THE PRINCIPLES AND STAKEHOLDERS IN NUCLEAR SAFETY REGULATION, RADIATION PROTECTION AND PROTECTION OF THE ENVIRONMENT

CHAPTER 2

Nuclear safety and radiation protection comprise the measures that allow nuclear activities to be carried out under normal conditions, that prevent accidents – whether involuntary or the result of malicious intent – and that limit the effects of radiation for workers, for the general public and for the environment. Their common aim is to protect people and property against hazards, nuisances or inconveniences of whatever nature arising from nuclear activities and from exposure to natural radiation.

Nuclear safety and radiation protection obey principles and approaches that have been put in place progressively and continually enriched by a process of feedback. The basic guiding principles are advocated internationally by the International Atomic Energy Agency (IAEA). In France, they are included in the Constitution or enacted in law, and now also figure in a European directive.

Control of nuclear safety and radiation protection in France is the task of the ASN, an independent administrative authority, working with other bodies of State, within Parliament, the Government and Prefectures, and relying on technical expertise provided, notably, by the French Institute for Radiation Protection and Nuclear Safety (IRSN).

Acting on behalf of the State, ASN regulates nuclear safety and radiation protection in order to protect workers, patients, the public and the environment from risks arising from nuclear activities. It also contributes towards informing citizens.

1 THE PRINCIPLES OF NUCLEAR SAFETY, RADIATION PROTECTION AND PROTECTION OF THE ENVIRONMENT

1|1 Fundamental principles

Nuclear activities must be carried out in compliance with the principles that underlie the legislative texts or the international standards.

The IAEA's Safety Standards (see chapter 7, point 2|2) establish 10 fundamental safety principles which are applied internationally under the Convention on Nuclear Safety (CNS) (see chapter 7, point 4|1). This convention establishes an international framework for regulation of nuclear safety and radiation protection. At the European Community level they are applied via a directive establishing a Community framework for the safety of nuclear installations. In France, it is via the Environment Charter, appended to the Constitution, and via laws and regulations.

1|1|1 Principle of licensee prime responsibility

This principle, defined in Article 9 of the CNS, stipulates that the prime responsibility for activities entailing risk rests with those undertaking or carrying out such activities.

It applies directly to all nuclear activities.

The fundamental safety principles

The IAEA establishes the following 10 principles in its publication "SF-1":

1. The prime responsibility for safety must rest with the person or organisation responsible for facilities and activities that give rise to radiation risks.

2. An effective legal and governmental framework for safety, including an independent regulatory body, must be established and sustained.

3. Effective leadership and management for safety must be established and sustained in organisations concerned with, and facilities and activities that give rise to, radiation risks.

4. Facilities and activities that give rise to radiation risks must yield an overall benefit.

5. Protection must be optimised to provide the highest level of safety that can reasonably be achieved.

6. Measures for controlling radiation risks must ensure that no individual bears an unacceptable risk of harm.

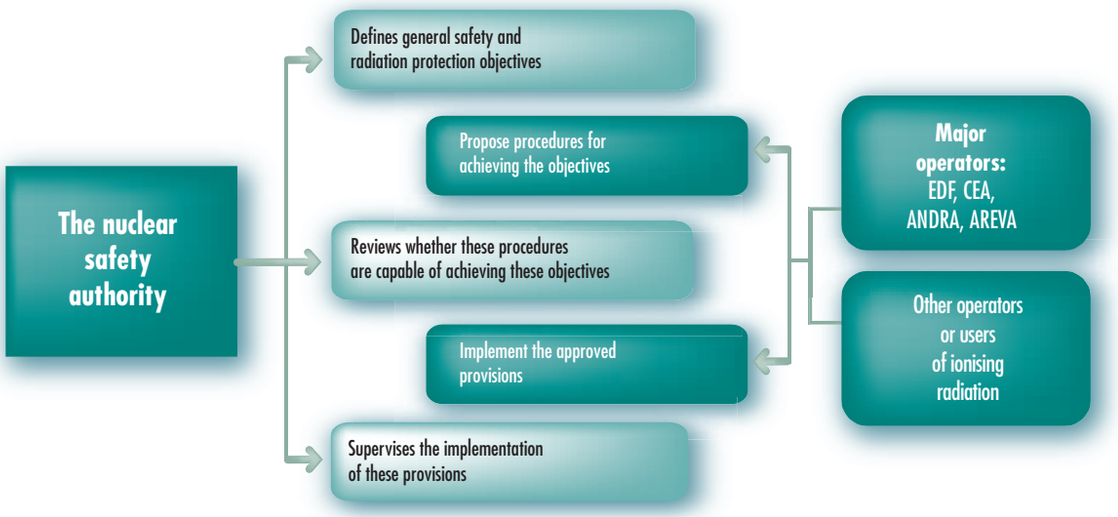
7. People and the environment, present and future, must be protected against radiation risks.

8. All practical efforts must be made to prevent and mitigate nuclear or radiation accidents.

9. Arrangements must be made for emergency preparedness and response for nuclear or radiation incidents.

10. Protective actions to reduce existing or unregulated radiation risks must be justified and optimised.

UNDERSTAND



Responsibility of licensees and responsability of ASN

1|1|2 "Polluterpays" principle

The "polluterpays" principle, spelling out the operator's prime responsibility, ensures that the costs of measures to prevent or reduce pollution are borne by those responsible for environmental damage. This principle is defined in Article 4 of the Environment Charter in these terms: "*An individual must contribute to reparation of the environmental damage he or she has caused*".

A notable application of this principle in France is the "BNI tax", a tax levied on basic nuclear installations (BNIs), on producers of radioactive wastes (additional tax on radioactive waste) and on installations classified on environmental protection grounds (ICPE) (a part of the general tax on polluting activities - TGAP).

UNDERSTAND

The BNI tax and additional taxes on waste

The ASN Chairman, pursuant to the Nuclear Security and Transparency (TSN) Act, is responsible for assessing and ordering payment of the BNI tax, introduced in 2000 under Article 43 of the Finance Act (Act 99-1172 of 30 December 1999). The revenue from this tax amounted to € 584.6 million in 2010. The proceeds go to the central state budget.

In addition, the "Wastes" Act created three further taxes levied on nuclear reactors and spent nuclear fuel reprocessing plants. Supplementing the BNI tax, these are known as the "research" "support" and "technological dissemination" taxes. They are allocated to the financing of economic growth and of ANDRA's research into underground disposal and interim storage. The revenue from these new taxes amounted to € 183.5 million in 2010.

Table 1: breakdown of licensee contributions

Licensee	Amount for 2010 (millions of euros)	
	BNI tax	Additional taxes
EDF	547.3	138.8
AREVA	15.1	8.9
CEA	6.9	31.2
ANDRA	6.5	
OTHERS	8.8	4.6
TOTAL	**584.6**	**183.5**

1|1|3 Precautionary principle

The precautionary principle, defined in Article 5 of the Environment Charter, states that: *"the absence of certainty, in the light of current scientific and technical knowledge, must not delay the adoption of effective and proportionate measures to prevent a risk of serious and irreversible damage to the environment".*

Application of this principle results, for example, in assuming a linear dose-effect relationship without threshold where the biological effects of exposure to low doses of ionising radiation are concerned. This point is clarified in chapter 1 of this report.

1|1|4 Public participation principle

This principle allows public participation in the making of decisions by public authorities. It is defined in Article 7 of the Environment Charter as follows: *"Within the conditions and limits defined by law, all individuals are entitled to access environmental information in the possession of the public authorities and to take part in the making of public decisions affecting the environment".*

In the nuclear field, this is the principle which, for example, underlies the mandatory national public debates that are held before the construction of a nuclear power plant and the public inquiries held, in particular, during review of cases of creation or decommissioning of nuclear installations. Chapter 6 of this report describes application of the right to access to information over the full range of ASN's activities.

1|1|5 The principle of justification

The principle of justification, given expression in Article L. 1333-1 of the Public Health Code (CSP), states that: *"A nuclear activity or a medical procedure can only be undertaken or carried out if its health, social, economic or scientific benefits so justify, given the risks inherent to the human exposure to ionising radiation that it is likely to entail".*

Depending on the type of activity, justification decisions are made at various levels of authority: they are the responsibility of Parliament for questions of general interest such as the decision to use nuclear power, of the Government for the creation or decommissioning of a BNI, and of ASN where transport operations or sources of radiation are concerned.

