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1 ASN OBJECTIVES IN EUROPE AND WORLDWIDE

The nuclear plant population regulated by the Nuclear Safety Authority (ASN) is one of the largest and most diverse in the world. ASN therefore devotes considerable efforts to its relations with its foreign counterparts.

1 | 1 ASN international actions

Article 9 of the of TSN Act states that “The Nuclear Safety Authority 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 in a multilateral context and as part of bilateral agreements with its foreign counterparts, with the aim of contributing to strengthening the culture of safety and radiation protection around the world, and with the goal of becoming recognised as an “international benchmark”.

1 | 2 Europe

Europe is ASN’s priority area for international action, thus making a contribution to European construction.

Through the work of WENRA (Western European Nuclear Regulators’ Association), an informal club created in 1999 at the initiative of the ASN Chairman, which today comprises the heads of all the regulatory bodies of the expanded European Union and Switzerland, harmonisation of safety rules for reactors in operation in Europe will be effective in 2010. In 2008, WENRA began a review of the safety of new reactors.

In 2008, the High Level Group (HLG) comprising the heads of the European Union’s regulatory bodies, focused on enhancing Community integration of nuclear safety issues, in addition to the technical work of WENRA. The French Presidency of the European Union was a particularly good opportunity to advance this work.

In the European bilateral context, ASN strengthened its ties with countries which announced their intention of building new plants in order to provide safety and radiation protection assistance with future decisions and those already taken. ASN’s goal is to share its experience of licensing new EPR type reactors with the regulatory authorities of these countries.

1 | 3 Harmonisation of nuclear safety worldwide

Outside Europe, nuclear safety harmonisation initiatives are on the increase. ASN therefore ensures that they are taken further and contribute to a permanent improvement of nuclear safety and radiation protection around the world.

Within the International Atomic Energy Agency (IAEA), ASN plays an active part in the work of the Commission on Safety Standards (CSS) which is drafting international standards for the safety of nuclear installations, waste management, the transport of radioactive materials and radiation protection. These standards are not legally binding but they do constitute an international reference, including in Europe. The ASN Chairman has been the Chairman of the CSS since 2005.

The MDEP initiative

The US “Nuclear Regulatory Commission” (NRC) and ASN have been working closely for many years and took the initiative of launching an international project known as the “Multilateral Design Evaluation Program” (MDEP) for joint evaluation of the design of new reactors. This programme, which has been expanded to take in many partners from around the world, and for which the secretariat is handled by OECD’s Nuclear Energy Agency (NEA), is based around the joint safety evaluation of the EPR by France, Finland and the United States. The initiative eventually aims to harmonise the safety objectives, the codes and the standards associated with the safety analysis of a new reactor.

1 | 4 A high level of safety and transparency worldwide

At a time when a number of development projects for new nuclear power generating programmes are being announced and implemented, care must be taken to ensure that these initiatives remain consistent with nuclear safety. In this context, promoting a culture of transparency would also seem to be extremely important.

In 2008, the ASN Commission formalised ASN policy, enabling it to adopt a stance with regard to the assistance requests it receives. ASN analyses the nuclear safety situation in each country that contacts it for assistance with the regulatory infrastructure and the regulation of safety. Assuming that, following this analysis, ASN was to conclude that safety could not be guaranteed, it may express reservations with regard to the suitability of the envisaged cooperation. In cases in which ASN does decide to go ahead with cooperation, it does so in order to enable the country concerned to acquire independence and

develop the safety and transparency culture essential to a national system of nuclear safety and radiation protection regulation such as to guarantee effective protection of man and the environment.

Through cooperation with its counterparts in all regions of the world, through participation in all international forums dealing with nuclear safety and radiation protection issues, ASN – whose aim is to achieve recognition as an international benchmark – is at the forefront of promoting nuclear safety and radiation protection.

2 MULTILATERAL RELATIONS

2|1 European Union

With the Treaty setting up the European Atomic Energy Community (Euratom) and its derived law, and with the work done by the WENRA association, the European Union is today at the very heart of the regulatory work being done in the field of nuclear safety and radiation protection, and is among ASN's top priorities.

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 10 December 2002 (case C-29/99, Commission of the European Communities against the Council of the European Union), the European Court of Justice, ruling that it was impossible to maintain artificial boundaries between radiation protection and nuclear safety, recognised the principle of the existence of Community competence in the field of nuclear safety, in line with the provisions of chapter 3 of the Treaty. ASN actions at a European level are in particular designed to help develop this new field of Community competence.

2|1|2 The “High Level European Group”

On 30 January 2003, following the above-mentioned ruling by the European Court of Justice, the European Commission adopted two proposals for a directive, one defining general principles concerning installation safety, the other concerning the management of spent fuel and radioactive waste. It was however impossible for the Council of the European Union to adopt these two texts,

commonly referred to jointly as the “nuclear package”, owing to opposition from several Member States.

