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CHAPTER 7

The range of nuclear installations regulated by ASN is one of the world's largest and most diverse. ASN therefore devotes considerable efforts to international relations with its foreign counterparts.

ASN's international actions are built around a clear legal framework. The TSN Act (now codified in parts I and V of the Environment Code by ordinance 2012-6 of 5th January 2012) states in article 9 that "ASN sends the Government its proposals to define the French position in international negotiations in the fields of its competence" and that "it participates, on request by the Government, in the French representation in the bodies of international organisations and of the European Communities competent in these fields". Finally, the article states that "To implement international agreements or European Union regulations relative to radiological emergency situations, the Nuclear Safety Authority is empowered to warn and inform the authorities of third States or to receive their warnings and information". These legislative arrangements underpin the legitimacy of ASN's international actions.

ASN is thus required to devote considerable resources to cooperative work, both within multilateral and EU bodies, and as part of bilateral relations with its foreign counterparts, with the aim of contributing to strengthening the culture of safety and radiation protection around the world and of becoming recognised as an "international benchmark".

2011 was naturally a particular year for ASN from this viewpoint, given the extent to which the Fukushima Daiichi disaster dominated the European and international scene from the moment it began on 11th March 2011, and subsequently dictated the agendas of the international organisations. As we will see in this chapter, ASN has devoted much time and effort to considering the changes to be made to the international safety and radiation protection framework and, within its areas of competence, played in full its role as consultant to the Government on these subjects.

1 ASN OBJECTIVES IN EUROPE AND WORLDWIDE

1.1 Action in Europe

Europe is the main focus of international action by ASN, which thus aims to contribute to building a Europe that is at the forefront of nuclear safety, the safe management of waste and spent fuel and radiation protection.

WENRA (Western European Nuclear Regulators' Association), an informal club created in 1999 at the initiative of the ASN Chairman, continued its work in 2011 to harmonise reactors and waste management facility safety rules. At the invitation of the European Council on 24th and 25th March 2011 and as part of the post-Fukushima actions, WENRA played a vital role in defining the specifications for the stress tests to be performed on the European nuclear reactors.

ENSREG (European Nuclear Safety Regulators' Group) which since 2008 has been a forum for the safety regulators of the European Union (EU) and the European Commission, also played its role in launching the European stress tests, in close collaboration with WENRA, fine-tuning the WENRA specifications and formally adopting them on 25th May 2011. ENSREG, which had worked hard to create a consensus on European nuclear safety directives and then on waste and spent fuel management, had the satisfaction of seeing these texts adopted by the EU Council of Ministers in June 2009 and July 2011 respectively.

In the field of radiation protection, the work done by the Heads of European Radiological Protection Competent Authorities

(HERCA) continued. The progress achieved by this association, since it was created in 2007, is considerable and thus helps to ensure that this association is a key player in radiation protection in Europe. The repercussions of the Fukushima Daiichi accident were incorporated into the work done by HERCA (see point 2 | 1 | 7).

Within the European bilateral framework, ASN has maintained close relations with the main countries equipped with nuclear reactors or wishing to acquire them, but also devoted itself to relations with countries such as Ireland and Norway, who are interested in radiation protection and emergency management issues in particular. It also pays particularly close attention to relations with France's neighbours.

1.2 Harmonisation of nuclear safety worldwide

Outside Europe, a large number of initiatives have been taken to harmonise nuclear safety practices and regulation.

Within the International Atomic Energy Agency (IAEA), ASN plays an active part in the work of the Commission on Safety Standards (CSS) which drafts international standards for the safety of nuclear installations, waste management, the transport of radioactive materials and radiation protection. Although not legally binding, these standards do constitute an international reference, including in Europe. They are also the documentary reference standards for the international audits overseen by the Agency. These in particular include the safety regulator

Table 1: table of areas of competence of the main civil nuclear activity regulating authorities*

Country/ Safety authority	Status			Activities						
	Adminis- tration	Government agency	Independent agency	Safety of civil installations	Radiation protection			Safety (protection against vandalism and malicious acts)		Transport safety
					BNI	Other installations	Patients	Sources	Nuclear materials	
Europe										
Germany/ BMU + Länder	•			•	•	•	•	•	•	•
Belgium/ AFCN		•		•	•	•	•	•	•	•
Spain/ CSN			•	•	•	•	•	•	•	•
Finland/ STUK		•		•	•	•	•	•		•
France/ ASN			•	•	•	•	•	• ^{***}		•
United Kingdom/ HSE/ND		•		•	•			•	•	•
Sweden/ SSM		•		•	•	•	•	•	•	•
Switzerland/ ENSI			•	•	•				•	•
Other countries										
Canada/ CCSN			•	•	•	•	•	•	•	•
China/ NNSA	•			•	•	•		•	•	•
Korea/ NSSC		•		•	•	•			•	•
United States/ NRC			•	•	•	•	•	•	•	• ^{**}
India/ AERB		•		•	•	•	•	•	•	•
Japan/ NISA + NSC + MEXT	•			•	•	•	•	•	•	
Russia/ Rostekhnadzor	•			•	•			•	•	•

* This table gives a schematic, simplified representation of ASN's current knowledge of the main areas of competence of the entities (administration, government agency or independent agency) responsible for regulating nuclear activities in the world's leading nuclear countries.

** Domestic transport only.

*** The certification process is underway.



Working session at the regional workshop organised at ASN from 14th to 18th November 2011, on the evaluation and effectiveness of regulatory bodies in preparation for hosting an IRRS mission

assessment missions (IRRS, Integrated Regulatory Review Service) the development of which is supported by ASN. In 2011, IAEA was the main forum for debate on the inclusion in international standards and practices of the first lessons learned from the Fukushima Daiichi accident.

The Multinational Design Evaluation Programme (MDEP) was launched several years ago by the U.S. Nuclear Regulatory Commission (NRC) and ASN, with the aim of joint evaluation of new reactor design. It then expanded its scope to take in numerous partners from around the world. The initiative

eventually aims to harmonise the safety objectives, the codes and the standards associated with the safety analysis of a new reactor. Its secretariat was entrusted to the OECD's Nuclear Energy Agency (NEA) and it is chaired by the ASN Chairman.

1.3 Assistance requests

ASN analyses the nuclear safety situation in each country that contacts it for assistance with regulatory infrastructure and the regulation of safety.

In 2011, ASN continued to receive numerous requests from countries heavily engaged for the first time in a nuclear power programme as well as from countries simply wishing to know what actions would be necessary in the area of safety if they were to choose this energy source. These queries were however fewer in number than in previous years, owing to the Fukushima Daiichi accident, which focused attention on nuclear safety and how to reinforce international safety standards.

ASN, in line with its policy, responds to requests as part of its bilateral actions or via instruments that are either European (EU Instrument for Nuclear Safety Co-operation) or international (IAEA's Regulatory Cooperation Forum). The purpose of this cooperation is to enable the countries in question to acquire the safety and transparency culture essential to a national system of nuclear safety and radiation protection regulation that will guarantee effective protection of people and the environment.

2 EUROPEAN UNION AND MULTILATERAL RELATIONS

2.1 European Union

The Treaty setting up the European atomic energy community (Euratom) and the laws derived from it, together with the work of WENRA, ENSREG and HERCA, today place the European Union at the very heart of regulatory work on nuclear safety and radiation protection. It was the reactivity of WENRA and ENSREG that enabled the EU to launch the European nuclear power reactor stress tests rapidly and effectively. This exercise is the only one of its kind in the world.

2.1.1 The Euratom Treaty

The Euratom Treaty enabled harmonised European development of a strict system of regulation of nuclear safety (chapter 7) and radiation protection (chapter 3). In an Order of 10th December 2002 (aff. C-29/99 Commission of European Communities against Council of the European Union), the European Court of Justice, ruling that no artificial boundary could be established between radiation protection, covered by chapter 3, and nuclear safety, recognised the principle of the existence of community competence in the field of nuclear safety, as well as in that of

management of radioactive waste and of spent fuel. ASN actions at the European level are aimed at developing this new field of community competence, although of course without forgetting radiation protection activities.

2.1.2 The European Nuclear Safety Regulators' Group (ENSREG)

At the invitation of the European Council in March 2007, a "High-Level Group" (HLG) on nuclear safety and waste management, subsequently renamed ENSREG, was created in 2008. ASN, which believes that nuclear safety principles and standards must be harmonised throughout Europe, is participating actively in this work in order to strengthen the extent to which nuclear safety and the safe management of radioactive waste and of spent fuel are taken into account in Europe. The ASN Chairman is a member of ENSREG. Three working groups were created, devoted to the safety of installations, to the safe management of radioactive waste and of spent fuel, and to transparency in the nuclear sector.

ENSREG was a key player in Europe's adoption of a first directive on the safety of nuclear installations. The consensus

arrived at by its members regarding the broad outlines of such legislation helped to relieve the tensions that arose from an initial Commission proposal in 2003 and to ensure that the directive was passed in June 2009.

In 2011, ENSREG observed that the work it had done to identify the main guidelines of a regulatory text on the safe management of radioactive waste and spent fuel had produced results, and in July 2011, a directive on this topic was formally adopted by the EU Council of Ministers (see chapter 16).

ENSREG also held its first European Conference on Nuclear Safety on 28th and 29th June 2011.

Of particular importance is that, at the request of the European Council on 24th and 25th March 2011, and together with WENRA, ENSREG on 25th May 2011 validated the specifications for the European stress tests. Through this agreement, the 14 European countries with nuclear reactors in operation undertook to examine these reactors in the light of the events that occurred at Fukushima Daiichi, using identical analysis criteria. On 11th October 2011, ENSREG also validated the second and essential phase of the European stress tests, in other words the peer review, which will run from January to April 2012. The members of ENSREG created a “Council” consisting of qualified personalities, to oversee this exercise, and appointed Philippe Jamet, a former director of nuclear safety at IAEA and now an ASN commissioner, as Chair.