Assessment of the expected benefit of a nuclear activity and the corresponding health drawbacks may lead to prohibition of an activity for which the benefit would not seem to outweigh the health risk. For existing activities, justification may be reassessed if the state of know-how and technology so warrants.

1|1|6 The principle of optimisation

The principle of optimisation, formulated in Article L. 1333-1 of the CSP, states that: *"Human exposure to ionising radiation as a result of a nuclear activity or medical procedure must be kept as low as reasonably achievable, given current technology, economic and social factors and, where applicable, the intended medical purpose."*

This principle, referred to as the ALARA principle, leads for example: to a reduction in discharge licenses of the quantities of radionuclides present in the radioactive effluents from nuclear installations; to requiring surveillance of exposure at the workstation in order to reduce it to the strict minimum; and to ensuring that medical exposure as a result of diagnostic procedures remains close to the predetermined reference levels.

1|1|7 The principle of limitation

The principle of limitation, expressed in Article L. 1333-1 of the CSP, states that: *"Exposure of an individual to ionising radiation as a result of a nuclear activity may not increase the sum of the doses received beyond the limits set by regulations, except when the individual is exposed for medical or biomedical research purposes."*

The exposure of the general population or of workers as a result of nuclear activities is subject to strict limits. These limits include significant safety margins to prevent the appearance of deterministic effects. They are also far below the doses at which probabilistic effects begin to be observed.

Exceeding of these limits leads to an abnormal situation and one which may give rise to administrative or legal sanction.

In the case of medical exposure, no strict dose limit is set provided that this voluntary exposure is justified by the expected health benefits to the person exposed.

1|1|8 The principle of prevention

The principle of prevention, or principle of preventive and remedial action as a priority at source, as set out in Article 3 of the Environment Charter, advocates the implementation of rules and actions to anticipate environmental harm while ensuring use of *"best available technologies not entailing excessive cost".*

In the nuclear field, this principle underlies the concept of defence in depth, presented below.

1|2 Aspects of safety culture

The development of safety is not a linear process. The underlying principles and approaches presented below have been introduced gradually, sometimes on the basis of thinking and studies that have followed accidents. There is therefore a need for a will to progress and to implement what can be done to reduce risks whilst not assuming that an accident will never happen.

1|2|1 Safety management

Safety management means fostering a safety culture within risk management organisations.

Safety culture is defined by the International Nuclear Safety Advisory Group (INSAG), working closely with the General Director of the IAEA, as: *"that assembly of characteristics and attitudes in organisations and individuals which establishes that, as an*

overriding priority, nuclear plant safety issues receive the attention warranted by their significance".

Safety culture therefore determines the ways in which an organisation and individuals perform their duties and accept responsibility, with safety in mind. As a cultural attitude, it is one of the basic essentials for sustaining and improving safety. It commits organisations and individuals to paying particular and appropriate attention to safety. At the individual level it is given expression by a rigorous and cautious approach and a questioning attitude making it possible to both obey rules and take initiative. In operational terms, the concept underpins decisions and actions relating to activities.

1|2|2 The "Defence In Depth" concept

The main means of preventing accidents or of mitigating their consequences is the "Defence in Depth" concept. This is implemented in terms of successive and independent levels of protection: should one level of protection, or barrier, fail, the next comes into play. In this way, a single technical, human or organisational failure cannot cause an accident.

An important element for the independence of the levels of defence is the use of different technologies (diversified systems).

The design of nuclear installations is based on a defence in depth approach. Five levels of protection are defined for nuclear reactors:

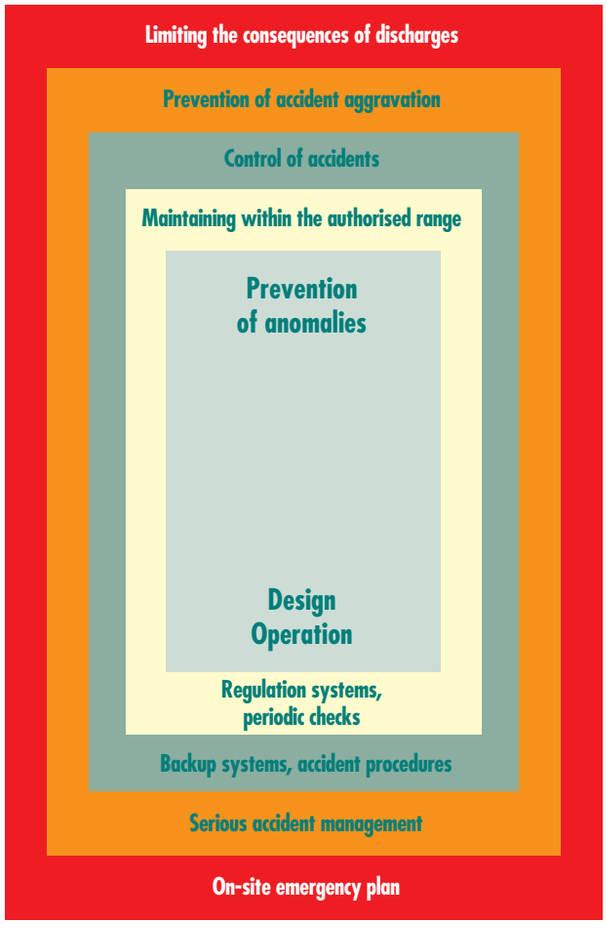
Level 1: Prevention of abnormal operation and failures
This is achieved by opting for robust and conservative installation design that includes safety margins and allows installations to withstand their own failures as well as the consequences of externally initiated events. It implies conducting the fullest possible study of normal operating conditions to determine the most severe loads to which the system will be subjected. Initial sizing for design of the installation can then be undertaken, including the safety margins.

Level 2: Keeping the installation within authorised limits
Regulation and governing systems must be designed to keep the installation within an operating range that is far from limits. For example, if the temperature in a system increases, a cooling system starts up before the temperature reaches the authorised limit. Attention to the condition and correct operation of systems forms part of this level of defence.

Level 3: Control of accidents without core meltdown
The aim here is to postulate that certain accidents, chosen for their "envelope" characteristics (the most penalising in a given family) can happen, and to size systems to withstand those conditions.

Such accidents are generally studied with conservative hypotheses, that is to say the parameters are assumed to be the least favourable. In addition, the single failure criterion is applied (i.e. in addition to the accident itself, failure of any single component is also assumed). This leads to systems that come into play in case of accident (emergency shutdown, safety injection, etc.) having at least two redundant channels.

Level 4: Control of accidents with core meltdown
These accidents have been considered since the Three Mile Island accident (1979) and are now taken into account in the design of new reactors such as the EPR. The aim is to preclude such accidents or to design systems that can withstand them.



The five levels in "Defence in Depth"

Level 5: Mitigation of the radiological consequences of significant releases
This requires implementation of the measures of an emergency plan, including measures to protect the population: shelter, taking of iodine tablets to saturate the thyroid and avoid fixation of radioactive iodine carried by the radioactive cloud, evacuation, restrictions on consumption of water and of agricultural produce, etc.

1|2|3 Interposing of barriers

To limit releases, several superposed barriers are placed between the radioactive substances and the environment. Barriers must be designed to have a high degree of reliability and must be monitored to detect any weaknesses or failures. There are three such barriers for pressurised water reactors: the fuel cladding, the boundary of the reactor coolant system, and the containment system (see chapter 12).

1|2|4 Deterministic and probabilistic approaches

Postulating the occurrence of a limited number of design accidents constitutes the deterministic approach. This approach is simple to apply and allows design of installations with good safety margins, making use of the so-called "envelope" cases. It does not, however, lead to a very realistic view of the most probable scenarios and does not rank risks satisfactorily, since it focuses attention on accidents studied with very conservative assumptions.

The deterministic approach therefore needs to be completed with an approach that takes better account of accident scenarios in terms of their probability: the probabilistic approach, used in "probabilistic safety assessments" (PSA).

A PSA consists in taking each "initiator" event leading to activation of a safety system (defence in depth level 3) and building of an event tree, defined by failures (or successes) of reactor control procedure actions. The probability of each sequence is then calculated based on statistics on the reliability of systems and on the rate of success of actions (which includes data on "human reliability"). Similar sequences of events that correspond to the same "initiator" are grouped into families, making it possible to determine the contribution of each family to the probability of reactor core meltdown.