Following the recommendations made by a working group created after the failure of the “nuclear package”, the Commission on 17 July 2007 created the “High Level Group” (HLG) on Nuclear Safety and Waste Management. ASN, which believes that a move towards European harmonisation of nuclear safety principles and standards is necessary, is an active participant in this work, with a view to strengthening Community integration of nuclear safety issues. The ASN Chairman sits on the HLG. In 2008, the HLG met six times. Three working groups, devoted to installation safety, waste safety and transparency issues, were created. ASN holds the deputy chairmanship of the “installation safety” group. Within the HLG, the ASN Chairman presented a draft Community text on nuclear safety, which was favourably welcomed by several delegations. This initiative led to the emergence of an initial consensus between the members with regard to the desirability of a European nuclear safety directive. The European Commission was thus able to draft a new proposal for a directive which, in December 2008, was discussed for the first time by the Council of the European Union. At the end of 2008, the HLG was renamed ENSREG (European Nuclear Safety REGulators Group).

2|1|3 The European working groups

ASN also takes part in the work being done by the Euratom Treaty committees and expert 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).

Finally, regular contacts with the European Commission (Directorate General for Transport and Energy - DG/TREN in particular) are a means of reviewing progress and upcoming regulatory work in the fields of nuclear safety and radiation protection: in particular transposition of directives into national law and the workings of the Euratom Treaty committees.

2 | 1 | 4 The Western European Nuclear Regulators' Association (WENRA)

The WENRA association was officially created in February 1999, the founder members being the heads of the nuclear regulatory bodies of Belgium, Finland, France, Germany, Italy, Netherlands, Spain, Sweden, Switzerland and the United Kingdom. The ASN Chairman was its first Chair for four years. Mrs Judith Melin (Sweden), who was chair from 2003 to 2006, has been succeeded by Mrs Dana Drabova from the Czech Republic.

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.

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

- to provide the European Union with an independent capability for examining nuclear safety and regulations issues 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 objectives was achieved with the expansion of the European Union in 2005.

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

- after being run by the British nuclear regulatory body, the nuclear power generating reactors group (see chapter 12) is now chaired by a deputy Director General of ASN;
- the other group, dealing with management of spent fuel and radioactive waste, as well as decommissioning operations (see chapter 16), is chaired by the Swiss regulatory body.

In each of these fields, the groups began by defining the reference levels for each technical topic, based on the

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).

After an initial pilot study into harmonisation of nuclear reactor safety in the founding countries, which demonstrated the pertinence and effectiveness of the methodology chosen, a process to assess national practices against these reference levels was then developed.

In 2006, the members of WENRA developed national action plans for the existing power generating reactors, designed to ensure that for all technical areas in which differences had been identified, national practices were brought into line with the reference levels defined in 2005. The objective is to harmonise national practices by the year 2010.

In 2008, in addition to continuing the work already under way, the association launched new work to harmonise safety objectives for the new reactors. For the longer term, the reactors group could also prepare for the possible harmonisation of safety objectives for the generation IV reactors. 2008 was also an opportunity to confirm the opening up of WENRA to more systematic participation by the non-nuclear countries of the EU.

ASN considers that all this work confirms WENRA's ability to carry out "bottom-up" technical harmonisation of nuclear safety, to complement any Community "top-down" initiatives of a political nature and more general scope (see points 2 | 1 | 1 and 2 | 1 | 2 above).

Finally, in 2008, ASN used its network of WENRA correspondents to ensure rapid and harmonised information of all its European partners, concerning various incidents that occurred in France and which were given extensive media coverage (Tricastin, Mafelec).

2 | 1 | 5 The meeting of the Heads of the European radiation protection regulatory authorities

The national regulations constituting practical implementation of European radiation protection directives comprise significant differences for the same uses of ionising radiation sources, or in the vicinity of the same nuclear installations. This is for example the case with the distribution of iodine tablets to populations living near a nuclear installation.

In order to take harmonisation forward in Europe, ASN is therefore convinced of the need for close collaboration between the heads of the European radiation protection regulatory bodies, in the same way as with nuclear safety.

ASN organised an initial meeting of the heads of the European radiation protection regulatory authorities in Paris on 29 May 2007, followed by a second meeting on 19 May 2008. Given the success of these two meetings, the participants decided to meet more frequently. A third meeting was therefore held in Paris on 12 December 2008, under the Chairmanship of the head of the Norwegian radiation protection regulatory body. Most of the EU Member States are represented on this group. They encouraged the continued work by the sub-groups created in 2007 to discuss the main issues of radiation protection in Europe. These are: the radiation protection of roaming workers, intracommunity transfers of radioactive sources and the justification for their use, radiation protection diploma equivalences, the position of the regulatory bodies with regard to the development of new medical techniques involving ionising radiations, the harmonisation of reference levels for response to a nuclear emergency and the involvement of society as a whole in the regulation of radiation protection.

