

**Report of the
European Nuclear Safety Regulators Group**

July 2011

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EXECUTIVE SUMMARY

This report is the second report of ENSREG following its establishment in May 2007. It is intended to update the Council and the Parliament on the work undertaken by ENSREG since mid-2009. ENSREG's earlier work is described in its [first report](#) which was submitted in July 2009.

ENSREG's central mission is to strive for the continuous improvement in nuclear safety and radioactive waste and spent fuel management and their regulation, and to promote openness and transparency in those areas. ENSREG has divided its activities in three basic areas: Safety of nuclear installations, Radioactive waste and spent fuel management and Openness and transparency.

Safety of nuclear installations

Guidance for Member States for preparation of national reports under the Nuclear Safety Directive

ENSREG identified that it had two significant roles in assisting the smooth implementation of the Directive: to provide guidance of the national reports and to progress the scheduling and resourcing of self-assessments and peer reviews.

The initial assumption was that the most convenient option would be to use the national reports prepared under the Convention on Nuclear Safety. Later it was determined that the use of national reports for the Conventions for reporting under the Directive would require significant additional resource and effort, and that it would be more efficient to develop a separate, completely new report.

Finally ENSREG endorsed the principles for reports that they should be: newly written and concise, self-standing while drawing information from existing sources, written in such a way as to make it also comprehensible for an informed non-expert audience and to be consistent across Member States to enable the European Commission to compile its report to the Council and European Parliament.

By the end of 2011, or very early in 2012, ENSREG aims to have the final draft of the Guidelines and an example national report prepared and available for all Member States to apply in developing their individual National Report.

The programme of self assessments and IRRS Missions

ENSREG agreed that the best way forward in arranging this issue is by cooperation with the IAEA Integrated Regulatory Review Service (IRRS) programme. Also the self-assessments should be based on IAEA IRRS practices. ENSREG agreed that this would require adequate expert resources and that a European pool of suitable experts should be established.

An indicative European IRRS programme has been established which includes schedules for EU Member States to carry out self assessments and IRRS missions for the years 2011-2021. The implementation of a programme of IRRS missions in EU Member States was discussed with the IAEA. Mechanisms for financing these resources was discussed by the Commission and the IAEA and has been ensured for the first year. Based on these discussions with the IAEA, a draft Memorandum of Understanding between ENSREG and IAEA for international peer review missions to the EU Member States was prepared.

Common learning process from the Convention on Nuclear Safety review process and IRRS missions

The purpose of this process is to identify and agree on regulatory or safety issues, identified in the Convention on Nuclear Safety (CNS) review process, that merit being taken forward

for common learning by the EU Member States. The issues identified need to meet several criteria:

- they have been identified as relevant to a significant number of EU Member States;
- there are no obvious measures available or foreseen in the short term to resolve the issues, and there are no ongoing longer term activities for instance of IAEA, NEA or WENRA that appear sufficient to resolve the issues;
- the development of knowledge or methods and information sharing around the issues seem important; and
- the EU Member States would benefit from common approaches or to join forces in finding good solutions.

Learning opportunities from IRRS missions to other Member States could generate learning points of interest for other Member States as well as good practices that could lead to further improvement. The practical testing of this process will start in July 2011.

Technical opinion on an IAEA report on Ukrainian NPPs

On 9 June 2010 the European Council was informed of the main conclusions of the IAEA final report, of the EC-IAEA-Ukraine Joint Project, entitled the "Safety Evaluation of Ukrainian Nuclear Power Plants", February 2010 and the ENSREG was requested to provide a 'technical opinion' on the IAEA report.

ENSREG has agreed on a programme to provide the technical opinion requested by the Council based on ongoing or planned safety assessments by European nuclear safety experts as well as on safety improvements for nuclear power plants in Ukraine.

Requests to ENSREG for strategic advice on nuclear safety matters in third countries

In January 2011, ENSREG received a request from the Commission in the domain of cooperation with nuclear regulatory bodies in third countries. This request is related to the Instrument for Nuclear Safety Cooperation (INSC) and the Instrument for Pre-Accession Assistance (IPA). The type of advice requested, practicalities of the Group's envisaged role, resources needed have to be clarified further. ENSREG and the Commission have agreed at the meeting of May 13 to form a group reuniting representatives of the relevant stakeholders (COM, INSC-C, RAMG, ENSREG) to discuss and elaborate concrete proposal for providing advice for regulatory cooperation with third countries under the INSC and other related instruments.

Safety of the management of spent fuel and radioactive waste

ENSREG involvement in preparation a Directive on Sustainable Management of Radioactive Waste and Spent Fuel

In the spring 2010 ENSREG elaborated a proposal for possible content and elements of a Directive on sustainable management of spent fuel and radioactive waste, accompanied by a discussion paper. The efforts were concentrated on the need to adopt a position on the scope of such a Directive, to properly define radioactive waste, to ensure coherence with other international and European instruments, in particular Nuclear Safety Directive, to perform systematic checks against the international standards, to clarify the reporting requirements particularly in connection with other related reporting requirements under the International Conventions, to define the link between the peer-reviews and the Joint Convention Process.