PSAs cover a wider range of accidents than the deterministic studies and make it possible to verify and possibly complete deterministic design. They are, however, limited by the uncertainties in reliability data and the approximations used in modelling installations. They are therefore to be used as a complement to deterministic studies and not as a substitute for them.

2 THE STAKEHOLDERS

The organisation of nuclear safety and radiation protection regulation in France complies with the CNS, of which Article 7 requires that *"Each Contracting Party shall establish and maintain a legislative and regulatory framework to govern the safety of nuclear installations"* and of which Article 8 requires that each Party *"shall establish or designate a regulatory body entrusted with the implementation of the legislative and regulatory framework referred to in Article 7 and provided with adequate authority, competence and financial and human resources to fulfil its assigned responsibilities"*. These requirements are confirmed by the European Directive of 25 June 2009 on nuclear safety.

In France, the regulation of nuclear safety and radiation protection is primarily the responsibility of three parties: Parliament, the Government and ASN. Their respective areas of competence are established by the TSN Act.

2|1 Parliament

Parliament's principal role in the field of nuclear safety and radiation protection is to make laws. Two major acts were passed in 2006: The TSN Act, of 13 June 2006, on transparency and security in the nuclear field; and the Programme Act, of 28 June 2006, on sustainable management of radioactive materials and waste.

In the same way as the other independent administrative authorities, and in compliance with the TSN Act, ASN reports regularly on its activities to Parliament. ASN in particular presents Parliament with its annual report on the state of nuclear safety and radiation protection in France.

2|1|1 The French Office for the Evaluation of Scientific and Technical Choices

The mission of the French Office for the Evaluation of Scientific and Technical Choices (OPECST) is to inform Parliament as to the consequences of scientific or technological choices, in order to ensure that parliamentary decisions are fully informed. To this end, the OPECST gathers information, implements study programmes and conducts evaluations.

In the field of nuclear safety, the OPECST has, since its creation, focused on the administrative organisation of nuclear safety and radiation protection, the measures taken by licensees in this field, the structures adopted in other countries and the adequacy of the resources allocated to ASN to meet its responsibilities. It is, notably, before the OPECST that ASN reports on its activities.

2|2 The Government

The Government exercises regulatory powers. It is therefore in charge of laying down the general regulations concerning nuclear safety and radiation protection. The TSN Act also tasks it with making major decisions concerning BNIs, for which it relies on proposals or opinions from ASN. The Government can also call on consultative bodies such as the High Committee for Transparency and Information on Nuclear Safety (HCTISN).

The Government is responsible for civil protection in the event of an emergency.

2|2|1 Ministers responsible for nuclear safety and radiation protection

The ministers currently responsible for nuclear safety are: the Minister for Ecology, Sustainable Development, Transport and Housing (MEDDTL) and the Minister for the Economy, Finance and Industry (MEFI). On the advice of and, as applicable, following a proposal by ASN, they define the general regulations applicable to BNIs and take major individual decisions concerning:

– the design, construction, operation, final shutdown and decommissioning of BNIs;

– the final shutdown, maintenance and surveillance of radioactive waste disposal facilities;

– the manufacturing and operation of pressure equipment (PE) specifically designed for these installations.

On the advice of ASN, if an installation presents serious risks, the above-mentioned ministers may pronounce suspension of its operation.

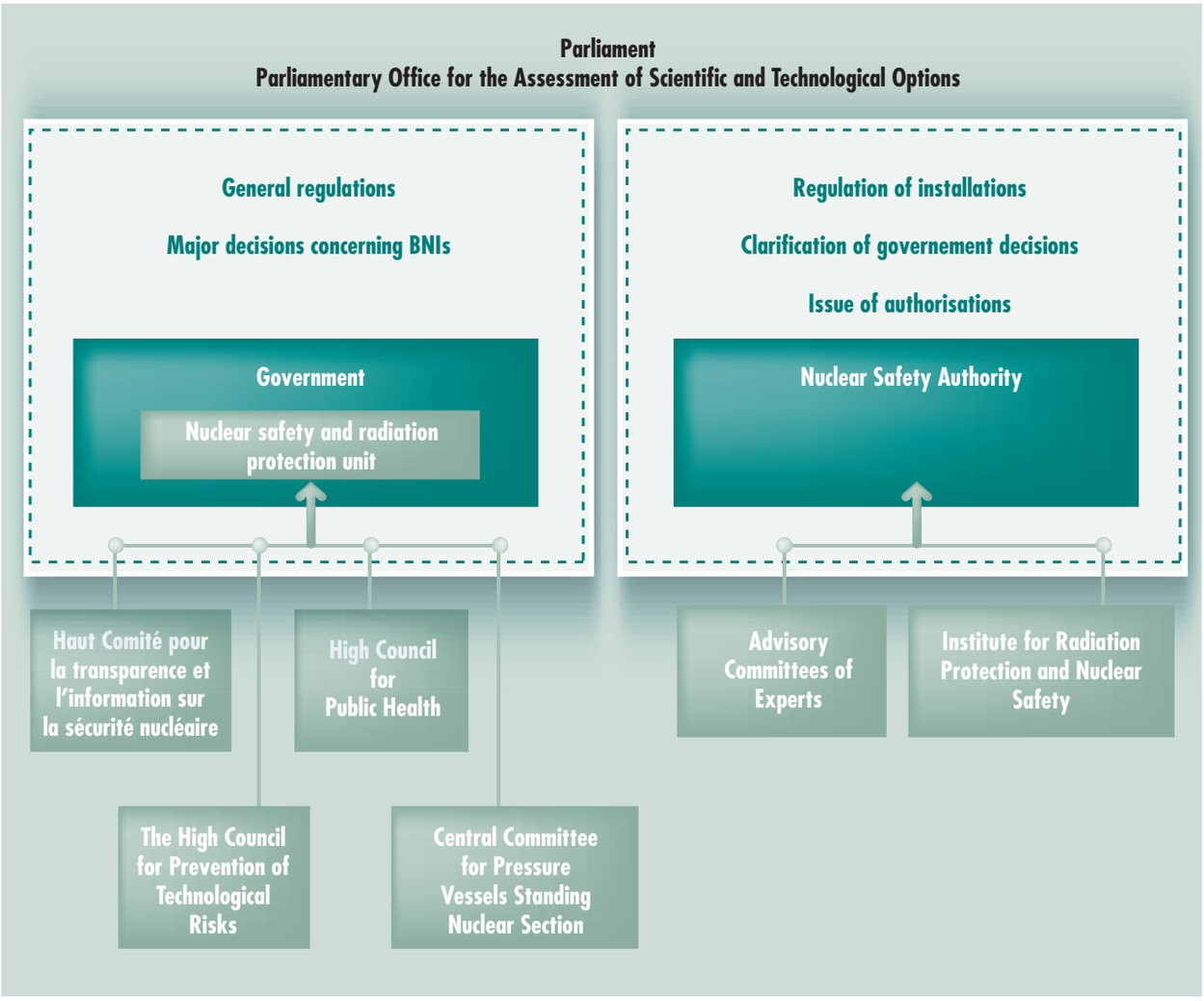
The Minister for Health (Labour, Employment and Health) also has responsibility for radiation protection and determines the general regulations concerning radiation protection, as applicable, on the basis of proposals from ASN.

The regulations covering the radiation protection of workers are the responsibility of the Minister for Labour (Minister for Labour, Employment and Health).

Finally, the ministers responsible for nuclear safety and for radiation protection approve the ASN internal regulations by means of a Government order. These ministers also approve ASN technical regulatory decisions and certain individual decisions (setting BNI discharge limits, delicensing a BNI, etc.) affecting their own particular field.

The Nuclear Safety and Radiation Protection Mission

Under the authority of the ministers responsible for nuclear safety and for radiation protection and within the General Directorate for Risk Prevention at the MEDDTL, the Nuclear Safety and Radiation Protection Mission (MSNR), jointly with ASN, is tasked with proposing Government policy on nuclear



Regulation of nuclear safety and radiation protection in France

safety and radiation protection, except for defence-related activities and installations and the radiation protection of workers against ionising radiation.

2|2|2 The *Préfets*

The *préfets*[1] are the State's representatives in the *départements*[2]. They are the guarantors of public order and play a particularly important role in the event of an emergency, in that they are responsible for measures to protect the population.