The European Commission (DG TREN H4) played an active part in these meetings and the role of providing the discussion interface between this new group and the European Commission was given to a member of the ASN Commission and a member of the Spanish regulatory body.

2 | 1 | 6 Assistance to the Eastern European Countries

The July 1992 G7 summit in Munich defined three priority areas for nuclear safety assistance to the eastern European countries:

- to improving the operating safety of existing reactors;
- provide funding for short-term improvements to the least safe reactors;
- improve 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.

Assistance programmes were set up by the European Commission to achieve these goals. They constitute the nuclear part of PHARE (Poland Hungary Assistance for Restructuring of the Economy), more particularly targeted at the candidates for accession to the European Union, and TACIS (Technical Assistance for the Commonwealth of Independent States) programmes, intended for the countries of the former Soviet Union. These two programmes were in 2007 replaced respectively by IPA (Instrument for Pre-accession Assistance) and by the Instrument for Nuclear Safety Cooperation (INSC) which covers countries other than those of the former Soviet Union.

The European Commission set up the Regulatory Assistance Management Group (RAMG), comprising the nuclear safety and radiation protection authorities from the countries of the European Union, to advise it on assistance requests from the eastern European countries.

ASN is the coordinator for the programmes conducted in Ukraine and Kazakhstan and took part in regulatory assistance projects for the Russian Federation, Ukraine and Kazakhstan.

These actions are supplemented by other international technical assistance programmes in accordance with the resolutions adopted by the G7 to improve nuclear safety in the eastern European countries, and which are financed by contributions from donor States and the European Union.

ASN is a participant in the expert groups reporting to the EBRD (European Bank for Reconstruction and Development), 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 sarcophagus for Chernobyl Unit 4, the origin of the April 1986 disaster and construction of interim storage and reprocessing installations respectively, for the fuel and waste still present on the site;
- dismantling of decommissioned Russian nuclear submarines and radiological clean-out of the White sea military bases.

Finally, with regard to nuclear safety, ASN advises the French delegation to the Nuclear Safety and Security Group (NSSG) of the G8 (G7 + Russian Federation). It in particular took part in meetings of this group in Tokyo in February, May and November 2008.

ASN observes that significant progress has been achieved in the three priority areas defined by the G7:

- improvements have been made to in-service safety of reactors;
- some States (Bulgaria, Lithuania, Slovakia, Ukraine) have committed to final shutdown of the least safe reactors and have already shut down some of them in accordance with these commitments;
- the role and remit of the nuclear safety authorities have been reinforced and clarified in the European Union accession States.

The regulatory bodies of the States which joined the Union on 1 May 2004 have thus reached a level which, with a few exceptions, means that they no longer require assistance.

However, in the States of the ex-USSR, the objective will not be reached for some time, owing to the profound changes it implies: adaptation of the structures of the State itself, change in mentality to admit the independence of the regulatory bodies and thus underpin their credibility, reinforcement of their status and the resources at their disposal. In this respect, the reorganisation of the safety regulatory bodies which took place in Russia in 2008 will require close scrutiny.

2 | 2 The International Atomic Energy Agency (IAEA)

IAEA is a United Nations organisation based in Vienna, Austria. In September 2008, it comprised 145 Member States. IAEA activities, which cover ASN's fields of competence, particularly consist in:

- Organising discussion groups at different levels and preparing texts known as “Safety Standards”, describing safety principles and practices which can then be used by Member States as a basis for national regulations.

This activity is supervised by the Commission on Safety Standards (CSS) set up in 1996. This commission is responsible for proposing standards to the Director General of the Agency and consists of representatives from the highest level of the regulatory bodies of twenty-four member countries, appointed for a period of 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. In 2008, the CSS held its 23rd and 24th meetings.

This commission coordinates the activities of four committees entrusted with supervising the drafting of documents in four areas: NUSSC (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. Representatives of the various French organisations concerned also take part in the technical groups which draft these documents.

These “Safety Standards”, approved by the CSS and published under the responsibility of the Director General of the IAEA, comprise three levels 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 being approved by the CSS and adopted by the Board of Governors. The CSS then expressed its desire to see the

lessons learned from this publication being applied to the lower level documents, safety specifications and guides, so that they can be developed in order to produce a whole that is complete, coherent and avoids redundancy. It asked the Agency's secretariat to forward proposals concerning the structure of the safety standards for a ten-year time-frame. An 11 point road map was approved. It is based on the decisions taken and measures adopted by the CSS to reach the goal of harmonisation and consistency of all safety standards. Two points in particular are worth mentioning: the integration of the ongoing revision of the “Basic Safety Standards”, which constitute the radiation protection specifications and the integration of nuclear security aspects.