2 | 1 | 3 The European Directive on the Safety of Nuclear Installations

The debate initiated in November 2008, under the French presidency of the EU, on a directive “establishing a Community framework for the nuclear safety of nuclear installations”(2009/71/EURATOM) continued until June 2009, when the Czech presidency of the EU concluded the debate on this important directive. The EU therefore now has a regulatory framework for nuclear safety enshrined in community law. In particular, the directive obliges all EU member States (present and future) to develop a legislative framework for nuclear safety (Article 4) and to set up an independent regulatory authority (Article 5). It also defines the obligations of nuclear installation licensees (Article 6), stresses the question of the availability of skills and expertise (Article 7) and public information (Article 8). It further makes provision for a “peer review” system (Article 9) which, in accordance with the principles of nuclear safety, allows “continuous improvement” of practices in this field.

This regulatory text is of great importance in that it finally puts an end to an absurd situation in which there was no European legislation on nuclear safety even though the EU, with the Euratom Treaty, has enjoyed the most advanced nuclear legislation for more than 50 years and counts nearly 150 nuclear reactors within the borders of its 27 member states. The text has the additional advantage of making its requirements legally binding under the legislation of the 27 member states.

This directive should also undergo a number of changes following the events at Fukushima. The European Council of 24th and 25th March 2011 did not only ask WENRA and ENSREG to set up the architecture for the European stress tests. It also asked the European Commission to consider the necessary

changes to the European nuclear safety framework. In its communication of 23rd November 2011, the Commission gave an initial review of the safety assessments carried out in the EU member States and identified the first areas for improvement, in particular amendments to the “nuclear safety” directive. It in particular emphasises the possible improvements in terms of the independence of the safety regulators, transparency, the drafting of European safety standards, and so on. The Commission takes the opportunity to add that the “nuclear safety” directive, as adopted in June 2009, has still not been transposed by 13 member States of the EU, even though this transposition should have been completed no later than July 2011.

2 | 1 | 4 The European directive on the management of waste and spent fuel

On 19th July 2011, the Council of the European Union adopted a directive “establishing a community framework for the responsible and safe management of spent fuel and radioactive waste” (directive 2011/70/Euratom). Two years after the adoption of the directive on nuclear safety, the adoption of this directive is an important event and makes a contribution to reinforcing nuclear safety within the European Union, while enhancing the accountability of the member States with regard to the management of their radioactive waste and spent fuels.

This directive is legally binding and covers all aspects of the management of radioactive waste and spent fuel, from production up to long-term disposal. It recalls the prime responsibility of the producers and the ultimate responsibility of each Member State for ensuring the management of the waste produced on its territory, ensuring that the necessary steps are taken to guarantee a high level of safety and to protect the workers and the public from the dangers of ionising radiation.

It clearly defines obligations concerning the safe management of radioactive waste and spent fuel and requires each Member State to adopt a legal framework covering safety issues, stipulating:

- the creation of a competent regulatory authority with a status such as to guarantee its independence from the producers of waste;
- the creation of authorisation and licensing procedures, with authorisation applications being examined on the basis of safety demonstrations by the licensees.

The directive covers the drafting of national radioactive waste and spent fuel management policies to be adopted by each Member State, in particular specifying that each Member State must adopt a legislative and regulatory framework designed to implement national radioactive waste and spent fuel management programmes. The directive also contains requirements concerning transparency and the participation of the public, the financial resources for managing radioactive waste and spent fuel, training and regular self-assessments and peer-reviews. It officially determines the ultimate responsibility of each Member State for management of its radioactive waste and specifies the possibilities with regard to export for disposal of this waste.

These aspects therefore constitute significant steps forward in reinforcing the safe and responsible management of radioactive waste and spent fuel in the European Union.

First European Conference on nuclear safety

Nearly 400 people (safety regulators, nuclear licensees, international organisations, European Commission, NGOs, etc.) met in Brussels for the first European Conference on nuclear safety, organised by ENSREG on 28th and 29th June 2011. This event was an opportunity to review the efforts of WENRA and ENSREG to reinforce nuclear safety and waste management in Europe.

A round-table to discuss the follow-up to the Fukushima Daiichi accident, chaired by André-Claude Lacoste, vice-Chair of the conference and Chairman of ASN, provided an opportunity for the Chairman of the American NRC, Gregory Jaczko, the Director General for Energy of the European Commission, Philip Lowe, Jan Haverkamp of Greenpeace, and Laurent Stricker, the Chairman of the World Association of Nuclear Operators (WANO), to present their views of the lessons to be learned from this nuclear accident.

In concluding this conference, André-Claude Lacoste declared this first edition to be a success. He stated that he believed a common vision of nuclear safety is beginning to take shape in Europe. It is built around the technical work done by WENRA, its adoption by ENSREG, and its transposition into legislative proposals by the European Commission.

André-Claude Lacoste also stressed the challenges facing Europe in the coming months; after having defined European stress test specifications in a very short period of time, these safety assessments now have to be carried out within a time-frame compatible with public expectations.

The momentum thus created must lead to reform of the European regulatory framework for nuclear safety, as requested by the European council on 25th March 2011. Initiatives should be initiated for promotion of safety objectives for the new reactors, management of emergency situations, transparency, improvements to the nuclear safety directive and the independence of the safety regulators.

André-Claude Lacoste finally expressed his desire to see Europe become an audible and credible proactive source of ideas and proposals on the international stage.

2 | 1 | 5 The European working groups

ASN also participates in the work of the Euratom Treaty committees and working groups:

- scientific and technical committee (STC);
- Article 31 experts group (basic radiation protection standards);
- Article 35 experts group (checking and monitoring radioactivity in the environment);
- Article 36 experts group (information concerning regulation of radioactivity in the environment);
- Article 37 experts group (notifications concerning radioactive effluent discharges).

The activities of the article 31 Committee in the first half of 2011 concerned the allowable activity levels in foodstuffs and cosmetic products, as well as monitoring the contamination of containers and goods. The new dose limit for the lens of the eye published by the ICRP was also covered, with a view to preparation of a position statement aiming to include it in the Euratom BSS. In the second half of the year, a seminar was devoted to individual radiosensitivity.

In June 2011, ASN took part in a European Commission verification and examination mission to the CEA site in Cadarache. This purpose of this mission, conducted under article 35 of the Euratom Treaty, was to check the working and the efficiency of the installations necessary for permanent monitoring of the level of radioactivity in the atmosphere, water and soil, and to check compliance with the basic standards for health protection

of the general public and workers against the hazards of ionising radiation. Following the verification and examination carried out, the Commission considered that France meets in full its obligations under article 35.

Among the European legislative proposals currently being examined in Brussels, one should also note the “drinking water” directive proposal, officially adopted by the European Commission on 27th June 2011. This proposal, which sets requirements for protection of the health of the general public with regard to radioactive substances in water intended for human consumption, is also being debated by the EU Council of Ministers and the European Parliament. Once again, with respect to this text, ASN is one of the Government’s main advisers.

In 2011, even more so than in 2010, ASN enjoyed particularly close relations with the European institutions. ASN’s Chairman, André-Claude Lacoste, had many contacts with the European Parliament in early 2011, to inform the Members of the European Parliament of the activities of WENRA, particularly with regard to the safety objectives for the new reactors, drafted by the association. After the Fukushima Daiichi accident, there were several contacts, jointly with other European safety regulators and with the Energy commissioner Günter Oettinger, in order to establish the European stress tests as efficiently and credibly as possible. The number of ENSREG meetings and exchanges with France’s permanent Representation to the European institutions increased significantly.

2|1|6 The Western European Nuclear Regulators Association

WENRA was officially created in February 1999, the founding members being the heads of the nuclear regulatory bodies of Belgium, Finland, France, Germany, Italy, Netherlands, Spain, Sweden and the United Kingdom, joined a little later by Switzerland. The ASN Chairman was its first Chair for four years. Ms Judith Melin (Sweden) succeeded him from 2003 to 2006, followed by Ms Dana Drabova (Czech Republic) from 2006 to 2009.

Jukka Laaksonen (Finland), who was Chair until the end of 2011, was then replaced by Hans Wanner, Head of the Swiss regulatory body.

Since 2003, the heads of the regulatory bodies of Bulgaria, the Czech Republic, Hungary, Lithuania, Romania, Slovakia and Slovenia have become members of the association.

In 2009, the heads of the regulatory bodies of the ten countries which do not have a NPP were, at their request, invited to take part in the association's meetings, in the capacity of observers.

The objectives defined by the WENRA members when the association was created are:

- to provide the European Union with an independent appraisal capability for examining the issues of nuclear safety and its

regulation in the countries applying for membership of the European Union;

- to develop a common approach to nuclear safety and regulation, in particular within the European Union.

The first of these tasks was successfully completed during the EU enlargements of 2004 and 2007.

With regard to the second task (harmonisation of national approaches to safety), WENRA has created two working groups:

- the nuclear power reactors group which, after being headed by an ASN Deputy Director General, is now chaired by Finland;
- the group dealing with spent fuel and radioactive waste management and decommissioning operations, which is chaired by a senior member of the Swiss regulatory body.

In each of these fields, the groups began by defining the reference levels for each technical topic, based on IAEA's most recent standards and on the most demanding approaches employed within the European Union and therefore, for all practical purposes, in the world.

In 2006, the members of WENRA developed national action plans for power generating reactors, designed to ensure that for all technical areas in which differences had been identified,

The European "basic standards" directive

On 20th September 2011, the Commission officially adopted a directive proposal setting out basic standards for health protection against the hazards resulting from exposure to ionising radiation. This is now being submitted to the Council of Ministers of the European Union and to the European Parliament.

This proposed directive incorporates five existing directives (transposed into national law) into the same text and updates the provisions of directive 96/29/Euratom, taking account of the current state of scientific and technical knowledge and the recommendations of the International Commission on Radiological Protection (ICRP) of December 2007. This draft text is also consistent with IAEA's new basic safety standards (BSS) adopted by the Board of Governors (publication in progress).

The community texts to be abrogated by the proposed directive are:

- Directive 96/29/Euratom laying down basic standards for the protection of the health of workers and the general public against the dangers arising from ionising radiation;
- Directive 89/618/Euratom on informing the general public about health protection measures to be applied and steps to be taken in the event of a radiological emergency;
- Directive 90/641/Euratom concerning the operational protection of outside workers exposed to the risk of ionizing radiation during their activities in controlled areas;
- Directive 97/43/Euratom on health protection of individuals against the dangers of ionizing radiation in relation to medical exposure
- Directive 2003/122/Euratom on the control of high-activity sealed radioactive sources and orphan sources.