The *préfet* intervenes during the various procedures presented in chapter 3. He in particular issues his opinion on authorisation applications and, at the request of ASN, calls on the Departmental Council for the Environment and Health and Technological Risks, to obtain its opinion on water intake, effluent discharges and other detrimental effects of BNIs.

The ASN Executive Committee at 1st January 2011 (from left to night):
J. Mochel, A. Delmestre, J-L. Lachaume, J-C. Niel and H. Legrand (O. Gupta missing here)

The ASN Board of Directors at 1st January 2011 (from left to night):
J-L. Godet, A. Delmestre, L. Chanial, M. Baudoin, G. Wack, L. Kueny, S. Crombez, L. Evrard and J. Collet (G. Gillet missing here)

2|3 The Nuclear Safety Authority

The TSN Act created an independent administrative nuclear safety authority (the ASN) to regulate nuclear safety and radiation protection. ASN's remit comprises regulation, authorisation and control as well as providing support to the public authorities for management of emergencies and contributing to informing the general public.

ASN is made up of a commission and of different departments. From a technical point of view, ASN relies on the expertise with which it is provided, notably by the IRSN and by Advisory Committees of Experts (GPEs).

2|3|1 Role and duties

Regulations

ASN is consulted on draft decrees and ministerial orders of a regulatory nature and dealing with nuclear safety.

It can take regulatory decisions of a technical nature to complete the implementing procedures for decrees and orders adopted in the nuclear safety or radiation protection field, except for those relating to occupational medicine. These decisions are subject to approval by the ministers responsible for nuclear safety and for radiation protection.

Approval orders and approved decisions are published in the Official Gazette (*Journal officiel*).

Authorisation

ASN reviews BNI authorisation or decommissioning applications, issues opinions and makes proposals to the Government concerning the decrees to be issued in these fields. It defines the requirements applicable to these installations with regard to the prevention of risks, pollution and detrimental effects. It authorises commissioning of these installations and pronounces delicensing following completion of decommissioning.

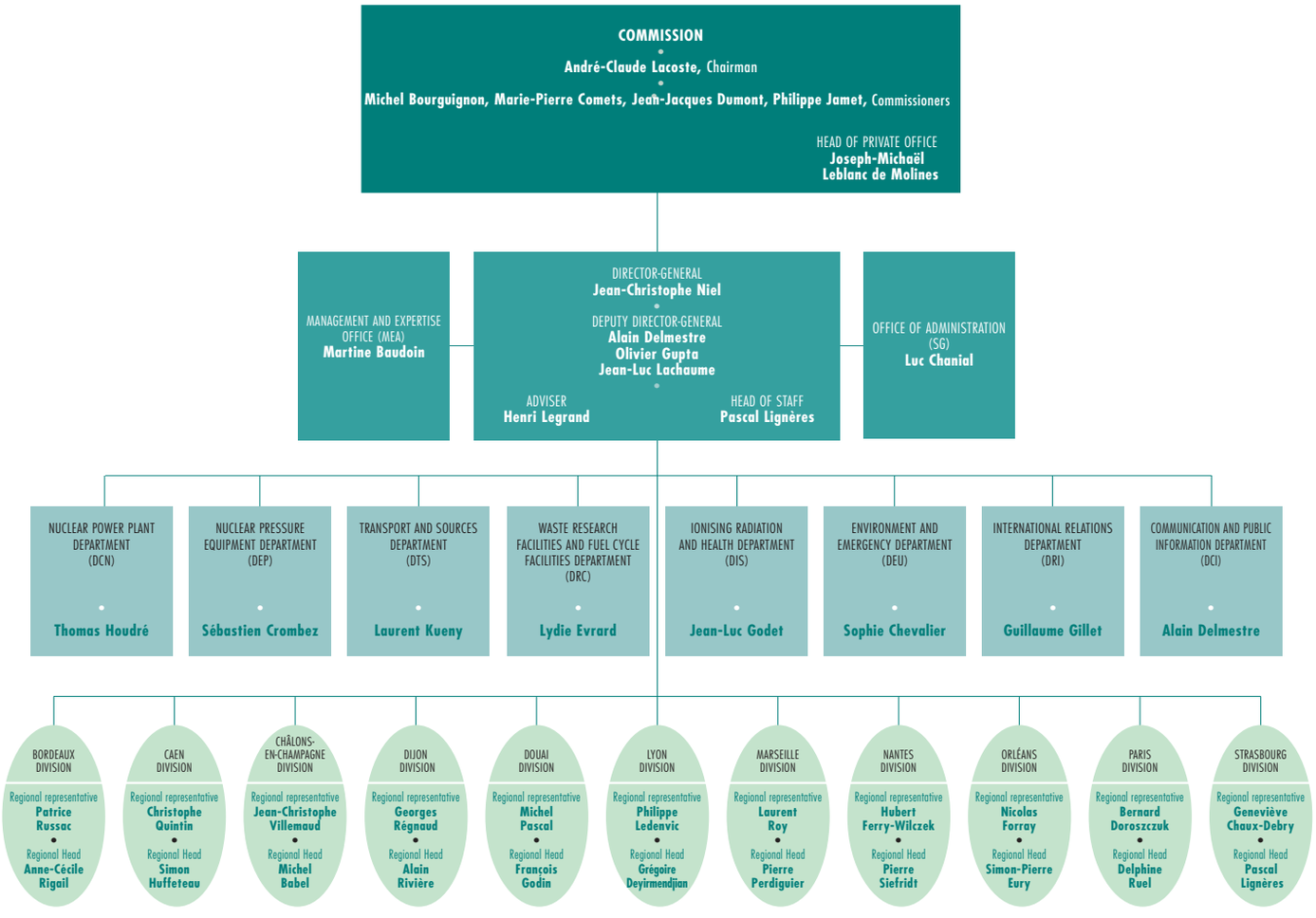
Some of these ASN decisions require approval by the ministers responsible for nuclear safety.

ASN also issues the licenses provided for in the CSP concerning small-scale nuclear activities and issues authorisations or approvals for radioactive material transport operations.

ASN's decisions and opinions are published in its *Official Bulletin* on its website *www.asn.fr.*

The ASN regional heads at 1st January 2011 (from left to night):
M. Babel, P. Perdiguier, M. Lelièvre, A. Rivière, P. Deyirmendjian, A.-C. Rigail, F. Godin and P. Siefridt (T. Houdré, P. Lignères and S-P. Eury missing here)

1. In a *département*, representative of the State appointed by the President.
2. Administrative region headed by a *préfet*.



ASN organisation chart applicable as at 1er March 2011

Controls

ASN checks compliance with the general rules and specific requirements concerning nuclear safety and radiation protection applicable to BNIs; the design, construction and use of pressure equipment designed specifically for these installations; and the transport of radioactive substances and the activities mentioned in Article L. 1333-1 of the CSP and the persons mentioned in Article L. 1333-10 of the CSP.

ASN organises a permanent radiation protection watch throughout the national territory.

From among its own staff, it appoints nuclear safety inspectors, radiation protection inspectors and officers in charge of verifying compliance with pressure equipment requirements. It issues the required approvals to the organisations participating in the verifications and nuclear safety or radiation protection watch.

Chapter 4 of this report presents ASN actions in this field.

Support in emergency situations

ASN is involved in managing radiological emergency situations. It provides technical assistance to the competent authorities for drafting of emergency response plans, taking account of the risks resulting from nuclear activities.

When such an emergency situation occurs, it assists the Government for all matters within its competence. It transmits its recommendations on the medical and health or civil security measures to be taken, it informs the public about the situation, about any releases into the environment and their consequences.

Chapter 5 of this report presents ASN actions in this field.

Investigation in the event of an accident

In the event of an incident or accident involving a nuclear activity, ASN may conduct a technical inquiry along similar lines to those applicable to "accident and investigation" boards called on to deal with transport accidents.

TO BE NOTED IN 2010

The ASN Scientific Committee

In 2010, ASN set up a Scientific Committee to examine the proposed orientations for new and ongoing research work in the areas of nuclear safety and radiation protection.

The Scientific Committee comprises six members appointed on account of their expertise in the research sector.

The Scientific Committee held two meetings in 2010, under the chairmanship of Ashok Thadani.