- Setting up “services” made available to Member States and designed to give them opinions on specific aspects related to safety and radiation protection.

This category includes the OSART (Operational Safety Review Team), IRRS (Integrated Regulatory Review Service), PROSPER (Peer Review of the effectiveness of the Operational Safety Performance Experience Review) and TRANSAS (TRANsport Safety Appraisal Service) missions.

In November 2006, ASN hosted an IRRS mission, a peer review coordinated by IAEA. In March 2007, ASN organised a joint seminar in Paris with IAEA to draw the conclusions of this first review, covering all areas of safety (nuclear installations, radiation protection, waste and transport) and all professional sectors of the regulatory body (specification, evaluation inspection, public information) in a major nuclear country. ASN in particular wanted to promote use of this review among its counterparts in other countries. In 2008, ASN took part in several IRRS missions in Spain, Ukraine and Germany in turn. ASN also believes that systematic use of these reviews should help create a network of experts from the regulatory bodies and contribute to harmonising practices.

From 24 November to 11 December 2008, the Cruas nuclear power plant hosted an OSART team. Like all the other reports concerning OSART missions in France, the corresponding report will be published on ASN's website in English. A preparatory meeting for the OSART mission scheduled for the Fessenheim nuclear power plant in 2009 was also held in April.

Finally, ASN takes part in the regional radiation protection training courses and the expert appraisal missions organised by IAEA, the priority targets being the traditionally French-speaking countries. In 2008, ASN took part in radiation protection actions for Cameroon, the Central African Republic and Madagascar.

– Harmonisation of communication tools.

Since 2002, ASN has been looking to develop a communication tool for dealing with radiation protection events. The existing INES scale was felt to be insufficient for communications dealing with exposure to ionising radiations, as its radiation protection classification criterion did not refer to the radiological risk, which is the basis of the current regulations. France therefore made a considerable contribution to revitalising the international consultation process in order to add a radiation protection criterion to the INES scale, enabling the radiation exposure dose or exposure volume to be linked to the gravity rating of a radiation protection incident or accident.

The French proposal led to adoption by the IAEA Member States of a new part of the INES scale concerning radiation protection events, which takes account of radioactive sources and transport of radioactive materials.

In 2008, this radiation protection part was formally incorporated into the new version of the INES scale user's guide, approved on 1 July by Member States participating in IAEA's INES Advisory Committee.

ASN hopes that this scale will eventually also include radiation protection of patients, in particular with a system for rating radiotherapy events. The ASN/SFRO scale, drafted jointly with the SFRO (see chapter 4) was given a favourable assessment by the working group on the rating of events involving patients, created at the request of France. This working group comprises the IAEA Member States conscious of the stakes involved in radiation

protection of patients: Belgium, Finland, France, Germany, Hungary, Japan, Spain, Ukraine and United States. This working group met in Paris in December 2008.

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

The NEA, set up in 1958, comprises all the OECD member countries, except for New Zealand and Poland, or 29 countries. Its main objective is to promote cooperation between the governments of Member States for the development of nuclear energy as a reliable and environmentally and economically acceptable energy source.

Within the NEA, ASN takes part in the work of the Committee on Nuclear Regulatory Activities (CNRA). This year, the CNRA prepared a draft strategic plan to be coordinated with the CSNI (Committee on the Safety of Nuclear Installations). The CNRA is also continuing work on revising its operation plan which gives a more detailed description of its organisation, the planned activities and the priorities, as well as the operating procedures it will be using to carry out its duties in conformity with the strategic plan.

The Working Group on the Regulation of New Reactors (WGRNR) met for the first time in May 2008 and the CNRA validated its programme for the coming years.

Multinational Design Evaluation Program (MDEP)

The NEA also handles the MDEP secretariat. This programme is a multinational initiative to develop innovative



24th meeting of the Commission on Safety Standards, on 3 and 4 September 2008 at IAEA in Vienna

approaches to pooling the resources and know-how of the regulatory bodies, who will have responsibility for regulatory assessment of new reactors.

This MDEP programme, which is built around safety, is a multinational cooperative forum working within the framework of power reactor safety cases and aimed at ensuring the convergence and the implementation of safety standards. The ultimate goal of this programme is to improve protection of the public and the environment. An ASN officer was seconded to the NEA secretariat for the MDEP programme.

The Policy Group of the MDEP, comprising the heads of the regulatory bodies of the ten participating countries, met at the beginning of 2008 and decided to move onto a new phase of cooperation, with the launch of a work programme split into two types: that linked to the design of new reactors and that linked to cross-disciplinary activities.

Design work will bring together representatives of the regulatory bodies of countries which are reviewing or preparing to review particular reactor design files.

The cross-disciplinary activities will also allow handling of precise technical or regulatory issues, such as the codes and standards applicable to the components of nuclear power plants, the multinational inspection programmes at the manufacturers and the standards applicable to digital control and instrumentation systems.