The new proposed directive also includes new elements, in particular protection of the environment, protection from natural radiation (radon) and protection from radiation from building materials, and measures for emergency situations.

For information, ASN in 2010 initiated widespread consultation with stakeholders on a draft directive on basic safety standards for radiation protection (BSS Euratom), placed online on the European Commission's website. Following this consultation exercise, ASN forwarded proposals to the government with the aim of preparing the position that France would maintain within the Atomic Questions Group during the discussion to come in 2011. Since the beginning of the debates at the Council of Ministers on this new text, ASN, together with other French authorities, has been an active participant in the negotiations.



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national practices were brought into line with the reference levels defined in 2005. The members had set themselves the target of reaching a harmonised situation by 2010. A significant effort was made by the regulatory bodies of the countries concerned – in France, the BNI order published on 7th February 2012 extensively draws on the results of the work done by WENRA and the practices in force are therefore to a large extent in conformity with these reference levels – and the reference levels “transposition” work is continuing.

In 2008, in addition to continuing the work already under way, the association launched new work to harmonise safety objectives for new reactors. The resulting report was adopted by a consensus of WENRA members in November 2010. Discussions are continuing on the topic, to develop more detailed objectives.

WENRA has also begun to consider the issue of the safety of research reactors and the extension of reactor operation. In 2010, the association amended its statutes to take on an international role and to be able to better associate safety authorities from non-members of the EU. Thus, in 2011, the regulatory bodies of Russia and Ukraine took part in WENRA meetings, as observers.

However, in 2011, WENRA’s major contribution will have been the drafting, as requested by the European Council of March, of the specifications for the stress tests to be run on the European nuclear power reactors. As early as its meeting on 22nd and 23rd March 2011, the ASN Chairman, jointly with all members of WENRA, stated that the association should become increasingly proactive in Europe. Specifications were drafted for assessing the safety margins of Europe’s nuclear power reactors in the light of the events of Fukushima. WENRA followed the process defined for this by the European Council and forwarded these draft specifications to ENSREG, for discussion and adoption, in early May.

If WENRA had not been in operation for many years and if the level of trust created thanks to this association of European regulatory bodies had not been created, a result such as this – it is worth remembering that this entailed nothing less than running complementary safety assessments in 14 countries using the same methodology – would have been impossible.

Finally, it is worth noting that in 2011, as in the past, ASN used its network of WENRA and ENSREG correspondents to ensure rapid and harmonised information of all its European partners concerning the events that occurred in France, for example the accident at CENTRACO on 12th September 2011 (see chapter 16), which, in the post-Fukushima context, attracted considerable media interest from around the world.

2 | 1 | 7 Association of the Heads of the European Radiological Protection Competent Authorities (HERCA)

The existence of a European regulatory base for radiation protection, leaving each country a certain freedom of movement in interpreting and applying European rules in their national legislation, has led to differing transpositions in this field resulting, in certain cases, in significant discrepancies. For example, this has resulted in protection measures for the general public that differ between neighbouring countries in the event of a nuclear accident and in different protection measures for workers travelling between neighbouring countries.

ASN is convinced that if progress is to be made on harmonisation in Europe, in particular on the topic of radiation protection, close collaboration is needed between the heads of

European authorities regulating radiation protection, as is already the case for nuclear safety. This is why, in 2007, taking WENRA as an example, HERCA, the Heads of European Radiological Protection Competent Authorities, was created at the initiative of ASN. The association set itself the goal of increasing European cooperation on radiation protection matters. Four years later, the HERCA association has become a key radiation protection player in Europe, and can already claim tangible progress in the harmonisation of regulations and practices.

At present, 46 radiological protection competent authorities from 28 European countries are members of HERCA. In some countries, the regulation of radiation protection is entrusted to several Authorities. The association is working together with the European Commission on harmonising radiation protection practices.

Five working groups were set up to deal with the following topics:

- outside workers and the dosimetric passport;
- justification and optimisation of the use of sources in the non-medical field;
- medical applications;
- preparation and management of emergency situations;
- collective doses from medical exposures.

ASN is represented in all the working groups and chairs the WG on the use of sources in the non-medical field. ASN is also the general secretary of the association.

Following the Fukushima accident, a joint declaration reiterated the vital need for a common understanding and a common approach to emergency planning in Europe, as well as the importance of learning the immediate and long-term lessons of this accident. These lessons will be taken into account in future HERCA work in this field.

In 2011, the seventh and eighth meetings of the HERCA Board of Heads were held. On 30th June, the Belgian federal nuclear regulatory agency (AFCN) hosted the seventh meeting of the HERCA association under the chairmanship of Ole Harbitz (Director General of the Norwegian authority), and 42 representatives from 25 countries examined the results of the work done by the five HERCA working groups. A high-level representation from the European Commission was also present. The meeting was also an opportunity to discuss the association's role in the preparedness for and management of emergency situations, following the Fukushima Daiichi accident.

At this meeting, the following were approved:

- a practical guide to protection measures in the nuclear accident emergency phase;
- a new mandate for the emergency situations working group. This includes a search for practical and operational solutions for uniform management of a nuclear accident. This mandate also includes identification of the priority steps to be taken for improved harmonisation of actions and decisions taken in Europe in the event of an accident occurring in a non-European country;
- a joint declaration in favour of European harmonisation of regulations concerning light bulbs containing small quantities of radioactive material.

The eighth meeting of HERCA was held on 8th December 2011 in Berne, Switzerland, at the invitation of the Swiss federal office of public health. A new action plan for the emergency group was approved. It now focuses on two types of accidents: accidents occurring in a European country and accidents occurring in countries far from Europe. In this latter case, the aim is to identify the most pressing needs in order to increase the harmonisation of the reactions by the European countries and to propose practical solutions for meeting these objectives. The work should be completed by the end of 2012. At the same time, HERCA will aim to propose operational recommendations to provide the same level of protection for the general public around the site of a severe accident, whichever country is concerned. The European Commission intends to closely monitor this work, which could be incorporated into its future recommendations to improve preparedness for emergency situations in Europe. In this context, a communication system is currently being set up between the HERCA member countries and the European Commission. To avoid other bodies duplicating this work, HERCA took steps to boost coordination with other organisations (e.g. NEA) concerning post-Fukushima aspects.

This eighth meeting of HERCA was also an opportunity to approve a format for a European card to be used for patients who have undergone treatment with iodine 131 and to update the dosimetry passport model, taking account of the comments received by the stakeholders as a result of the 2010 consultation.

2 | 1 | 8 ASN participation in the Euratom 7th framework R&D programme

In 2011, and for the first time, ASN became a partner in a European project, the TRASNUSAFE project of the Euratom 7th framework research and development programme.

The purpose of this three-year project is to design, develop and test training programmes to develop the nuclear safety culture, including ALARA (As Low As Reasonably Achievable) aspects, within a European approach.

ASN, represented by the International Relations Department, took part in 2011 in Working Package no.2, entitled "Relationship between radiation protection and ALARA, and safety culture".

2 | 1 | 9 Multilateral assistance actions

After the Chernobyl disaster of 26th April 1986 and the fall of the Soviet bloc, the G7 Summit, held in Munich in July 1992, defined three priority areas for assistance with nuclear safety for eastern European countries:

- contribution to improving the operating safety of existing reactors;
- provision of funding for short-term improvements to the least safe reactors;
- improvement in the organisation of safety regulation, making a clear distinction between the responsibilities of the different entities concerned and reinforcing the role and scope of local nuclear regulatory bodies.

The assistance programmes introduced initially by the European Commission (PHARE and TACIS) were succeeded in 2007 by the Instrument for Pre-accession Assistance (IPA) and the Nuclear Safety Co-operation Instrument (NSCI), extending to all countries of the world without geographical limit.

The European Commission set up the Regulatory Assistance Management Group (RAMG) to collect opinions and advice concerning the assistance requests submitted by third party countries. The nuclear safety and radiation protection regulatory bodies of the countries of the European Union, including ASN, are members of the group. In 2011, the Commission proposed changes to this form of governance and asked ASN what it believed would be the most appropriate solution. In the same way as the other regulatory bodies, ASN supported an arrangement which would give greater weight to ENSREG, which is now clearly the most legitimate institutional representative within the EU on questions of nuclear safety.

As for the concrete assistance provided by ASN via the ICSN, this primarily took the form of help to national regulatory bodies with regard to nuclear safety. In 2011, it took part in regulatory assistance projects in Egypt, Jordan, Morocco, Ukraine and Vietnam.

These actions are supplemented by other international technical assistance programmes, in accordance with resolutions adopted by the G8 (G7 extended to include Russia), or those run by IAEA, to improve nuclear safety in third party countries, and which are financed by contributions from donor States and the European Union.

ASN is thus a participant in the expert groups reporting to the European Bank for Reconstruction and Development (EBRD), responsible for managing multilateral funds to finance the following actions:

- delicensing of nuclear reactors in Bulgaria (Kozloduy 1 to 4), Lithuania (Ignalina 1 & 2), and Slovakia (Bohunice V1 1 & 2);
- installation of a new containment dome for Chernobyl Reactor No. 4, the origin of the April 1986 disaster, and construction of interim storage and treatment installations for the spent fuel and waste still present on the site;
- dismantling of decommissioned Russian nuclear submarines and radiological clean-out of the White Sea naval bases.

Lastly in the area of nuclear safety, ASN advises the French delegation to the Nuclear Safety and Security Group (NSSG) of the G8¹, chaired in 2011 by France.

On this point, 2011 was for France a particular one because, during its Presidency of the G8 and G20, it had to deal with the events of Fukushima Daiichi. The debates during the first NSSG meeting, on 23rd and 24th March, were marked by the accident which had just happened in Japan. Two further meetings were held, still in Paris, on 2nd and 3rd May and again on 17th and 18th October.

Within this forum, ASN fully assumed its role as adviser to the Government, working with the Ministry for Ecology, Sustainable Development, Transport and Housing (MEDDTL) and the Ministry for Foreign and European Affairs (MAEE) on the drafting of an NSSG declaration, which subsequently constituted the basis of the Deauville declaration at the G8 meeting of 26th and 27th May 2011. This declaration, which stresses how important it is for the nuclear countries to carry out the complementary safety assessments, to submit them to peer review and to revise the international conventions on nuclear safety wherever necessary, was a clear political signal sent out by these eight countries to the international community and to the IAEA.

