

The main source of financing is the income obtained from the fees applied in compensation for the services rendered by the CSN in compliance with its functions as guarantor of nuclear safety and radiological protection.

The financing obtained from public prices corresponds to the performance by the Nuclear Safety Council, on request, of reports, tests or studies on new designs, methodologies, simulation models or verification protocols relating to nuclear safety or radiological protection. This source of financing (fees and public prices) amounted to 87.98% of the total budget in 2009.

Evolution of CSN budget management during the five-year period 2005-2009 (Euros)

Year	Definitive budget	Execution of income budget	Execution of expenses budget
2005	43,598,350	36,918,417.09	40,216,486.46
2006	41,885,258	41,599,341.02	37,547,887.99
2007	43,823,950	43,531,433.76	39,898,931.89
2008	45,243,730	45,688,314.26	41,210,158.31
2009	51,197,630	48,023,550.13	44,544,081.00

The budget of the CSN is integrated into the General State Budget and is approved by Parliament. The accounting of the Organisation is carried out in compliance with the General Public Accounting Plan, the economic section being broken down into budget items (income and expenses) and financial items (accounts and balance sheet).

The definitive budget for the 2009 financial year amounted to 51.2 million Euros, without modification with respect to the initial budget, this implying a 13.1% increase over the previous year.

Of the total income, the net recognised assets amounted to 48 million Euros, with a degree of execution of 93.8% over the definitive budget and a variation of 5.1% with respect to the previous year. As regards expenses, the net recognised liabilities amounted to 44.5 million Euros, with a degree of execution of 87% over the definitive budget and a variation of 8.1% with respect to 2008.

The accounts show a positive result for the year of 2.1 million Euros. As regards income, the fees for services rendered represented 87.8% of the total. The remaining 12.2% corresponds to operating transfers and subsidies, financial income and other management revenues. 54.5% of the expenses corresponded to personnel costs, 32.4% to external services, 4.8% to transfers and subsidies, 4% to provisions for amortisation and the rest to expenses relating to transfers to provisions, taxes, financial costs and extraordinary losses and expenses.

As of closure of the 2009 financial year, the balance sheet reflects a situation of equilibrium between assets and liabilities, to a total 44.7 million Euros.

2016

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