2 | 4 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 they represent 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, and at which ASN is represented. The reports published by this scientific body, which constitute the international reference, cover subjects such as the hereditary effects of ionising radiations and the consequences of the Chernobyl accident.

2 | 5 The International Nuclear Regulators Association (INRA)

The INRA association, which comprises the heads of the nuclear regulatory bodies of Canada, France, Germany, Japan, South Korea, Spain, Sweden, the United Kingdom and the United States of America, met in 2008 (March and December) under the Chairmanship of Dale Klein, Chair of the NRC. These meetings reinforced the leadership role of the association, whose members closely investigated a number of topics of importance for improving nuclear safety around the world. In March 2008, INRA in particular adopted a declaration asking all States wishing to continue with nuclear development and all those wishing to make the decision to opt for nuclear power, to promote and maintain a high level of safety, including the guaranteed independence of the regulatory bodies.

In 2009, INRA will be meeting under the Chairmanship of the head of the South Korean regulatory body.

2 | 6 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 experience gained from regulation of the reactors designed and/or built by the same supplier and to enable the nuclear regulators to compare the methods they use to handle generic problems and evaluate the level of safety of the Framatome type reactors they regulate.

The association held its 5th meeting in 2007 in China. The next meeting will be in South Africa in 2009.

3 BILATERAL RELATIONS

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

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

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.

At present, the nuclear safety and radiation protection regulators concerned are those of Austria, Belgium, Germany, Japan, the People's Republic of China, South Africa, Spain, Switzerland, United Kingdom and the United States of America.

Provision is made for several types of exchange:

- Very short term actions (one to two days) are a means of offering our counterparts cross-inspections and joint nuclear and radiological emergency exercises. In 2008, about thirty joint inspections in the field of nuclear safety and radiation protection were organised. They took place either in France, or in the countries inviting the ASN inspectors. They took place in nuclear power plants in Germany, China, Japan, Switzerland and France, in a spent fuel storage centre in Switzerland and in a uranium enrichment plant in Great Britain. A large number of these joint inspections also concerned radiotherapy activities in France, Germany and Spain. In addition, ASN took part in an emergency exercise in Japan and in return, a delegation from the Japanese regulator was invited to take part in an emergency exercise in France.
- Short-term assignments (3 weeks to 6 months), aimed at studying a specific technical topic. A member of the Austrian ministry responsible for the environment was welcomed at ASN for a six-month internship, which ended in spring 2008. He was involved in ASN's work in the field of radiotherapy and radioactive sources regulation.
- Long-term exchanges (up to 3 years) in order to take part in the working of the foreign nuclear safety and radiation protection regulator, to gain an in-depth

knowledge of it. Whenever possible, this type of exchange must naturally be reciprocal.

Since the end of 2006, a French inspector from the Lyon division has been seconded to the British nuclear safety regulator, where he is working on the fuel cycle plants, while a British inspector has been seconded to ASN and is working in the Nuclear Power Plants Department on the evaluation and licensing of the EPR in Flamanville. Another inspector from the Lyon division is at IAEA where he is working on the team responsible for organising the IRRS (Integrated Regulatory Review Service) reviews. Finally, another ASN engineer, today hired by IAEA, is also working at the Agency on safety standards and acts as the scientific secretary for the CSS (Commission on Safety Standards).

In exchange for secondment to the Spanish Consejo de Seguridad Nuclear (CSN) of an engineer from the Research Facilities and Waste Department for a period of three years from 1 February 2009, a CSN engineer has since October 2008 been on a 9-month secondment to the Nuclear Power Plants Department and the Nuclear Pressure Equipment Department (DEP). She will also be taking part in inspections.

Finally, an officer from the DEP should also be joining the NRC at the beginning of 2009.

These exchanges will continue to enhance ASN practices, using proven methods and good practices employed by our counterparts. Furthermore, the experience acquired by ASN and its counterparts for nearly ten years now, shows that inspector exchange programmes are an important factor in energising 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 has adopted this practice, which enables experts from other countries not only to take part in these Advisory Committees, but also occasionally to act as Chair or Deputy Chair.

3 | 2 Bilateral relations between ASN and its foreign counterparts

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

South Africa

Bilateral exchanges continued and were intensified as part of the actions decided on during the previous meeting of the Steering Committee in 2007. These exchanges primarily dealt with the inspection of nuclear reactors with the ASN Lyon division, the preparation for nuclear and radiological emergencies, with ASN participation in a field assessment of South-African practices and the monitoring of environmental radioactivity, with a visit to the IRSN and CEA laboratories.