2.2 The International Atomic Energy Agency (IAEA)

The International Atomic Energy Agency (IAEA) is a United Nations organisation based in Vienna, Austria. In December 2011, it comprised 154 member States. IAEA activities fall into two main categories: on the one hand, monitoring of nuclear materials and non-proliferation and, on the other, civil nuclear energy. In this latter area, two aspects are covered, with one IAEA department in charge of developing and promoting nuclear energy and another department in charge of the safety and security of nuclear facilities, with 220 staff, run by a French representative, the deputy director general of the IAEA, Denis Flory, appointed in September 2010.

Against the backdrop of the Fukushima Daiichi accident, IAEA organised a ministerial level conference from 20th to 24th June. The first day of this conference brought together numerous ministers from the IAEA member countries, while the following four days saw meetings of the heads of the regulatory authorities of these countries. This event was organised into four sessions, one of which was chaired by the ASN Chairman. It defined the bases of the IAEA plan of action, approved by the Board of Governors in September 2011. Important recommendations were made to the IAEA member countries, so that they implement the various measures mentioned in this plan.

These include reinforcing IAEA's main activities with respect to maintaining a high level of nuclear safety around the world (definition of safety standards, use of peer review instruments such as IRRS, OSART, revision of international Conventions on nuclear safety, accident notification and assistance to countries affected by an accident, etc.), activities in which ASN has been extensively involved for many years.

Directly related to this plan of action and the events that occurred in Japan, was a fact-finding mission comprising representatives of regulatory bodies and members of IAEA, which went to Japan from 22nd May to 1st June, to the Fukushima Daiichi site in particular. Following this visit, the delegation, which included an ASN commissioner, submitted the first detailed report not to have been produced by the Japanese and which played an important part in the deliberations of the Ministerial Conference in June.

1. The member countries of the G8 are: France, Germany, United States, Japan, Canada, Italy, Russia, United Kingdom. The European Commission, the EBRD, the NEA and IAEA also took part in exchanges with the NSSG.

– **Revision and consolidation of the Safety Standards, describing the safety principles and practices that the vast majority of member States use as the basis for their national regulations**

This activity is supervised by the Commission on Safety Standards (CSS) set up in 1996. The CSS is made up of 24 representatives from the highest level of the safety authorities, appointed for 4 years. France is represented on this Commission by a Deputy Director General of ASN. At the beginning of 2008, the ASN Chairman was given a second term as Chair of the CSS. The 29th and 30th meetings of the CSS were held in 2011.

The CSS coordinates the activities of four committees tasked with supervising the drafting of documents in four areas: NUSC (NUclear Safety Standards Committee) for installations safety, RASSC (RAdiation Safety Standards Committee) for radiation protection, TRANSSC (TRANsport Safety Standards Committee) for the safe transport of radioactive materials and WASSC (WAste Safety Standards Committee) for safe radioactive waste management. France, represented by ASN, is present on each of these committees, which meet twice a year. It should be noted that the ASN representative on the NUSC was appointed chairman of this committee, with a three-year mandate. Representatives of the relevant French organisations also participate in the work of the technical groups drafting the documents.

The “Safety Standards”, approved by the CSS and published under the responsibility of the Director General of IAEA, are contained in three types of documents: Safety Fundamentals, Safety Requirements and Safety Guides. In 2006, a single document laying out the fundamental principles for the four areas of safety was published, after approval by the CSS and adoption by the Board of Governors. For 2011, two points in particular should be mentioned: approval by the Board of Governors on 12th September 2011 of the radiation protection Basic Safety Standards (BSS) and the conclusions of the working group set up in 2009 to examine the optimum integration of aspects relating to nuclear security and safety. The short-term objective is to set up a committee for security, in the same way as those which already exist for safety and to create an official interface between the “safety” and “security” committees. In the longer term, extension of the scope of the CSS to “security” subjects which overlap the field of safety, is being envisaged.

– **The rise in the number of audit missions requested from IAEA by the member States and their increased effectiveness**

This category includes the OSART (Operational Safety Review Team) and IRRS (Integrated Regulatory Review Service) missions. These missions are carried out using the IAEA safety standards as the reference, thus making these standards a *de facto* international benchmark.

The OSART missions are carried out by a team of experts from third party countries who, for two to three weeks, examine the safety organisation of the nuclear power plants in operation. The actual implementation of the recommendations and suggestions put forward by the team of experts is verified during a follow-up mission, 18 months after the visit by the experts.

The 23rd OSART mission performed in France took place from 14th November to 1st December 2011, at the Cattenom NPP. As with the previous missions, the concluding report will be published on the ASN website. The Fessenheim plant audit follow-up mission took place from 7th to 11th December, subsequent to the OSART mission in 2009.

For their part, the IRRS missions are devoted to analysing all safety aspects of the activities of a regulatory authority. ASN, which received an IRRS mission in 2006 and a follow-up mission in 2009, took part in several IRRS missions in 2011, in Romania, Korea, Germany (follow-up mission), Slovenia and Switzerland, where the ASN Director General, Jean-Christophe Niel, headed the team of experts.

The peer reviews were the key subject during discussions on changes to the international nuclear safety framework, in particular at the ministerial Conference of June 2011 (see point 2 | 2). Several countries considered that, because the IAEA safety standards are not binding, it was essential to make regular peer reviews mandatory, with widespread dissemination of their results. These points are currently being debated. It is worth noting that, through the provisions of the European directive on the safety of nuclear facilities, the EU member countries are already subject to periodic and mandatory peer reviews of their general safety arrangements.

ASN responds to other requests from the IAEA secretariat, for example to take part in regional radiation protection training and expert appraisal missions, primarily for French-speaking countries. In 2011, two ASN representatives thus gave radiation protection and radioactive source management



IRRS mission kick-off meeting, in Switzerland, from 20th November to 2nd December 2011

classes in Tunisia, and an ASN inspector went to Mauritania to analyse and advise this country's regulatory authority on implementing a process for licensing an accelerator used for radiotherapy.

The International Relations Department and the divisions in Lyon, Paris, Strasbourg and Dijon welcomed trainees from Vietnam, Romania and Morocco for courses lasting from one to four weeks and presented ASN, its experience and its inspection practices in the field of nuclear safety and radiation protection. One Lebanese trainee who was interested in the management and quality systems, also took a two-week course at ASN's Management and Expertise Office (MEA).

– Harmonisation of communication tools

ASN remains heavily involved in the work being done on the INES (International Nuclear Event Scale) in particular that initiated following the Fukushima Daiichi accident. It became clear on the occasion of this accident that the understanding of this tool was as yet incomplete and progress on this point is stipulated in the plan of action adopted in September 2011 (see point 2|2). The user's guide for the 2008 version of the INES scale has been applied in France since 2010 and the French version was published in 2011.

ASN is in favour of eventually incorporating patient radiation protection into the INES scale, taking account of the particularities related to rating these events, and the corresponding communication. The ASN/SFRO scale, produced in collaboration with SFRO (see chapter 4) received a favourable assessment by the working group on the classification of events involving patients, created at France's request. This working group comprises the IAEA Member States more particularly aware of the stakes involved in radiation protection of patients: Belgium, Brazil, Finland, France, Germany, Hungary, Japan, Spain, Ukraine and United States. In 2011, the group's work mainly involved drafting a proposal to take account of defence in depth when rating radiation protection events concerning patients.

2|3 OECD's Nuclear Energy Agency (NEA)

The NEA, created in 1958, now counts 30 member countries from Europe, North America and the Asia-Pacific region. Its main objective is to promote cooperation for the development of nuclear power as an energy source that is reliable and acceptable from the environmental and economic points of view.

Within NEA, ASN takes part in the work of the Committee on Nuclear Regulatory Activities (CNRA), the Committee on Radiation Protection and Public Health (CRPPH), the Radioactive Waste Management Committee (RWMC), the Nuclear Law Committee (NLC) and in other working groups of the Committee on the Safety of Nuclear Installations (CSNI).

Following the Fukushima Daiichi accident, the NEA set up a cross-disciplinary working group to identify subjects which could be dealt with by the various NEA committees and working groups. During the course of 2011, this working group met on two occasions and its work enabled initial experience feedback from this accident to be shared, with identification of the measures that could be implemented by the NEA committees and working groups in the short and medium term.

Committee on Radiation Protection and Public Health (CRPPH)

From 17th to 19th May, ASN took part in the 69th meeting of the NEA's CRPPH. This committee, which consists of high-level radiation protection experts, is recognised worldwide and works in close cooperation with the other international organisations active in the field of radiation protection (ICRP, IAEA, European Commission, World Health Organisation, UNSCEAR). The meeting's agenda included the Fukushima Daiichi accident and its impact on the activities of the various working groups within this Committee. The meeting also decided to set up a new expert group tasked with monitoring radiation protection aspects and coordinating steps within the CRPPH with respect to Fukushima (EGRPF, Expert Group on the Radiological Aspects of the Fukushima Accident). ASN also seconded one of its specialists in post-accident situation management to the CRPPH (EGRPF), on a part-time basis, so that the NEA was able to gain a clearer understanding of this topic.

Committee on Nuclear Regulatory Activities (CNRA)

This committee met in Paris on two occasions and enabled the first steps to be taken to integrate the experience feedback from the Fukushima Daiichi accident.

The CNRA meeting on 6th and 7th June was followed on 8th June by the "Fukushima Accident: Insight and Approaches" forum organised by the NEA. This forum brought together the regulatory authorities from the members countries of the G8 and the OECD, along with associate countries such as Brazil, India, Romania, South Africa and Ukraine. The participants in this forum defined priorities and recommendations in terms of know-how, experience-sharing, and the approaches and initial steps taken by the regulatory authorities in the wake of the Fukushima Daiichi accident. The conclusions of this conference were incorporated into the preparatory documents for the IAEA ministerial conference of 20th-24th

2|4 *Multinational Design Evaluation Program (MDEP)*

The NEA also handles the MDEP secretariat. The MDEP is an international cooperative initiative to develop innovative approaches to pooling of the resources and know-how of the regulatory bodies, which have responsibility for regulatory assessment of new reactors.