It examined the following subjects in particular:
- *organisational and human factors;*
- *radiobiology;*
- *aging of the metal components of PWRs;*
- *serious accidents;*
- *non-destructive testing;*
- *external dosimetry.*

The ASN Scientific Committee at its launch meeting on 8 July 2010

Information

ASN participates in informing the public in its areas of competence. Chapter 6 of this report presents ASN actions in this field.

Research monitoring

The quality of ASN's decisions relies primarily on robust technical expertise which, in turn, requires the best and most up-to-date knowledge.

Consequently, ASN attaches great importance to the availability of the knowledge required to underpin the expertise it may need to call upon in the medium and long term. It is therefore important for the authority to identify the areas of research leading to acquisition of such knowledge, working with those involved in nuclear safety and radiation protection research and with its counterpart organisations in other countries.

2|3|2 Organisation

ASN is run by a Commission and comprises central services and regional divisions.

ASN Commission

The Commission comprises five Commissioners holding the post on a full-time basis. These are permanent appointments with a 6-year non-renewable mandate.

The Commission defines ASN strategy. More specifically, it is involved in developing overall policy, i.e. the doctrines and principles that underpin ASN's main missions of regulation, inspection, transparency, management of emergency situations and international relations. The Commission also develops the Multi-Year Strategic Plan (PSP).

Pursuant to the TSN Act, the Commission submits ASN's opinions to the Government and takes the main ASN decisions. It decides on the public position to be adopted on the main issues within ASN's sphere of competence. The Commission adopts the ASN internal regulations which lay down its organisation and working rules, as well as its ethical guidelines. The Commission's decisions and opinions are published in ASN's *Official Bulletin*.

In 2010, the ASN Commission met 59 times. It issued 24 opinions and took 33 decisions.

ASN Central Services

The ASN central services comprise an Executive Committee, an Office of Administration, a Management and Expertise Office and eight departments covering specific themes.

Under the chairmanship of the ASN Director-General, the Executive Committee organises and manages the departments on a day-to-day basis. It ensures that the orientations determined by the Commission are followed and that ASN's actions are effective. It oversees and coordinates the various entities.

The role of the departments is the national management of the activities for which they are responsible. They take part in drafting the general regulations and coordinate the actions of the ASN divisions.

– The Nuclear Power Plant Department (DCN) is responsible for regulating and inspecting the safety of the NPPs in operation, as well as the safety of future power generating reactor projects. The DCN contributes to development of regulation/inspection strategies and ASN actions in different areas such as the safety consequences of deregulation of EDF's electricity monopoly, installation ageing, the extension of reactor service life, evaluation of NPP safety performance, and harmonisation of nuclear safety in Europe.

– The DCN comprises five branches: "Reassessment – Equipment – Degradation", "Operation", "Core – Studies", "Radiation Protection – Environment and safety Inspections" and "Regulations and New Installations" .

– The Nuclear Pressure Equipment Department (DEP) is responsible for monitoring of safety of pressure equipment installed in BNIs. It is primarily tasked with developing regulations on the design, manufacturing and operation of nuclear pressure equipment and for monitoring application of these regulations by manufacturers and their sub-contractors, and by nuclear operators. The DEP also considers applications from approved organisations wishing to carry out regulation inspections on nuclear pressure equipment.

– The DEP comprises three branches: "Design – "Manufacturing", "In-service Monitoring" and "Relations with Divisions – Operations".

– The Transport and Radiation Sources Department (DTS) is responsible for monitoring of activities relating to sources of ionising radiation in the non-medical sectors and for transport of radioactive materials. It contributes to the development of technical regulations, to monitoring of their application and to management of authorisation procedures (installations and equipment emitting ionising radiation in non-medical sectors, suppliers of medical and non-medical sources, accreditation of packaging and of relevant organisations). The DTS is also responsible for controlling the security of sources.

– The DTS comprises three branches: "Transport Management ", "Radiation Protection and Sources ", and "Source Security ".

– The Waste, Research Facilities and Fuel Cycle Department (DRC) is responsible for the monitoring of facilities concerned by the nuclear fuel cycle, research facilities, nuclear installations being decommissioned, contaminated sites and radioactive waste. It takes part in inspecting the Bure underground research laboratory and the research installations covered by international conventions, such as CERN or ITER.

– The DRC comprises three Branches: "Waste and Contaminated Sites", "Fuel Cycle" and "Research and Decommissioning Facilities".

– The Ionising Radiation and Health Department (DIS) is responsible for regulating/inspecting the use of ionising radiation in the health sector. Working with IRSN and relevant health agencies, the prime responsibility of the DIS is to organise a scientific, health and medical watch on the effects of ionising radiation on health, to contribute to drafting of regulations in the fields of radiation protection and medical uses of ionising radiation, and to contribute to management of the health aspects of radiological incidents and accidents.

– The DIS comprises two branches: "Exposure in the Medical Sector" and "Exposure of Workers and the Public ".

– The Environment and Emergency Department (DEU) is responsible for monitoring of environmental protection and management of emergency situations. It establishes the policy on nationwide radiological monitoring and on provision of information to the public as well as contributing to ensuring that discharges from BNIs are as low as is reasonably achievable, in particular by establishing general regulations. The DEU also contributes to defining the organisational framework of public authorities and nuclear operators where management of emergency situations is concerned and establishes ASN regulatory policy.

– The DEU comprises three branches: "Safety and Preparedness for Emergencies", "Environment and Prevention of Nuisances" and "Development of Regulations".

– The International Relations Department (DRI) is in charge of ASN's bilateral and multilateral international relations. It develops exchanges with ASN's counterpart organisations in other countries to inform about and explain French practices and to provide the countries concerned with useful information on the safety of French nuclear installations close to their borders. The DRI coordinates representation of ASN within international bodies such as the European Union, the IAEA or the Nuclear Energy Agency (NEA).

– The Communication and Public Information Department (DCI) develops and implements ASN policy on communication and information regarding nuclear safety and radiation protection. It coordinates communication and information actions targeting different audiences, with a focus on handling requests for documentation, making ASN's position known and explaining regulations.

– The DCI comprises two Branches: "Public Information" and "Publications and Multimedia".

– The Office of Administration (SG) helps to provide ASN with the adequate, appropriate and long-term resources the Authority requires to operate. It is responsible for human resources management, including with regard to skills, and for the development of labour relations, as well as being in charge of ASN's real estate and moveable and fixed assets policy. Also responsible for budget issues, the SG oversees optimisation of the use of financial resources. Finally, it provides legal expertise for ASN as a whole.

– The SG comprises four branches: "Human Resources", "Budget – Finance", "Logistics – Real Estate", and "Legal Affairs".

– The Management and Expertise Office (MEA) provides ASN with IT resources and a high level of expertise. It ensures that ASN actions are coherent, by means of a quality approach and by overseeing coordination of the workforce.

– The MEA comprises two branches: "IT and Telephony" and "Expertise and Research".

ASN divisions

The ASN regional divisions carry out their activities under the authority of regional representatives. It is the directors of the Regional Departments for Environment, Development and Housing (DREAL) for the areas in which the divisions are located who, acting as delegates, assume this responsibility. The directors are seconded to ASN in respect of these duties and are not under the authority of the *préfets* where their nuclear safety and radiation protection duties are concerned. Delegation of the power of signature by the Director-General gives them the authority to take decisions at a local level.

The divisions carry out most of the direct inspections on the BNIs, on radioactive material transport and on small-scale nuclear activities, and review most of the authorisation applications filed with ASN by the nuclear activity licensees within their regions.

In emergency situations, the divisions assist the *préfet* of the *département*, who is in charge of protecting the population, and supervise the operations carried out to safeguard the installation on the site. To ensure preparedness for these situations, they take part in drawing up the emergency plans drafted by the *préfets* and in periodic emergency exercises.

The divisions contribute to ASN's public information duty. They for example take part in the meetings of the local information committees (CLIs) and maintain regular relations with the local media, elected officials, associations, licensees and local administrations.

ASN's divisions are presented in chapter 8 of this report.

2|3|3 Operation

Human resources

The total ASN workforce on 31 December 2010 stood at 451, with 239 people working in the central services and 212 in the regional divisions.

This workforce can be further broken down as follows:
– 366 tenured or contract staff;
– 85 staff seconded from public establishments (Assistance publique - Hôpitaux de Paris, CEA, IRSN, ANDRA).