Germany

In 2008, the Franco-German Commission on nuclear installation safety questions (*Deutsch-Französische Kommission für Fragen der Sicherheit kerntechnischer Einrichtungen - DFK*) met on 28 and 29 May in Troyes, France. The two delegations visited the low and intermediate level and very low level waste repository in the Aube *département*¹. A radiation protection working group was created at the DFK and held its first meeting in Strasbourg on 13 and 14 November.

Belgium

Relations with the Belgian federal nuclear regulatory agency (AFCN) cover all ASN's areas of competence: safety, waste management, transport and radiation protection. The Steering Committee comprising ASN and AFCN met on 22 and 23 January in Troyes and identified a number of areas for joint action, especially in the field of radiation protection. The Franco-Belgian safety working group met on 17 June in Paris and 17 December in Brussels. Finally, the ASN Commission visited the Doel site on 12 November.

Canada

The February visit by the ASN Director General to the Canadian regulator, in particular his meeting with the new Chairman, clarified areas for collaboration between the two bodies. In September, in-depth exchanges on emergency management were held between the departments concerned at ASN and the CCSN. The ASN Chairman met the CCSN Chairman at IAEA's General Conference. They discussed further enhancing the exchanges between the two organisations.

China

In February 2008, two cooperative agreements were signed by ASN and its Chinese counterpart, the NNSA. One, a framework agreement, covers nuclear safety and radiation protection, the other deals more specifically with the EPR. At the end of March, A Steering Committee meeting brought the two regulatory bodies together and a cooperative plan of action was drafted. In addition to

exchanges of delegations and technical discussions on source management and transport regulation, a seminar dedicated to the EPR was organised in China in October 2008, at which IRSN was a participant.

South Korea

In 2008, two South Korean delegations were welcomed at ASN. The main subjects of interest were integrating IAEA safety standards into French regulations, the role of WENRA and the ITER project.

Spain

Other exchanges, in addition to the personnel secondments mentioned above, took place in 2008 with ASN's Spanish counterpart, the Consejo de Seguridad Nuclear (CSN). The May visit by a Spanish delegation to Andra's Aube waste repository, was followed by a meeting with ASN's Research Facilities and Waste Department.

USA

The joint desire on the part of ASN and the Nuclear Regulatory Commission (NRC) to continue their collaboration took the shape of frequent meetings between their heads: the ASN Director General met his NRC counterparts in February to discuss subjects of common interest. In October, the ASN Chairman and the NRC Chairman signed the renewal of the information exchange arrangement.

Preparatory work was initiated on the reciprocal secondment of staff for periods of two to three years, with actual exchanges scheduled to start in 2009.

Finland

On 6 and 7 November, the ASN Director-General went to Finland for meetings with representatives of the Finnish safety regulator (STUK) and to visit Olkiluoto, the construction site for the Finnish EPR (OL3), as well as the construction site for the future spent fuel repository in an underground granite formation (ONCALO).

For the Finnish and French EPR reactor construction projects, ASN and STUK organised technical exchange meetings and signed a Memorandum of Understanding for management of these exchanges. This MoU in particular makes provision for cross-inspections and rapid notification of any significant event occurring on the worksite.

India

A Franco-Indian seminar on light water reactor safety was held from 27 to 30 May, following on from that held in 2007. ASN presented the framework of its technical review of the EPR reactor. Collaboration between France and India will continue in the form of seminars, which could be held in France.

1. Administrative region headed by a *Préfet*.



Signing of the cooperative agreement between the Chinese nuclear regulatory, NNSA, represented by Vice-Minister Li Ganjie and the ASN, represented by the Chairman, A.C. Lacoste

Japan

In 2008, the cooperation agreements with NISA (Nuclear and Industrial Safety Agency) concerning power reactors, and MEXT for research reactors, were renewed.

As in previous years, information exchanges with Japan continued at a sustained rate, with a number of technical visits.

After the earthquake which affected the Kashiwazaki-Kariwa power plant in 2007, two conferences were organised by the licensee TEPCO and by the regulatory bodies, in turn. Several ASN experts took part and were able to visit the power plant site.

United Kingdom

Under the terms of the new cooperative arrangement described in the joint communiqué from the British Health and safety executive / Nuclear Directorate (HSE/ND) and ASN, published on 27 March 2008, a meeting of the two bodies and the IRSN was organised for 9 April 2008. Following this meeting, enhanced cooperation on new reactor projects was proposed.

The annual meeting of the heads of the French and British nuclear regulatory bodies was held in London on 25 and 26 June 2008. The ASN-IRSN/HSE/ND Franco-British Steering Committee met on 1 and 2 October in Liverpool. These two meetings were an opportunity to review assistance and cooperation between the two regulatory bodies.

On the fringes of the IAEA General Conference, the HSE/ND Director, Mike Weightman and the ASN Chairman, André-Claude Lacoste, renewed the cooperation agreements between HSE/ND and ASN.