The MDEP, which is built around safety, is a multinational cooperative forum working within the framework of power reactor safety cases and aimed at ensuring the harmonisation and implementation of safety standards. An ASN agent is seconded to the NEA and is responsible for part of the MDEP's secretarial duties.

The MDEP organisation

The MDEP Policy Group and Steering Technical Committee are responsible for implementing the MDEP. The work of the MDEP is performed by the Design Specific Working Groups for nuclear reactors and the Issue Specific Working Groups.

Two Working Groups have been set up. One, of which Canada, China, Finland, France, United Kingdom and United States are members, is devoted to work on the EPR. The other group, of which China, United Kingdom and the United States are members, is working on the AP1000.

Also within the framework of the MDEP, three working groups were set up, focusing on harmonisation of multinational inspection of nuclear component manufacturers (Vendor Inspection Cooperation Working Group - VICWG), on standards and codes for pressure vessel components (Codes and Standards Working Group - CSWG), and on design standards for digital I&C (Digital Instrumentation and Control Working Group - DICWG).

MDEP activities

On the basis of the work started in 2010 to prepare for expansion of the MDEP to take in other reactor designs and other countries, a new mandate covering the activities of the programme was signed in early 2011.

The MDEP Policy Group, comprising leaders of nuclear regulators from the ten participating countries and chaired by the ASN Chair, met in June 2011. This meeting validated the working programmes of the various working groups and examined the membership process for India, which formally submitted its application to become a member of the MDEP.

The MDEP's 2010 activity report was published in June 2011, providing information about the MDEP to stakeholders, i.e. the regulatory authorities not participating in the MDEP, the nuclear sector industry and the general public.

Several joint inspections were performed in 2011, based on the work of the VICWG. "Common Positions" on various subjects were also published on the MDEP website (see chapter 12, point 2 | 4). Interaction with the nuclear industry was also reinforced, through the organisation of specific meetings with the designers and the CORDEL group of the World Nuclear Association (WNA).

In order to establish long-term dialogue with these stakeholders, a second MDEP conference on new reactor design was held on 15th and 16th September 2011, in Paris. This conference was an opportunity to review the four years of MDEP activity, in particular in the field of harmonisation, which is still very much a long-term goal. The MDEP will need to carry out more detailed analysis of the work done and the future prospects. The various participants also felt that they had a joint responsibility to define and implement appropriate safety measures in the wake of the Fukushima Daiichi accident.

2|5 The United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR)

The United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR) was created in 1955. It examines all scientific data on radiation sources and the risks this radiation represents for the environment and for health. This activity is supervised by the annual meeting of the national representations of the Member States, comprising

high-level experts, to which Mr Bourgignon, an ASN Commissioner, is invited. The reports published by this scientific body, which constitute the international reference, cover subjects such as the hereditary effects of ionising radiation and the consequences of the Chernobyl accident. An ad hoc expert group was set up to assess the health and environmental impact of the Fukushima accident. This group should present its preliminary conclusions in March 2012 and the final report in 2013, on the occasion of the General Assembly of the United Nations.

2|6 The International Nuclear Regulators' Association (INRA)

The International Nuclear Regulators' Association (INRA), which comprises the heads of nuclear regulatory bodies from Canada, France, Germany, Japan, South Korea, Spain, Sweden, the United Kingdom and the United States, met in May 2011, and as a side-event at the Vienna General Conference in September 2011, with Ann-Louise Eksborg, Head of Sweden's nuclear safety regulator, in the chair.

Unsurprisingly, the members of INRA gave thought to how to react in the wake of the Fukushima Daiichi accident. Following the second meeting, the Chair of INRA sent a letter to Y. Amano, Director General of the IAEA, in which she offered her support for the IAEA plan of action, and in particular the steps aimed at promoting the performance of stress tests in all nuclear countries worldwide, and the reinforcement of the peer review systems (IRRS and OSART).

During the Vienna meeting, the extremely fruitful discussions ASN had hoped for, took place with representatives of the World Association of Nuclear Operators (WANO) on how the licensees intended to learn the lessons of Fukushima Daiichi. At the initiative of the ASN Chairman, a review was also initiated into the possible expansion of INRA to include new members.

In 2012, the INRA will be chaired by the Canadian nuclear regulator.

2|7 The Association of Nuclear Regulators of Countries Operating French Designed Nuclear Power Plants (FRAREG)

The FRAREG (FRAmatome REGulators) association was created in May 2000 at the inaugural meeting held in Cape Town at the invitation of the South African nuclear regulator. It comprises the nuclear regulators of Belgium, France, the People's Republic of China, South Africa and South Korea.

Its mandate is to facilitate transfer of operating experience gained from regulation of the reactors designed and/or built by the same supplier and to enable nuclear regulators to compare the methods they use to manage generic problems and evaluate the level of safety of the Framatome type reactors they regulate.

The Association's latest meeting was held in South Africa in 2010. Owing to the workload the nuclear regulators had to

bear following the Fukushima Daiichi accident, the meeting scheduled for France in 2011 should take place, still in France, but in 2012.

2|8 The European ALARA Network and the European Radiation Protection Authorities Network

ASN took part in the two six-monthly meetings of the European ALARA Network (EAN) management group, on 24th May and 24th November, in the ASN premises. These meetings are an

opportunity for the various member countries to present topical subjects related to the ALARA approach. This year, at the May meeting, the discussions concerned the steps taken at a national level following the Fukushima Daiichi accident.

On 23rd May, ASN hosted the annual meeting of the European Radiation Protection Authorities Network (ERPAN), a sub-network of EAN. This meeting enables each regulatory body to present topical subjects related to radiation protection in the industrial and medical sectors. On this occasion, ASN presented the involvement of medical physicists in the medical imaging units in France.

3 BILATERAL RELATIONS

ASN works with many countries within the framework of bilateral agreements signed at different levels:

- governmental agreements (Belgium, Germany, Luxembourg, Switzerland);
- administrative arrangements between ASN and its counterparts (about twenty).

The bilateral relations developed between ASN and its counterparts proved to be extremely useful in maintaining an exchange of information during the Japanese emergency.

As early as the very first days of the accident in Japan, ASN took part in daily audio-conferences with several foreign regulators (United States, Canada, United Kingdom). These telephone conferences enabled the regulators to inform each other of the changing situation in Fukushima and of the recommendations issued by each country to its nationals present in Japan.

Thought is currently being given to how these exchanges could lead to greater cooperation between the regulatory authorities concerning experience feedback from the accident in Japan.

3|1 Staff exchanges between ASN and its foreign counterparts

Better understanding of how foreign nuclear safety and radiation protection regulators actually work is a means of learning pertinent lessons for the working of ASN itself and enhancing staff training. One way to achieve this goal is to develop the staff exchange system.

The nuclear safety and radiation protection regulators with whom staff exchanges have been arranged to date are those of Belgium, China, Finland, Germany, Hungary, Ireland, Japan, Spain, Switzerland, the United Kingdom and the United States.

Provision is made for several types of exchange: very short term actions (one to two days). These are a means of offering our counterparts cross-inspections and joint nuclear and

radiological emergency exercises. In 2011, more than thirty joint inspections in the field of nuclear safety and radiation protection were organised. ASN inspectors participated in NPP inspections in Belgium, China, Finland, Germany, Switzerland, United Kingdom, etc. and inspectors from abroad (Belgium, China, Germany, Japan, Luxembourg, Spain, Switzerland and the United States) participated in inspections in French plants. A cross-inspection was also held with the British safety regulator at the Sellafield fuel reprocessing plant. Some of these joint inspections also related to radiation protection in the medical and industrial sectors in Belgium, France, Germany, Ireland, Spain and Switzerland.

Some of these inspections were linked to the European stress tests initiated following the Fukushima Daiichi accident (see chapter 4):

- short-term assignments (2 weeks to 6 months) aimed at studying a specific technical topic;
- exchanges giving an overview of all of a counterpart's activities;
- long-term exchanges (about one to three years) in order to become fully familiar with the ways in which foreign nuclear safety and radiation protection regulators work, to gain in-depth knowledge. Whenever possible, this type of exchange should be reciprocal.

Under the terms of an assistance contract, a staff member from the nuclear pressure equipment department is seconded to the British regulatory authority (Office for Nuclear Regulation - ONR) to work on the generic assessment of the new-design EPR and AP1000 reactors. Since early 2011, a French inspector from the nuclear power plant department has been seconded to the ONR, where he is in charge of monitoring the construction of the new reactors.

In exchange for the secondment to the Spanish Consejo de Seguridad Nuclear (CSN) of an engineer from the Research Facilities and Waste Department, for a three-year period starting on 1st February 2009, a CSN engineer was seconded to the Nuclear Power Plant Department until the beginning of 2012.

Since April 2009, a member of the nuclear pressure equipment department (DEP) has joined the American regulator, the US NRC (United States Nuclear Regulatory Commission) for a period of three years. Since the beginning of his secondment, this agent has worked in several departments of the commission, in particular dealing with queries concerning new reactors and extended reactor life. In October 2011, an agent from the US NRC joined the ASN international relations department for a period of one year. His duties include organising and implementing the peer review of the European stress tests initiated following the Fukushima Daiichi accident.

Staff exchanges are also organised with international organisations. For instance, a member of ASN has been working at IAEA since autumn 2010, in the team tasked with organising Integrated Regulatory Review Service (IRRS) assignments. Another ASN engineer, now recruited by IAEA, is also working at the Agency on safety standards, providing the scientific secretariat for the CSS (Commission on Safety Standards, see point 2 | 2). Finally, and as previously mentioned, ASN is making an ASN agent available to the NEA to help with correct implementation of the MDEP.

These exchanges will continue to enrich practices at ASN, which will thus be able to make use of the proven methods and good practices observed and which are employed by its counterparts. Furthermore, the experience acquired over nearly ten years now, indicates that inspector exchange programmes are an important factor in stimulating bilateral relations between nuclear safety and radiation protection regulators.

It is also worth underlining the appointment of representatives of foreign safety regulatory bodies to the Advisory Committees of experts. ASN employs this practice enabling experts from other countries to not only take part in the Advisory Committees but also, on occasion, to act as Chair or Deputy Chair. The participation of experts from European countries in the advisory committees devoted to the complementary safety assessments also confirms ASN's openness to the expertise and critical eye of foreign experts.