On 31 December 2010, the average age of the ASN staff was 43.

A balanced age pyramid and a policy of diversity in recruitment (and thus of experience), gives ASN the qualified and complementary human resources it needs to meet its responsibilities. In addition, training and integration of the youngest staff members and transmission of know-how guarantee the required level of expertise.

So that its staff are at all times competent, ASN must be able to offer them a varied career path, related to their needs, in particular acknowledging their experience.

Skills management

Competence is one of the four key values of ASN. The tutor system, initial and continuous training, whether general, linked to nuclear techniques or the field of communication, as well as day-to-day practices, are essential aspects of the professionalism of ASN staff.

Management of the skills of ASN personnel is based primarily on training tailored for each staff member from a detailed and regularly updated core training corpus. This involves technical training, but also training in legal aspects and communication. In 2010, more than 4,100 days of technical training were provided to ASN staff via 230 sessions forming part of 133 different courses. The financial cost of the courses, provided by organisations other than ASN, amounted to €470,000.

Since 1997, ASN has followed a programme of qualification of its inspectors, based on recognition of their technical competence. An Accreditation Committee was set up in 1997 to advise the Director-General on the entire qualification system. In particular, the Committee reviews the applicable training curriculum and the qualification reference systems and conducts interviews with inspectors as part of a confirmation process.

Chaired by Mr Philippe Saint Raymond, the Accreditation Committee comprises senior ASN inspectors and persons qualified in inspection, appraisal and teaching in the field of nuclear safety and inspection of classified installations. Its competence was confirmed in 2009 for the radiation protection field.

TO BE NOTED IN 2010

Revamping human resource management

The objective of the "Management of human resources at ASN" working group initiated in October 2009 by the ASN Chairman, is to ensure that ASN always has the professional skills and profiles it needs, and to offer its staff attractive career prospects.

The working group has studied human resource practices with accredited organisations and met State branch administrators to discuss career management rules for civil servants.

After five months of work, the group submitted its conclusions in May 2010. These include 25 recommendations to enhance the efficiency of ASN's human resource management in terms of recruitment, skills development and enhancement of professional career paths. These proposals - which are currently being applied - are, among other things, intended to increase ASN's independence in these areas.

The Accreditation Committee met twice in 2010 and proposed that 12 inspectors be promoted to senior grade. As of 31 December 2010, 56 ASN nuclear safety or radiation protection inspectors had senior inspector status, representing about 19% of the total number of ASN inspectors.

Financial resources

Since 2000, all the personnel and operating resources involved in the performance of the responsibilities entrusted to ASN have been covered by the State's general budget.

In 2010, the amount from the State budget committed to control of nuclear safety and radiation protection in France was €145.9 million, of which €52.2 million were allocated for the payroll, €15.6 million for the operating costs of ASN's central services and 11 regional divisions, and €78.1 million for the technical expertise provided by IRSN for ASN.

It should be borne in mind that, as stipulated by the TSN Act, the ASN relies on the IRSN for technical expertise backed up, where necessary, by research. ASN is consulted by the Government regarding the corresponding part of the State's subsidy to IRSN. For 2011, under the terms of Act 2010-1658 of 29 December 2010 on financial readjustment for 2010, the subsidy allocated to the IRSN will be supplemented by the proceeds of a tax paid by operators of BNIs and ring-fenced for IRSN.

Efficiency tools at ASN

The strategy-based approach

The Multi-year Strategic Plan (PSP), prepared by the ASN Commission, outlines ASN's strategy for a three-year period. It is developed annually in an operational orientation document that sets the year's priorities for ASN and also transposed into annual action plans, followed up periodically, for each of the component entities.

This three-level plan is an essential element for ASN's development, organisation and management.

Quality management system

To guarantee and improve the quality and effectiveness of its actions, ASN defines and implements a quality management system inspired by the ISO and IAEA international standards. This system is based on:
– an organisation manual containing organisation notes and procedures, defining the rules to be applied for each task;
– internal and external audits to check rigorous application of the system's requirements;
– listening to the stakeholders;
– performance indicators for monitoring the effectiveness of action taken;
– a periodic review of the system, to foster continuous improvement.

In 2006, in line with its continuous progress approach, ASN received an Integrated Regulatory Review Service (IRRS) peer review mission, to ensure that its organisation and practices comply with international IAEA standards. This "full scope" mission addressed all of the fields covered by the IRRS nuclear safety and radiation protection missions. This was a world first.

An IRRS follow up mission was organised in 2009. The participating international experts considered that ASN had responded satisfactorily to 90% of the recommendations and suggestions made in 2006. In a number of areas such as inspection, preparedness for emergencies, public information or ASN's international role, they were once again of the opinion that ASN's actions ranked amongst the best international practices. The experts also identified some areas for improvement, notably in terms of skills management.

ASN will take advantage of the conclusions of this mission to reinforce the conformity of its practices and its organisation with the best international standards.

Table 2: summary of ASN budget for 2010

Ministry responsible	Programme / Action (2010)	Destination	2010 Budget Act	2011 Budget Act
MEDDTL	**181: Risk Prevention** Action 9: Regulation of nuclear safety and radiation protection	Personnel (including seconded), operation and intervention expenses	€ 52.19 million	€ 51.90 million
MBCPFPRE*	**218: Implementation and oversight of economic and financial policy** Action 5: assistance and support operations	Operation of central sites (Paris and Fontenay-aux-Roses)	€ 6.27 million	€ 6.27 million
MEDDTL	**217: Implementation and oversight of ecology, energy, sustainable development and spatial planning policy** Actions 16, 3 and 4 (personnel, real estate and operations "support" costs	Cost of 11 ASN regional divisions (personnel and operations "support" costs)	€ 9.35 million	€ 9.77 million
MEDDTL	**190: research in the fields of energy and sustainable development and spatial planning** Sub-action 11-02 "IRSN"	ASN technical support activities	€ 78.13 million	€ 46,4 million

The reports can be viewed on the ASN website.

Internal communication

The ASN intranet, OASIS, is the central vector for internal information, providing staff with documents and information about developments within the Authority and the carrying out of its occupational activities. The intranet was fully upgraded in July 2010.

An ASN activity report has been published each year since 2008, reporting on the Authority's activities and human and financial resources.

The quarterly magazine *"Transparence"*, of which the first issue was published in April 2010, is primarily aimed at an internal ASN readership. Its aim is to provide an educational interpretation of ASN missions, its activities, its areas of professional expertise and its internal organisation.

These communication resources are presented in point 1|2 of chapter 6.

2|4 Consultative bodies

2|4|1 High Committee for Transparency and Information on Nuclear Security

The TSN Act created a High Committee for Transparency and Information on Nuclear Security (HCTISN), an information, discussion and debating body dealing with the risks inherent to nuclear activities and the impact of these activities on human health, the environment and nuclear safety.

The High Committee can issue an opinion on any question in these fields, as well as on controls and the relevant information. It can also deal with any issue concerning the accessibility of nuclear safety information and propose any measures such as to guarantee or improve nuclear transparency. Any issue concerning information about nuclear safety and its regulation or inspection can be referred to the High Committee.

The High Committee replaced the French High Council for Nuclear Safety and Information (CSSIN) which was set up in 1973. Its role was similar but less extensive and it was endowed with more modest means. The HCTISN's activities in 2010 are described in chapter 6.

2|4|2 The High Council for Prevention of Technological Risks

As part of the review of the methods of consultation concerning technological risks, the government issued a decree on 27 July 2010 by which it dissolved the BNI Consultative Committee (CCINB), set up by decree on 2 November 2007. The CCINB held its last meeting on 6 January 2010.