Russian Federation

On behalf of the technical support organisation SEC-NRS of its Russian counterpart (Rostekhnadzor) ASN arranged a visit to France on the topic of licensing new reactors. ASN's Russian counterparts were therefore able to see how relations between ASN and the designers and licensees of the new generations of reactors are organised, through meetings with IRSN, EDF and AREVA.

Switzerland

The 19th meeting of the Franco-Swiss Commission was held in Avignon on 3 and 4 July. The delegations discussed recent developments in the fields of radiation protection and safety in large industrial nuclear installations and issues concerning the organisation of their respective regulatory processes. With regard to nuclear reactor safety, the transport of nuclear materials and radioactive waste, the delegates reviewed the year's significant events. They decided to organise a seminar in 2009 on the subject of integrating scientific advances concerning earthquakes and enhancing exchanges to deal with regulation of radiation protection in installations other than nuclear facilities, such as hospitals, research centres or industrial users of ionising radiations.

3 | 3 Assistance for the "new nuclear countries"

At a time when new nuclear power generating programmes are being announced and developed, ASN is receiving increasing numbers of requests for assistance, with a view to creating a safety infrastructure compliant with the leading international principles such as those expressed in the Convention on Nuclear Safety. These requests come primarily from countries which have as yet

never resorted to nuclear energy, particularly in Asia and the Middle East. In 2008, ASN received four delegations from the “new nuclear countries”.

ASN pays close attention to nuclear installation projects in the “new nuclear countries”. In terms of safety, a minimum lead-time of fifteen years is required before a nuclear power generating reactor can begin operation in good conditions. This is because these countries will have to create a legislative framework and an independent and competent safety regulator, as well as develop capability in terms of safety and a safety and regulatory culture.

ASN undertook to establish a realistic and effective system for answering the requests it receives. Implementation of this system, with the corresponding human resources, will enable ASN to conduct this new mission, with the aim of maintaining a high level of nuclear safety, worldwide. ASN will thus make efforts, on a case by case basis, to verify

that safety conditions are met when assessing the suitability of any particular cooperation in the nuclear field. In November 2008, ASN in partnership with “Confrontations Europe”, organised a seminar which contributed to raising the awareness of all the stakeholders with regard to the safety issues involved in developing nuclear power generating programmes in new countries.

When examining this assistance with the creation of safety infrastructures at its main counterparts, particularly within the context of INRA (see point 2|5), ASN’s concern once again is to develop harmonised approaches taking account of the experience of all parties involved. The INSC instrument created by the European Commission also opens up prospects for cooperation with the “new nuclear countries” over and above the assistance already provided to the Eastern European countries (see point 2|1|6). ASN intends to take part in these actions.

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. The IAEA (see point 2|2) is the depositary of these conventions and provides the relevant secretarial services.

4|1 The Convention on Nuclear Safety

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 2008, it was ratified by 62 States.

In ratifying the convention, the contracting parties agree to submit a report describing how they apply the fundamental principles of safety and good safety practices, which are the subject of the various articles of the convention. The reports from the contracting parties are examined during a review meeting at which each party may ask questions of the others.

The last meeting was held from 14 to 25 April 2008 at IAEA. With ratification of the Convention by India, this was the first time that all the countries operating nuclear power reactors were brought together.

The French report was presented by the ASN Director General, in the presence of the ASN Commission. Its review highlighted French good practices, such as implementation of the TSN Act, the periodic safety reviews and the incorporation of operating experience feedback from all the reactors in service.

Areas for improvement were also proposed to France, such as the need for ASN to systematically produce its recommendations and practices in accordance with an appropriate regulatory framework, the need to urge EDF to take greater account of human and organisational factors and to anticipate problems related to installations ageing and to the extension of the lifetime of the existing power plants.

This latter point remains an issue for many countries and was covered in the conclusions of the summary report from this review meeting (which can be downloaded from the site dedicated to the CNS:
<http://www-ns.iaea.org/conventions/nuclear-safety.htm>).

This summary report underlines:

- the importance of openness and transparency in the field of nuclear safety, as well as of the independence of the regulatory bodies from the bodies or organisations with a vested interest in the promotion or use of nuclear power;
- concerns linked to maintaining sufficient staffing levels and an appropriate level of competence during the course of the coming years;
- the need to create a national safety regulatory infrastructure upstream of the issuance of construction permits, against a backdrop of a large number of construction projects for new nuclear power plants;
- the importance of becoming a party to the Convention on Nuclear Safety for all countries wishing to launch a nuclear power generating programme.

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 29 September 1997 and it entered into force on 18 June 2001.

The next review meeting is scheduled for 11 to 22 May 2009 at IAEA. It will see the first participation by South Africa, China, Nigeria and Tajikistan.

In the same way as for the CNS, the 46 contracting parties submitted their national reports at the beginning of October, describing how they meet the obligations of the Joint Convention. The France report also includes a voluntary part, presenting the spent fuel situation in the reprocessing installations. The report can be downloaded from the ASN website.