3|2 Bilateral cooperation between ASN and its foreign counterparts

Bilateral relations between ASN and its foreign counterparts are built around an approach that integrates nuclear safety and radiation protection for each of the countries with which ASN maintains priority relations. The following can be offered as examples.

Germany

The thirty-seventh Franco-German Commission on nuclear installation safety questions (Deutsch-Französische Kommission für Fragen der Sicherheit kerntechnischer Einrichtungen - DFK) met on 10th and 11th May in Marseille. This annual meeting enabled the two delegations to present topical matters related to nuclear safety and radiation protection in the two countries, as well as the annual reviews concerning the safety of the Fessenheim and Cattenom NPPs in France and Neckarwestheim and Philippsburg in Germany. The meeting



Visit to the Jules Horowitz (Cadarache) reactor construction site by the members of the Franco-German Commission on 10th March 2011

was also an opportunity to review the consequences of the Fukushima Daiichi accident in both countries.

The representatives of the four working groups set up by the DFK also presented the results of their annual work and their respective mandates were extended for the next year.

On the occasion of their meeting, the two delegations visited the ITER and Jules Horowitz reactor construction sites.

Luxembourg and the German states of Saarland and Rhine-Palatinate also appointed a joint expert to take part in the French complementary safety assessments (primarily for the Cattenom and Fessenheim NPPs). No reciprocal arrangement with these States was possible, because they do not operate any nuclear reactors.

Belgium

Relations with the Belgian Federal Nuclear Regulatory Agency (AFCN) and its technical support subsidiary BEL V cover all of ASN's areas of competence: safety, waste management, transport and radiation protection.

As in previous years, numerous cross-inspections are being organised with ASN's Belgian counterparts on NPPs or in the small-scale nuclear field. The management committee comprising ASN, AFCN and BEL V met on 26th and 27th January 2011 in Brussels. In addition to this meeting, the French delegation was able to visit the radiotherapy unit in the Saint-Luc university hospital of Brussels.

China

The high-level meetings organised for the ASN Chairman's trip to China in 2010 led to the definition of an action plan comprising a schedule of discussion meetings between the two divisions responsible for construction of the EPR reactors, on the one hand ASN's Caen division, and on the other the Guangdong division of China's National nuclear security administration (NNSA) - Guangdong regional office (GRO).

From 7th to 10th November 2011, a delegation of three GRO inspectors, including the deputy director, visited France. The first day was devoted to discussions concerning the respective approaches for implementation of the stress tests on

the French and Chinese NPPs, during a meeting with the ASN's Director of NPP safety. Over the following three days, the delegation visited Caen for two days of meetings with the ASN division and visited the EPR construction site at Flamanville. Inspection practices and the state of advancement of the construction of the French reactor and the two Chinese EPRs at Taishan were the main subject of the discussions between the French and Chinese inspectors.

For many years now, ASN's Lyon division has also enjoyed relations with the NNSA's Guangdong division. Three inspectors from this division went to China in November 2011. With their Chinese counterparts, they discussed the initial lessons learned from the nuclear accident of Fukushima Daiichi, in particular with regard to the nuclear power plant at Daya Bay - Lingao.

In 2011, two delegations from the Chinese ministry of water resources expressed a desire to meet ASN to discuss the impact of siting NPPs next to a river. The first delegation followed up the meeting organised at ASN with a visit to the Saint-Laurent-des-Eaux NPP, a meeting with this plant's local information committee and discussions with representatives of the various stakeholders in the Val de Loire river basin.

Finally, in November 2011, ASN received a delegation from the Chinese ministry for the environment, which was interested in radiological situation management procedures and the steps taken to regulate radioactive sources in France.

South Korea

Against a backdrop of changes to the nuclear safety regulatory system in South Korea and the creation of a nuclear safety regulator independent of all ministries, ASN welcomed a Korean delegation for whom the purpose of the visit was to study and compare the status, duties and responsibilities of several European safety regulators, including that of France. This meeting was an opportunity for ASN to present the TSN Act and promote its provisions.

In 2011, two other South Korean delegations were welcomed at ASN. One, from the city of Busan, was interested in radioactive waste management. It visited the Aube low and intermediate level, short-lived waste repository and met a few representatives from the local information committee. The other comprised experts from the KINS, the technical support organization for the South Korean regulatory authority. They went to Dijon for discussions with the nuclear pressure equipment department concerning inspections carried out with the help of third-party organisations.

Spain

Because of the considerable workload on both parties, the ASN-Consejo de Seguridad Nuclear (CSN) management committee meeting scheduled for 2011 was postponed. However, a meeting was held in Spain between the ASN and CSN departments in charge of communication and information, in September 2011 (see chapter 6).

The United States

The joint desire of ASN and the American regulator, the US NRC (US Nuclear Regulatory Commission), to maintain close

relations was once again evident in 2011 through the many actions covering all types of cooperation.

In addition, the invitations received by the ASN chairman to present the work of the MDEP and by the Director General to present experience feedback from regulation of the French NPP fleet, at the Regulatory Information Conference (RIC) in March 2011, are clear evidence of the high regard in which ASN is held by its American counterpart.

In August 2011, two ASN agents took a source security training course organised by the US NRC, following which they took part as observers in an inspection carried out by this Authority on this topic in a university hospital in Washington.

Finally, the Chairmen of the two Authorities met on several occasions. Meetings were also organised between French and American commissioners. These meetings were an opportunity to discuss the steps taken in the two countries following the Fukushima Daiichi accident (stress tests, analysis of accident management experience feedback).

The Russian Federation

As part of the reinforced cooperation between ASN and the Russian nuclear safety regulator Rostechнадзор (RTN), the Directors in charge of NPP regulation, waste, research and fuel cycle facilities and international relations, went to Moscow on



Visit to the Novovoronej-4 reactor, shut down for maintenance. This is a first-generation 440 MWe VVER reactor, which was commissioned in 1972



Visit to the Novovoronej-5 reactor hall – a second-generation VVER of 1000 MWe, commissioned in 1980

30th August 2011 for discussions with their RTN counterparts. This meeting covered three topics: the continued operation of power reactors, the fuel cycle and cooperation in the field of assistance with safety for countries adopting nuclear energy for the first time.

The ASN Chairman, a commissioner and the director general also went to Russia from 3rd to 7th October 2011, to meet their counterparts and visit three nuclear sites. The ASN delegation thus visited the NPP at Novovoronej (three VVER reactors in operation and a further two under construction), the Sia Radon centre in Serguiev Possad (waste management) and the Electrostal nuclear fuel fabrication plant.

During their plenary meeting on 7th October, the Chairmen of the two safety regulators, Messrs. Kutin and Lacoste, expressed their desire to continue and indeed build further on this cooperation. The following measures were decided on:

- performance of cross-inspections on safety and radiation protection;
- joint participation in national emergency exercises;
- creation of a working group to analyse incidents;
- cross-inspections of a fuel fabrication plant;
- exchanges of information about the stress tests initiated in each country;
- discussions on fast neutron reactor safety;
- considerations concerning severe accident emergency management, nationally and internationally;
- cooperation with new nuclear countries.

Finland

There has been longstanding cooperation between ASN and its Finnish counterpart STUK, especially in the area of management of waste and of spent fuel. But cooperation has been significantly enhanced in recent years owing to the construction of an EPR type reactor at the Finnish site of Olkiluoto.

Under the terms of the special arrangement between ASN and STUK covering exchanges of information on the construction of new reactors, a meeting was organised in May 2011 between the ASN and STUK teams responsible respectively for the Flamanville 3 and Olkiluoto 3 projects. Based on technical discussions and visits to the construction sites, the meetings helped to reinforce interaction between the two projects, in addition to the work carried out within the MDEP multilateral framework (see chapter 12).

India

Under the terms of an agreement between the Indian Atomic Energy Regulatory Board (AERB) and ASN, which was renewed in December 2010, the Chairmen of the two regulatory authorities met on 9th June 2011 in the ASN head offices. They discussed areas for cooperation to be developed further between their organisations, in the fields of nuclear safety and radiation protection. These areas include nuclear safety, in particular for the EPR, source security, preparedness for emergency situations and radiation protection in small-scale nuclear facilities. An ASN mission to India is scheduled for 2012 and will enable these subjects to be dealt with in greater detail.

More specifically with regard to the EPR, and at the request of the Indian Government, ASN on 2nd March 2011 welcomed the High Level Technical Committee tasked by Prime Minister Singh with conducting a study into the safety of the EPR.

Ireland

On 31st August, the annual meeting between the Radiological Protection Institute of Ireland (RPII) and ASN was held in the ASN premises. This meeting was an opportunity to review cooperation between the RPII and ASN as well as the measures to be taken in the wake of the Fukushima Daiichi accident, and to discuss the running of the stress tests in France. On 3rd May 2011, the ASN's director for ionising radiation and health participated, as a permanent member, in one of RPII's advisory committees.

Norway

A delegation from the Norwegian Radiation Protection Authority (NRPA) visited France from 19th to 21st September. This trip involved a visit to the La Hague plant (20th September) and a meeting with ASN (21st September in Paris). Following this visit, a cooperation agreement was signed by the ASN Chairman, Mr Lacoste, and Mr Harbitz, Director General of the Norwegian authority, on 8th December in Berne, on the occasion of the HERCA meeting (see point 2 | 1 | 7).

Italy

In 2010, ASN concentrated on bilateral relations with various Italian institutions involved in launching the country's nuclear power generating programme. The result of the referendum, held in June 2011, put an end to this programme. There would seem to be no question of the creation of the Italian nuclear safety agency being compromised by the abrogation of the texts specified in the referendum, but neither are there any signs of progress. Its designated Chairman, U. Veronesi, recently announced his resignation. For all these reasons, ASN relations with the Italian authorities in charge of nuclear safety and radiation protection remained limited in 2011.

Japan

In the weeks and months following the Fukushima Daiichi accident, nearly 20 Japanese delegations were received, at their request, by ASN. These delegations mainly comprised representatives from the Japanese safety regulator (NISA), the energy and natural resources agency (ANRE), Government representatives, members of parliament and local officials. Of particular note was the 14th June visit by Mr. Hosono, adviser to the Prime Minister at the time of the meeting and now Minister for the environment and for management of the consequences of the Fukushima Daiichi accident.