The CCINB was a classic consultative body that brought together state representatives, BNI operators and eminent qualified people. It was consulted on texts relating to

TO BE NOTED IN 2010

Strategic plan for 2010-2012

The multi-year strategic plan for 2010-2012

The ASN commission has adopted six strategic lines for the 2010-2012 period, with the aim of affirming and clearly communicating the role and position of ASN to its internal and external audiences, and of ensuring continuing progress in nuclear safety and radiation protection:

- *Develop and enhance skills, reinforce the organisation and affirm the doctrine to fulfill our duties and give us the means to achieve our ambitions*
- *Invest in new domains in medicine, safety and research to improve the consistency and effectiveness of the State's actions in the regulation of nuclear activities*
- *Clarify the role and organisation of expertise in the regulation of nuclear activities to guarantee the quality of the regulatory action over time*
- *Clarify and develop institutional relations with the other State players in order to improve our efficiency, while at the same time upholding our independence*
- *Be a driving force in the European construction of nuclear safety and radiation protection, to contribute to shared high standards of requirements and constitute an international reference*
- *Initiate and contribute to public discussion and debate on topics that involve ASN, with a view to informing the citizens and acquiring feedback that helps us take the best decisions*

This strategic plan was drawn up in the context of a participatory approach involving all ASN staff in the spirit that governs the State reform.

regulation of BNIs and on the most important individual decisions affecting such installations. Operators were heard by the CCINB, which would then state its opinion concerning their installations. In line with a proposal by ASN, the decree of 2 November 2007 also allowed Local Information Committees (CLI) to be heard by the Commission.

Henceforth, consultation will take place before the High Council for Prevention of Technological Risks (CSPRT), created by Order 2010-418 of 27 April 2010. The Council will be made up of state representatives, operators and qualified eminent people and of representatives of environmental organisations in the voluntary sector. The CSPRT, which takes over from the high council for classified facilities, will see the scope of its remit extended to pipelines transporting gas, hydrocarbons and chemicals, as well as covering BNIs. For the latter, the CSPRT, will give its opinion on regulatory texts applying to them.

Where individual decisions regarding BNIs are concerned, ASN wished to preserve the process of collaboration which existed with the CCINB.

To this end, on 13 April 2010, the ASN Commission adopted Decision 2010-DC-0179 instituting a procedure for hearing of BNI operators and CLIs who wish to participate before adoption of certain opinions or decisions relating to BNIs. At the current stage, ASN has decided to introduce hearings by its Commission in all cases where hearings before the CCINB are possible, and under similar arrangements. However, this decision includes the possibility of extending the hearing procedure to other ASN decisions or opinions, particularly in light of appraisal of this initial implementation.

ASN's decision of 13 April 2010 came into force immediately after publication of the decree dissolving the CCINB.

2|4|3 The High Council for Public Health

The High Council for Public Health (HCSP), created by Act 2004-806 of 9 August 2004 concerning public health policy, is a scientific and technical consultative body reporting to the minister responsible for health.

The HCSP contributes to defining the multi-year public health objectives, reviews the attainment of national public health objectives and contributes to the annual monitoring process. Together with the health agencies, it provides the public authorities with the expertise necessary for managing health risks and for defining and evaluating prevention and health safety policies and strategies. It also anticipates future developments and provides advice on public health issues.

2|4|4 The Central Committee for Pressure Equipment

The Central Committee for Pressure Equipment (CCAP), created by Article 26 of decree 99-1046 of 13 December 1999 concerning pressure equipment, is a consultative organisation reporting to the minister responsible for industry.

It comprises members of the various administrations concerned, persons chosen for their particular competence and representatives of the manufacturers and users of pressure equipment and of the technical and professional organisations concerned. It is chaired by Mr Pierre Palat, who is also Vice-Chair of the Advisory Committee for Nuclear Pressure Equipment (GP ESPN), presented in point 2|5|2 of this chapter.

The CCAP can be called on by the Government and by ASN for all issues concerning the legislative and regulatory aspects of pressure equipment. Accident reports are also forwarded to it.

2|5 Technical support organisations

ASN benefits from the expertise of technical support organisations when preparing its decisions. The French Institute for Radiation Protection and Nuclear Safety (IRSN, www.irsn.fr) is the main such organisation. ASN has been making efforts to diversify its experts for several years.

2|5|1 IRSN (The Institute of Radiation Protection and Nuclear Safety)

IRSN, created by Act 2001-398 of 9 May 2001 and by decree 2002-254 of 22 February 2002, was set up as an independent public industrial and commercial establishment, as part of the national reorganisation of nuclear safety and radiation protection regulation, in order to bring together public expertise and research resources in these fields. IRSN reports to the ministers for the environment, health, research, industry and defence.

The Institute conducts and implements research programmes to build its public expertise capacity on the very latest national and international scientific knowledge in the fields of nuclear and radiological risks. It is tasked with providing technical support for the public authorities with competence for safety, radiation protection and security, in both the civil and defence sectors.

IRSN also has certain public service responsibilities, in particular monitoring of the environment and of populations exposed to ionising radiation.

IRSN manages national databases (national nuclear material accounting, national inventory of radioactive sources, file for monitoring worker exposure to ionising radiation, etc.), and contributes to information of the public concerning the risks linked to ionising radiation.

IRSN budget

The subsidy from the State's general budget allocated to IRSN is stipulated in action 11 "Research in the field of risk" of programme 190 "Research in the fields of energy and sustainable development and spatial planning" of the "Research and higher education" mission.

IRSN's total state subsidy in 2010 was the same as in 2009: €244.8 million, of which €78.1 million were for technical support to ASN. For 2011, the subsidy is reduced to €213.4

million and is accompanied by the introduction of a tax levied on certain industrial concerns to cover the costs of the expert support ASN requests of the IRSN.

In its statement of opinion of 3 December 2010 on the budget allocated to IRSN's expert support, ASN deemed unacceptable for effective control of nuclear safety and radiation protection a situation that would lead to a reduction, without any compensation, of around €30 million in the IRSN budget allocated to actions performed for the benefit of ASN in 2011, and felt that only state subsidy at a level comparable with that of previous years would allow the establishment of a firm basis that would guarantee the attendant expert capacities.

An agreement was signed by ASN and IRSN to define the dialogue methods and principles governing the technical support provided to ASN by the Institute. This agreement is clarified on a yearly basis by a protocol identifying the actions to be performed by IRSN to support ASN.

2|5|2 Advisory Committees of Experts

In preparing its decisions, ASN calls on the opinions and recommendations of seven Advisory Committees of Experts (GPE), with expert knowledge in the areas of: waste, nuclear pressure equipment, medical exposure, radiation protection in medical and non-medical sectors, reactors, transport, and laboratories and plants.

ASN consults the GPEs in preparing its main decisions. In particular, they review the preliminary, provisional and final safety analysis reports for each of the BNIs. They can also be consulted about changes in regulations or doctrine.

For each of the subjects covered, the GPEs examine the reports produced by IRSN, by a special working group or by one of the ASN departments. They issue an opinion backed up by recommendations.

The GPEs comprise experts nominated for their individual competence. They come from academic and associative backgrounds, as well as from the licensees concerned by the subjects being dealt with. Each GPE may call on any person recognised for his or her particular competence. It may hold a hearing of licensee representatives. Participation by foreign experts can help diversify the approach to problems and take advantage of experience acquired internationally.

Under its policy on transparency in the area of nuclear safety and radiation protection, ASN has been making documents on the GPE meetings available to the public since 2009.

In 2010, the ASN budget allocated to the GPE's is around € 200,000.

The Advisory Committee for waste (GPD)

The Advisory Committee for waste is chaired by Mr Pierre Bérest. It comprises experts appointed for their competence in the nuclear, geological and mining fields.

In 2010, the GPD met twice, visited one installation and organised a meeting with its German counterpart.

The Advisory Committee for nuclear pressure equipment (GPESPN)

Since mid-2009, the GPESPN has replaced the Standing Nuclear Section (SPN) of the CCAP. The GPESPN is chaired by Mr Philippe Merle and comprises experts appointed for their competence in the field of pressure equipment.

It held six meetings in 2010.

The Advisory Committee for radiation protection in medical sectors (GPMED)

Chaired by Mr Yves Coquin, the GPMED comprises experts appointed for their competence in the field of radiation protection of health professionals, the public and patients and for medical applications of ionising radiation.

It held five meetings in 2010.

The Advisory Committee for reactors (GPR)

The Advisory Committee for reactors is chaired by Mr Pierre Govaerts. It consists of experts appointed for their competence in the field of nuclear reactors.

It held six meetings and visited two installations in 2010.

The Advisory Committee for radiation protection in non-medical sectors (GPRAD)

Chaired by Mr Jean-Paul Samain, the GPRAD comprises experts appointed for their competence in the field of radiation protection of workers (other than health professionals) and radiation protection of the public, for industrial and research applications of ionising radiation, as well as for natural ionising radiation.

It held four meetings in 2010.