During the meeting to organise the review meeting, held on 13 and 14 October, the contracting parties elected the review meeting Chair and two Deputy Chairs. The contracting parties will be divided into 6 groups of countries, with France in group no. 2.

4 | 3 The Convention on early notification of a nuclear accident

The Convention on early notification of a nuclear accident entered into force on 27 October 1986, six months after the Chernobyl accident and, on 31 December 2008, there were 103 contracting parties.

The contracting parties agree to inform the international community as rapidly as possible of any accident leading



Plenary opening session of the Convention on Nuclear Safety review meeting on 14 April 2008 at IAEA in Vienna

to uncontrolled release into the environment of radioactive material likely to affect a neighbouring State. A system of communication between States is therefore coordinated by IAEA and regular exercises are held among the contracting parties. ASN is the competent national authority for France.

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 entered into force on 26 February 1987 and, on 31 December 2008, there were 102 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. Within this context, France's specialised services have already taken charge of treating

irradiated victims. ASN is the competent national authority for France.

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.

This is in particular the case of 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. This convention, which entered into force on 8 February 1987, comprised 137 contracting parties on 29 August 2008.

Additional information on these conventions may be obtained from the IAEA's website:

<http://www-ns.iaea.org/conventions/>.

5 INTERNATIONAL CONFERENCES

ASN participation in international conferences offered opportunities for the exchange of extremely useful information concerning regulatory practices and the problems encountered in the field of nuclear safety, radioactive

material transport, radioactive source safety, waste management and disposal and radiation protection.

The following were the main events in these fields in 2008:

Table 1: main ASN participations at international conferences in 2008

Date	Venue	Subject
11-13 March	Washington	RIC (Regulatory Information Conference)
8-12 June	Anaheim (California)	ICAPP 08 – Congress on Advances in Nuclear Power Plants
15-20 June	Bergen, Norway	Conference on Radioecology and Environmental Radioactivity (Euranos)
1-3 July	Vienna	Workshop on roles and responsibilities of vendor countries and countries embarking on nuclear power (IAEA)
20-24 October	Buenos Aires	Conference of the International Radiation Protection Association (IRPA)
17-21 November	Mumbai	Conference on Topical Issues in Nuclear Installation Safety (IAEA)
4-5 December	Paris	Seminar on operating experience feedback concerning sump clogging

6 OUTLOOK

In 2009, in the field of international relations, ASN will endeavour to continue to make an active contribution to improving nuclear safety and radiation protection around the world. It will be devoting particular attention to the regulation of radiotherapy. ASN will maintain its participation in the work of IAEA and in international actions dealing with the leading topical issues. Finally, at a European level, ASN will devote considerable efforts to ensuring that the Union acquires the tools and a system enabling it to promote a high level of safety in Europe.

ASN has therefore initiated a series of priority actions: contribution to IAEA work in the field of regulating safety, contribution to harmonisation under the MDEP, preparation for the third review meeting of the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, contribution to reflection on the leading safety issues related to the development of new nuclear programmes, development and enhancement of bilateral relations with our counterparts in the leading nuclear countries and in countries where safety and radiation protection stakes remain high.

At a European level, ASN takes part in the work of the HLG/ENSREG and will contribute to developing a Community legal system to ensure the long-term continuity of a high level of safety in Europe.

In the field of radiation protection, as a member of the club of European radiation protection regulators, ASN will continue its efforts to ensure real harmonisation of practices in Europe. The working groups that are to meet in 2009 should be able to provide concrete solutions to the questions as yet unanswered, in particular concerning

radiation protection of roaming workers, intracommunity transfers of radioactive sources, radiation protection diploma equivalences, new medical techniques and the harmonisation of nuclear or radiological emergency reference levels.

After the numerous events that occurred in 2007 and 2008, radiotherapy remains the focus of constant attention. ASN will be increasing its exchanges with its foreign counterparts in order to draw on their experience and encourage them to exercise greater vigilance in this sensitive area. It will organise an international conference on this subject in December 2009.

Faced with the scarcity of radioisotopes for medical uses, for which there are a limited number of manufacturers around the world, ASN organised a meeting of its international partners concerned by this issue, on 7, 8 and 9 January 2009, in order to deal with the corresponding nuclear safety questions. ASN's contribution to this work of general interest will continue in 2009.

After the IRRS review in November 2006, an IRRS "follow-up" mission will take place at ASN from 30 March to 3 April 2009.

Finally, at a time when many new nuclear power generating programmes are being announced and implemented, ASN in 2007 began to look at how to provide an adequate response to the requests for assistance made by countries wishing to develop a nuclear power programme. In this context, ASN will aim to guarantee the principle whereby nuclear safety has to remain the number one priority.