The subjects most frequently discussed at these meetings were directly linked to topical matters:

- the independence of the ASN, its roles, its responsibilities (TSN Act) within the context of the reorganisation of nuclear safety regulation and monitoring in Japan;
- the complementary safety assessment and stress test approaches adopted in France and Europe;

- worker radiation protection;
- management of post-accident situations (mainly at the initiative of ASN).

In addition to the general conference, a bilateral meeting was organised between the ASN Chairman and the new Director General of the NISA (Mr Fukano) appointed in the weeks following the Fukushima Daiichi accident.

As part of the regular exchanges with NISA and the technical support organisation (JNES), three inspectors from the ASN Lyon division went to Japan from 5th to 10th March 2011. They discussed inspection practices with their Japanese counterparts, in particular concerning the Ohi nuclear power plant and the Monju reactor.

The ASN Lyon division also welcomed a delegation of NISA and JNES members in September 2011. The topics covered concerned the nuclear accident at Fukushima Daiichi and the regulation and monitoring of fuel cycle facilities.

In addition to these bilateral meetings, there were also numerous contacts between the French and Japanese safety authorities within international bodies such as the IAEA, OECD/NEA and multilateral associations such as INRA (International Nuclear Regulators Association).

ASN Commissioner Philippe Jamet was thus a member of the IAEA mission which went to Japan in April 2011 (see point 2 | 2). The ASN Deputy Director General, Jean-Luc Lachaume, took part in an NEA conference on Fukushima on 16th and 17th October, specifically concerning the decontamination of polluted soils and the rehabilitation of the affected areas. This conference was an opportunity for ASN to present the results of 5 years of work looking into the issue of post-accident management (CODIRPA programme). Jean-Luc Lachaume also took part in a conference on stress tests, on 16th and 17th November, in Tokyo.

It should also be noted that for the purposes of monitoring the Fukushima Daiichi accident, and for a period of several weeks, ASN, together with other French players, held a daily and then weekly telephone conference with the nuclear department at the French Embassy in Tokyo. These telephone conferences began very soon after the accident occurred and proved to be extremely valuable in understanding and monitoring how the situation was developing in Japan.

Luxembourg

The tenth meeting of the Franco-Luxembourg Joint Commission on Nuclear Safety was held on 15th September 2011, in Paris. This meeting was mainly devoted to the steps taken in both countries during the Fukushima emergency (information of the public, information between the Authorities of the two countries). The involvement of Luxembourg experts in the complementary safety assessments (CSA) conducted in France (see box) was also reviewed. ASN also presented a report on monitoring of the EDF plant at Cattenom, located less than 40 kilometres from the border with Luxembourg.

Czech Republic

On the fringes of the WENRA meeting in Berlin, the ASN Chairman and his Czech counterpart, Mrs Drábová, signed an

agreement on 15th November 2011 updating and expanding a prior version signed in 1994. This agreement concerns the exchange of technical information and cooperation between ASN and the SÚJB, the Czech safety regulator, in the fields of nuclear safety and radiation protection. The renewal of this agreement is clear evidence of the desire of the two regulatory bodies to continue their cooperation in the coming years.

Hungary

ASN's participation in the conference held to mark the twentieth anniversary of the Hungarian safety regulator was an opportunity to restate the desire of the two authorities to continue their cooperation. ASN also had an opportunity for discussions with its Hungarian counterpart in mid-November, when traces of iodine 131 were detected in several European countries. As soon as it was certain, the Hungarian safety regulator informed ASN that this iodine probably originated in a radioisotopes production centre in Budapest.

The United Kingdom

ASN and the British Office for Nuclear Regulation (ONR) have cooperated for many years and the arrangement has been enhanced and improved over time.

In 2011, the status of the ONR changed and it became an agency independent of the Health and Safety Executive (HSE) of which it had been a department. This change in status offers it greater independence in the management of its resources and enabled it to acquire new competence in terms of the safety of radioactive material transport (previously the competence of the Department for transport (DfT)).

During the past year, cooperation between ASN and the ONR focused mainly on activities related to the evaluation of new reactors. Furthermore, the assistance contract agreed between ASN and ONR in 2009, making provision for the secondment of an agent from the nuclear pressure equipment department, was extended by a further year (see point 3 | 1).

The annual meeting of the heads of the two bodies was initially scheduled for June 2011 but had to be postponed owing to the extremely high workload as a result of the Fukushima Daiichi accident. A new meeting is scheduled for 2012. The ASN-IRSN/ONR Franco-British Steering Committee met in February 2011 in the United Kingdom. ASN Commissioner Philippe Jamet, went to the United Kingdom from 23rd to 25th November, in order to visit the Heysham NPP and the Sellafield site (Cumbria).

Switzerland

The 22nd annual conference of the Franco-Swiss Commission (CFS) on Nuclear Safety and Radiation Protection took place on 13th September 2011, in Zurich. The meeting discussed exchanges of information on the safety of nuclear installations and radiation protection in the two countries, coordination of emergency protection measures and radioactive waste management. ASN and the federal inspectorate for nuclear safety (IFSN) discussed monitoring measures taken in the two countries after the Fukushima Daiichi accident and the results of the studies into the risk of leukaemia in children living near BNIs (see chapter 1).

Ukraine

An ASN Commissioner went to Ukraine on 21st April, to attend the technical meeting of the international conference entitled: “Chernobyl, 25 years on: safety for the future”. This conference was organised from 20th to 22nd April by the Ukrainian ministry in charge of emergency situations. The subjects covered included the problems observed in the exclusion zone 30 km around the plant, in particular the slow decontamination of the soil and radioactive waste management.

ASN continued to provide Ukraine with assistance, especially through the nuclear safety cooperation instrument (see point 2 | 1 | 8), which involved the ASN Communication and Public Information Department. This cooperation is designed to help the Ukrainian safety regulator consolidate its public information policy (see chapter 6).

3 | 3 ASN bilateral assistance

ASN pays very close attention to nuclear installation projects in the “new nuclear countries”, where the implementation of a safety plan requires a minimum lead time of fifteen years before a nuclear power reactor can come into operation under satisfactory conditions. Such countries need to develop and put in place a legislative framework and an independent and competent safety authority with adequate financial and human resources to be able to fulfil its mission, as well as building safety capacity and developing a culture of safety and of monitoring.

The many expressions of interest in nuclear power from various third party countries, which have been very frequent in recent years, fell off significantly this year, owing to the Fukushima Daiichi accident. Some countries however confirmed their interest and ASN carried out discussions with several of them.

The United Arab Emirates

ASN maintains regular relations with the safety regulator of the Emirates, the FANR, on various subjects. In 2011, the FANR expressed an interest in ASN’s experience of monitoring of a reactor construction site and in the logistical organisation adopted by the French regulator (organisation and surface area of premises, layout of the emergency centre, “fire” safety, archive management, etc.). A formal cooperation agreement between the two regulatory bodies could also be prepared and signed in 2012.

Jordan

In 2011, ASN provided the Jordanian regulator (JNRC) with assistance in drafting regulations for radiation protection and the transport of radioactive materials. The Jordanian minister for energy, Khaled Touqan, was also received by two ASN commissioners, who took the opportunity to stress the importance, for any country making the transition to nuclear energy, of setting a competent safety regulator that is given the means necessary to perform its duties.

Poland

With a view to setting up a nuclear power generating programme in Poland by the 2022 time-frame, the Polish safety regulator, the PAA, is developing its expertise in the safety regulation and monitoring of power reactors. ASN thus presented the organisation of its regulatory activities and its inspector training procedures at a seminar held in Warsaw in March 2011, aimed at the Polish institutions concerned.

In September 2011, in Warsaw, the ASN Chairman also met the new Chairman of the PAA, Mr Włodarski, who had been appointed in January 2011. This meeting was an opportunity to identify future areas for cooperation and to finalise the draft agreement between the two bodies. It should shortly be ready for signature.

Vietnam

Cooperation with Vietnam in 2011 simply consisted of the secondment of a trainee from VARANS, the Vietnamese safety regulatory, through the IAEA’s assistance programmes.

The four countries mentioned above are those that are at the most advanced stages from amongst those wishing to start a nuclear power programme and that have no previous experience of nuclear power plants. They do not, however, account for all of ASN’s cooperation with “new entrant” countries.

Overall, ASN responded to about thirty requests in 2011 from countries indicating an interest in nuclear energy for the first time. In addition to its bilateral contacts, ASN is also involved in providing assistance to these countries via the Nuclear Safety Cooperation Instrument.

The Authority also participates in the Regulatory Cooperation Forum (RCF), a forum for discussions between safety authorities under the aegis of the IAEA, intended to facilitate the sharing of experience by regulators. ASN took part in two plenary sessions, in June and September 2011.

4 INTERNATIONAL AGREEMENTS

In the aftermath of the Chernobyl accident (26 April 1986), the international community negotiated a number of conventions designed to prevent accidents linked to the use of nuclear power and mitigate their consequences should they occur. These conventions are based on the principle of a voluntary commitment on the part of the States, who retain sole responsibility for the installations placed under their jurisdiction.

Two conventions deal with the prevention of nuclear accidents (Convention on Nuclear Safety and Joint Convention on the Safety of Spent Fuel Management and the Safety of Radioactive Waste Management), while two others deal with management of their consequences (Convention on early notification of a nuclear accident and Convention on assistance in the case of a nuclear accident or radiological emergency). France is a contracting party to these four conventions. IAEA (see point 2 | 2) is the depositary of these conventions and provides the relevant secretarial services.

4|1 The Convention on Nuclear Safety (CNS)

The CNS concerns civil nuclear power generating reactors. It was adopted in June 1994 and France signed it in September 1994 with ratification in September 1995. The convention came into force on 24 October 1996. As at 31 December 2011, it had been ratified by 74 States.

In ratifying it, the contracting parties agree to submit a report describing how they meet the obligations of the convention and apply its fundamental principles, as laid out in the IAEA safety fundamentals standard (SF-1), along with the good safety practices in their respective countries. The reports from the contracting parties are examined during a review meeting at which each party may ask questions of the others.

The four contracting party review meetings were held in April 1999, April 2002, April 2005 and April 2008.

The fifth meeting was held from 4th to 14th April 2011 at the IAEA. The 72 contracting parties were split into six groups,



Presentation of the French report to the Convention on Nuclear Safety on 6th April 2011 at the IAEA in Vienna (Austria)

which discussed the reports presented by the countries in the group. An ASN commissioner chaired the debates of group 4.