The Advisory Committee for transport (GPT)

Chaired by Mr Jacques Aguilar, the GPT comprises experts appointed for their competence in the area of transport.

It held one meeting in 2010.

The Advisory Committee for laboratories and plants (GPU)

The Advisory Committee for laboratories and plants is chaired by Mr Philippe Saint Raymond. It comprises experts appointed for their competence in the field of laboratories and plants in which radioactive materials are used.

It held five meetings and visited two installations in 2010.

2|5|3 The ASN's other technical support organisations

To diversify its expertise and benefit from other specific skills, ASN also has its own budget allowance, amounting to €1.3 million in 2010.

A significant part of this budget is allocated to subjects concerning exposure of the population to radon in the home, as well as

to the work of the Steering Committee for managing the post-accident phase (CODIRPA).

In 2010, ASN continued its cooperation with:
– the Nuclear Protection Evaluation Centre (CEPN): support for the work of the CODIRPA, appraisal of radioprotection of patients training programmes;
– Bureau Veritas: advisory services on the ISO 17 020 accreditation procedure for ASN/DEP, services relating to examination of an AFCEN document justifying the capacity of the RCCM to meet certain essential safety requirements;
– the APAVE Group: measurement of radon in dwellings;
– the pluralistic experts group for the Limousin mines (GEP Limousin) which assists the public authorities on issues concerning the rehabilitation of the former uranium mining sites;
– the Nord-Cotentin radio-ecology group, which assists the public authorities with regard to the environmental and health consequences of the BNIs operated on the peninsula.

2|6 Other stakeholders

As part of its mission to protect the population from the health risks of ionising radiation, the ASN cooperates closely with other competent institutional stakeholders addressing health issues.

2|6|1 French National Authority for Health

The French National Authority for Health (HAS), a body created by the French Government in 2004, is tasked primarily with maintaining an equitable health system and with improving patient care.

The Authority and its activities are presented on its website: *www.has-sante.fr*

2|6|2 The French Health Product Safety Agency (AFSSAPS)

The main mission of the French Health Product Safety Agency (AFSSAPS), created in 1998, is to assess the risks and benefits associated with the use of health products.

The Agency and its activities are presented on its website: *www.afssaps.fr*

2|6|3 The French Health Monitoring Institute (InVS)

The French Health Monitoring Institute (InVS), a public body created in 1998, is tasked primarily with monitoring and issuing of warnings in all areas of public health.

The Institute and its activities are presented on its website: *www.invs.sante.fr*

2|6|4 The French National Cancer Institute

The French National Cancer Institute (INCa), created in 2004, is primarily responsible for coordinating activities in the fight against cancer.

The Institute and its activities are presented on its website: *www.e-cancer.fr*

Table 3: advisory Committee meetings in 2010

Committee	Main agenda	Date
GPRAD	Examination of the draft Euratom "European Basic Safety Standards Directive" and of draft decision establishing a regime for authorisation/declaration of carriers	12 January
GPMED	Presentation of the "Radiological Treatments" Working Group	21 January
GPT	Examination of compliance of model R73, with a view to its approval	2 February
GPR	Site visit to Flamanville 3	8 March
GPR	Information on state of progress of Flamanville 3 site	18 March
GPU	Visit to the Agate installation	8 April
GPD	Committee meeting	9 April
GPRAD GPMED	Examination of the report from the Working Group on the Desirable Development and Training of People Competent in the Field of Radiation Protection and examination of the draft Euratom "European Basic Safety Standards Directive"	13 -14 April
GPU GPD	Commissioning of the AGATE installation (BNI 171), at Cadarache	15 April
GPESPN	Capacity of steam generators at Bugey 3 to operate until their replacement in September 2010	19 April
GPR	Review of reference base for study of Loss of Coolant Accidents (LOCA) for pressurised water reactors	6 May
GPR	Examination of orientations of the 3rd safety reassessment for 1300 MWe reactors	20 May
GPD	GPD / ESK meeting in Karlsruhe	25–26 May
GPR	Visit to the ORPHÉE installation (BNI 101)	9 June
GPESPN	Classification of nuclear pressure equipment for pressurised water reactors	9 June
GPRAD	Information on radiation protection issues relative to the operation (or use) of electrical equipment generating ionising radiation and examination of draft Euratom "European Basic Safety Standards Directive"	11 June
GPU GPD	Preparation of GPD session on long-life, low and medium activity waste project	16 June
GPESPN	Keeping 900 MWe reactor vessels in service	16 June
GPMED	Examination of report from Working Group on conditions of provision of radiotherapy in stereotaxic conditions and of the associated radiophysics and examination of the "Radiological Treatments" Working Group report	22 June
GPU GPD GPR GPT	Examination of the coherence of the fuel cycle	30 June
GPESPN GPR	Keeping 900 MWe reactor vessels in service (second and final part)	30 June
GPU	Visit to the CIS bio international installation (BNI 29) (Saclay)	2 July
GPU	Reassessment of safety of the CIS bio international installation (BNI 29) (Saclay)	7 July
GPR	Reassessment of the safety of the ORPHÉE research reactor (BNI 101)	9 September
GPMED	Examination of report from Working Group on conditions of provision of radiotherapy in stereotaxic conditions and of the associated radiophysics and examination of the "Radiological Treatments" Working Group report (second and final part)	28 September
GPD	Visit to the experimental Tournemire facility	29 September
GPR	Reassessment of the safety of the ORPHÉE research reactor (BNI 101) (second and final part)	7 October
GPU GPR	Management of nuclear safety and radiation protection at CEA	18 November
GPMED	Examination of the draft review of diagnostic reference levels (DRL) in radiology and nuclear medicine	23 November
GPESPN	Steam generator partition plate	24 November
GPRAD	Examination of draft dose "passport" proposed by HERCA	25 November
GPD GPU	Examination of basic options for geological storage of long-life, high and medium activity waste	29 November
GPESPN	Inter-professional guide to classification of modifications or repairs to level N2 or N3 nuclear pressure equipment	17 December

3 OUTLOOK

Openness, transparency and international cooperation are determining factors for safety, making the cultural context, the political framework and the existence of a democratic system equally as important as the technical aspects. Nuclear safety is a national responsibility but it can only be envisaged in a context of close and open international cooperation.

The regulation of nuclear safety and radiation protection involves all of the State structures:
– Parliament, in particular the OPECST for definition of the main long-term options;
– The Government, in particular the ministers responsible for nuclear safety and radiation protection and who are given general regulatory and decision-making powers concerning the creation of BNIs;
– the ASN which, in particular, contributes to drafting of technical regulations, to monitoring and regulation of activities and to providing information to the public;
– the IRSN and other bodies providing technical support;
– the consultative bodies, which provide an outside view of the important decisions concerning nuclear safety and radiation protection;
– the *préfets*, who are in charge of protecting the population.

2010, the fourth full year of ASN's existence as an independent administrative authority, was the opportunity for implementation of the ASN 2010–2012 Strategic Plan intended to strengthen the effectiveness and quality of the Authority's regulation and inspection of nuclear safety and radiation protection, in close liaison with other State bodies and with European neighbours, thereby confirming ASN's position and its responsibilities.

By creating a Scientific Committee, ASN has made a commitment to the field of research in order to identify the areas of knowledge that will be necessary for the expert knowledge that it will have to call on in the medium and long term.

The importance that the Authority attaches to having the appropriate skills is also evidenced in its approach to human resource management.

In conducting its activities, and in line with its independent status, ASN maintains strong ties with the other stakeholders involved in regulating or providing information about nuclear safety, radiation protection and protection of the environment.

The sums of money allocated by the State in 2010 to regulation and inspection of nuclear safety and radiation protection in France came wholly from the national budget and were shared amongst four programmes (181, 217, 218 and 190). As of 2011, they will be shared by five programmes (the above-mentioned four and programme 333, addressing pooled state resources in a decentralised context), with the addition of the annual tax raised for the benefit of IRSN and paid by BNI operators.

This complex budget structure obscures the overall picture of the cost of regulation and inspection, as well as leading to difficulties in preparing, arbitrating and implementing budgets. In this context, ASN considers necessary a review of its budgetary model and the grouping of the current items under a single programme for nuclear safety and radiation protection in France. The Authority is also of the opinion that the introduction of the tax in favour of the IRSN opens the way, and indeed tends to contribute to, a fundamental change in the way in which the State finances nuclear safety and radiation protection.