The French report was presented by the ASN Director General, in the presence of the ASN Commission. Its review highlights France's good practices, such as implementation of an effective and transparent programme of information of the public and international harmonisation of safety requirements, to which France makes an active contribution in order to promote safety principles.

Various areas for improvements were also proposed to France, including the need to reduce performance deviations in nuclear safety, radiation protection and environmental protection between the various NPPs in operation. This effort should especially focus on plants where the results are less satisfactory, with particular attention paid to the involvement of the plant's management and to a high level of operating and equipment maintenance quality.

The French and English versions of the French report are available on the ASN website, in the "International" section.

This fifth meeting was held just a few weeks after the nuclear accident at the Fukushima Daiichi power plant. The conclusions of this review meeting (downloadable from www-ns.iaea.org/downloads/ni/safety_convention/cns-summaryreport0411.pdf) focused on the following points:

- drafting of a text expressing the position and engagement of the contracting parties, with regard to the steps to be taken following the Fukushima Daiichi accident;
- the organisation of an extraordinary review meeting, from 27th to 31st August 2012, on the measures actually taken by the contracting parties at that date.

The organising meeting for this extraordinary meeting was held on 20th September. The decision was taken to change the usual structure of the national reports, arranging them according to six predetermined technical topics (external events, design, on-site severe accident management, international organisations, preparedness and response to emergency situations and off-site post-accident situations, and international cooperation. 13th May 2012 was chosen as the date for submission of the English versions of these reports to IAEA.

4|2 The Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management

The "Joint Convention" as it is often called, is the counterpart of the CNS for management of the spent fuel and radioactive waste produced by civil nuclear activities. France signed it on 29th September 1997 and it entered into force on 18th June 2001.

There were 63 contracting parties to the Joint Convention as of 31st December 2011.

The Joint Convention's fourth review meeting will be held at IAEA from 14th to 23rd May 2012. In order to prepare for this meeting, France sent IAEA its national report on 14th October 2011.

This report, the drafting of which was coordinated by ASN, is the result of cooperation between the General Directorate for Energy and Climate (DGEC), the Nuclear Safety and Radiation Protection Mission (MSNR), the French National Agency for Radioactive Waste Management (ANDRA), the Institute for Radiation Protection and Nuclear Safety (IRSN), CEA, AREVA, Électricité de France (EDF) and ASN.

It presents the implementation of the obligations of the Joint Convention by all the players in France and details the latest developments and prospects in the field covered by this Convention, especially changes to European and French regulations and to radioactive materials and waste management policies. The report also specifies the steps taken by France to take account of experience feedback from the Fukushima Daiichi accident.

4|3 The Convention on Early Notification of a Nuclear Accident

The Convention on Early Notification of a Nuclear Accident came into force on 27th October 1986, six months after the Chernobyl accident. It had 112 contracting parties as at 19th September 2011.

The contracting parties agree to inform the international community as rapidly as possible of any accident leading to uncontrolled release into the environment of radioactive material likely to affect a neighbouring State. To this end, a system of communication between States is coordinated by IAEA and exercises are held periodically among the contracting parties. ASN is the competent national authority for France. It is worth noting that, as soon as the accident at Fukushima Daiichi occurred, Japan – a contracting party to this Convention – adhered to its provisions and informed the international community of the ongoing events.

4|4 The Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency

The Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency came into force on

26th February 1987. As at 23rd September 2011, there were 107 contracting parties.

Its purpose is to facilitate cooperation between countries if one of them were to be affected by an accident with radiological consequences. This Convention has already been used on several occasions for accidents due to abandoned radioactive sources. France's specialised services have already treated irradiated victims. This was once again the case in 2010, with treatment being given to a patient from Latin America. ASN is the competent national authority for France.

In the case of the Fukushima Daiichi accident, it should be noted that the Japanese authorities did not feel that it was necessary to call on this provisions of this Convention.

Revision of these four international Conventions

The revision of the four international Conventions related to nuclear safety was a subject debated at all the international meetings subsequent to the Fukushima Daiichi accident (G8, G20, OECD/NEA, IAEA, etc.). Some highlighted inadequacies in the Convention on nuclear safety with regard to transparency or the independence of the safety regulators. Others observed that, despite the critical situation in which it found itself and the opportunity to obtain support from the international community, Japan worryingly never officially activated the “assistance” Convention. These considerations will no doubt continue to be discussed in 2012.

4|5 The other conventions linked to nuclear safety and radiation protection

Other international conventions, the scope of which does not fall within the remit of ASN, may be linked to nuclear safety.

Of particular relevance is the Convention on the Physical Protection of Nuclear Material, the purpose of which is to reinforce protection against malicious acts and against misappropriation of nuclear materials. The Convention came into force on 8 February 1987. It had 145 contracting parties in 2011.

Additional information on these conventions may be obtained from the IAEA's website: www-ns.iaea.org/conventions/

5 INTERNATIONAL CONFERENCES

In 2010, ASN played an important role on the international stage, taking part in the major conferences and workshops within its fields of competence. The following table gives the main events at which ASN was a participant.

Table 2: events in which ASN took part in 2011

Date	Place and organiser	Subject
20-22 January	Barcelona (EU)	ORAMED 2011
26 February - 4 March	Phoenix (WM Symposia)	Waste Management Conference 2011 (WM 2011)
8-11 March	Washington (NRC)	23rd Regulatory Information Conference (RIC 2011)
21-25 March	Lisbon (DOE/NNSA)	European Regional Workshop on the Megaports Initiative
20-22 April	Kiev (Ministry of emergency situations)	Chernobyl 25 years on: Safety for the future
3 May	Nice (SFEN)	International congress on advances in nuclear power plants (ICAPP 2011)
8-12 May	Paris (ISRS)	10th International symposium of the International Stereotactic Radiosurgery Society – Brain and body radiosurgery (ISRS 2011)
16-18 May	Opatija (CSNM)	7th International Congress of the Croatian Society of Nuclear Medicine
16-20 May	Vienna (IAEA)	Workshop on Regulatory Approaches and Strategies for Licensing the first NPP in Newcomer Countries
8 June	Paris (NEA)	Forum on the Fukushima accident: Insights and approaches
20-24 June	Vienna (IAEA)	IAEA ministerial conference on nuclear safety
28-29 June	Brussels (EU)	European Conference on nuclear safety
17-21 July	Baltimore (ASME)	American Society of Mechanical Engineers - Pressure Vessels and Piping Conference (ASME 2011)
14-16 September	Biarritz (SIRLaF)	10th International Symposium of Fundamental and Applied Radiobiology (CIRFA)
25-29 September	Reims (ASME)	14th International conference on Environmental Remediation and radioactive waste management (ICEM 2011)
16-17 October	Fukushima (NEA)	International Conference on Decontamination – Toward the Recovery of the Environment
17-21 October	Vienna (IAEA)	International Conference on the Safe and secure transport of radioactive material: the next fifty years of transport. Creating a safe, secure and sustainable framework
26-28 October	Washington (IAEA)	Workshop on the lessons learned from IRRS missions
6-11 November	New Delhi (HBNI)	International Conference on Structural Mechanics in Reactor Technology (SMiRT 21)
8-11 November	Vienna (IAEA)	International Conference on Clinical PET and Molecular Nuclear Medicine - Trends in Clinical PET and Radiopharmaceutical Development
14-18 November	Rabat (IAEA)	International Conference on Research Reactors: Safe Management and Effective Utilization

In 2011, ASN also organised or hosted international meetings and conferences in its premises. The list is given below.

Table 3: international meetings and conferences organised or hosted in its premises by ASN in 2011

Date	Place and organiser	Subject
2-4 March	Paris (IAEA)	6th Competent Authorities Meeting (IAEA CM - NCACG)
5-6 May	Paris (ASN)	2nd international seminar on post nuclear accident management: advances by CODIRPA
23 May	Paris (EU)	European Radiation Protection Authorities Network (ERPAN) meeting
14-18 November	Paris (IAEA)	Regional workshop on Evaluation of the Effectiveness of the Regulatory Bodies as part of the preparation for receiving an Integrated Regulatory Review Service mission
24 November	Paris (EU)	Meeting of the European ALARA network (EAN)

6 OUTLOOK

2012 will be marked by a number of major milestones, most of which are related to following up the steps taken in the wake of the Fukushima Daiichi accident.

In Europe, the national reports of the NPP stress tests will be peer reviewed from January to April 2012. The continuation of this exercise and the subsequent summaries by ENSREG and then the European Commission will be important moments. ASN is heavily involved in these exercises and will continue to devote efforts to ensuring that Europe remains a driving force behind improvements to nuclear safety around the world.

As for the possible changes to the European nuclear safety framework, which will be officially submitted by the Commission to the European Council in June 2012, ASN – in accordance with the provisions of the law – has initiated an analysis with the Government’s competent departments of the first potential areas revealed by the Commission in its communication of 23rd November 2011, in order to ensure appropriate preparation of the deadline of next Spring.

At an international level, the schedule is also a busy one. In addition to the Joint Convention review meeting of May 2012 – which was of course scheduled independently of the events at Fukushima Daiichi – an extraordinary review meeting of the contracting Parties to the Convention on nuclear safety will be

held in August 2012, to discuss the steps they have taken in the wake of the Fukushima Daiichi accident. ASN will be coordinating the drafting of the French report.

ASN also noted that there has been an extremely positive shift in the position adopted by the World Association of Nuclear Operators (WANO). ASN will be monitoring the changes to the initiatives launched by WANO and designed to reinforce international monitoring of operating safety.

ASN is convinced that wide-ranging changes are needed to the international safety framework and will also be attentive to the implementation of the action plan adopted by the IAEA Board of Governors in September 2011.

In addition to dealing with these exceptional activities related to the events at Fukushima Daiichi, ASN will in 2012 also be carrying out its usual international business, focusing on improvements to nuclear safety and radiation protection around the world. This aim will be pursued by maintaining strong and permanent ASN involvement in European and international bodies. Many cases need to be dealt with, ranging from negotiations around the new European “basic standards” directive, to the Commission’s work on IAEA safety standards.

In line with its highly proactive policy of international cooperation, ASN will be looking to engage in all of these subjects.