On 3 November 2010 the Commission adopted and handed over to the Council a proposal for a Council Directive on the management of spent fuel and radioactive waste. ENSREG welcomes the Proposal for a Council Directive on the management of spent fuel and radioactive waste. There are no significant issues that needs to be covered by the Directive and that would be missing in the proposal. However, the proposed Directive introduces more

specific requirements which could overlap and interact with existing Directives. This should be further examined and clarified.

ENSREG work programme is related to the implementation of the future Directive on the management of spent fuel and radioactive waste.

Openness and transparency

The ENSREG website – www.ensreg.eu

One of the key initiatives of ENSREG was the establishment of an EU website to provide the public and other stakeholders with coordinated and easy access to information on nuclear safety. The website includes information on ENSREG, its role, composition, work programme and outputs. It lists the nuclear regulatory organisations in each Member State and provides links to their individual websites. Profiles of each country, listing the national regulators, the nuclear activities they regulate and the key national legal instruments are easily accessible through an interactive map on the home page.

Guidance for National Regulatory Organisations – Principles for Openness and Transparency

ENSREG in co-operation with the NEA's Working Group on Public Communication, has developed general guidance to NRO's on principles for ensuring openness and transparency in their communications activities. The principles are generic in nature and may need to be adapted to the organisational structures in individual Member States.

The principles are:

- | | |
|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Develop a communications strategy; | Proactively build relationships with the media; |
| Disclose information in a timely manner; | Promote a culture of openness and transparency within the NRO; |
| Develop an accessible web site; | Produce information in plain language that is easy to understand; Measure the effectiveness of openness and transparency. |
| Produce an annual report; | |
| When developing documents, consider in advance which information might be sensitive; | |
| Proactively engage with stakeholders; | |

Current Community and International Law with relevance to transparency – Obligations and opportunities for regulators

During 2008/2009, ENSREG compiled a "Working Paper on Current Community and International Law with relevance to transparency" with a factual overview of the existing European and international legal instruments covering transparency. ENSREG has further developed its work in this area by completing a case study to identify the roles for national regulatory organisations under this legislation.

The case study concluded that European and international legislation contains no direct legal obligations for regulators as regards transparency. Such obligations, if any, are established in national legislation. Examples of good practices of various regulators were highlighted.

ENSREG identified finding the right balance between transparency and security as the principle challenge for regulators in this area as, and agreed to undertake further work on this topic.

ENSREG Nuclear Safety Conference

ENSREG has frequently observed that the work of nuclear regulators and the European Commission is much too often not well known and recognised inside the industry and also in the wider public. Therefore it has decided to organise its own two day conference, which will

give opportunity for intensive presentation of the work of nuclear regulators, ENSREG and European Commission and discussion with major stakeholders.

The conference was planned to take place on 28 and 29 June 2011 in Brussels, just few days after this report was prepared. The aim of this event was to describe the achievements made during the last ten years on the path to improving nuclear safety in Europe.

ENSREG's role after the Fukushima events

The nuclear accident in Japan in March 2011 has triggered immediate response all over the World, also in the European Union. The European Council has asked ENSREG and the European Commission to prepare and implement so called *stress tests of nuclear power plants*, making full use of available expertise (notably from the Western European Nuclear Regulators Association). WENRA members have already prepared a methodology for implementation of these *stress tests* in April 2011. On the basis of this proposal, ENSREG, and the European Commission, reached a fair degree of agreement on the scope and modalities of the "stress tests" already at their plenary meeting, May 12/13, 2011; further consultations led to a full consensus May 24, 2011. The implementation of the *stress tests* has started on June,1, 2011.

1. INTRODUCTION

1.1. Content of the report

This report is the second report of ENSREG following its establishment in May 2007. It is intended to update the Council and the Parliament on the work undertaken by ENSREG since mid-2009. ENSREG's earlier work is described in its [first report](#) (reference I) which was submitted in July 2009.

The introductory chapter (Chapter 1) provides relevant background information on the arrangements for nuclear safety and radioactive waste management in the European Union, together with a short history of ENSREG. Chapters 2, 3 and 4 summarise the work undertaken by ENSREG to improve arrangements for nuclear safety, for the safe management of spent fuel and radioactive waste and for transparency in nuclear safety regulation within the European Union. Chapter 5 describes ENSREG's role in preparation of *EU Stress Tests of Nuclear Power Plants* after Fukushima accident. Chapter 6 summarises ENSREG's achievements to date and outlines its proposals for future actions.

1.2. Nuclear Safety in the EU context

The ground for nuclear energy in Europe was laid in 1957 by the establishment of the European Atomic Energy Community (Euratom). Its main functions consist of furthering cooperation in the field of research, protecting the public by establishing common safety standards, ensuring an adequate and equitable supply of ores and nuclear fuel, monitoring the peaceful use of nuclear material, and cooperating with other countries and international organisations.

Today nuclear power plants produce around a third of the electricity consumed in the European Union (EU) with 143 operating reactors spread over 14 Member States. Construction of new nuclear power plants is underway in Bulgaria, Finland, France and the Slovak Republic. Firm decisions for the construction of new or replacement nuclear power plants have been taken in Hungary, Lithuania and Romania and are under active discussion in the Czech Republic, Italy, the Netherlands, Poland, Slovenia and the United Kingdom. Decisions to extend the operating life time of existing plants have been taken or are under discussion in almost all Member States.

Many Member States also operate research reactors and all use radioactive sources in medicine and industry. As a result, all Member States generate radioactive waste to a greater or lesser extent, with the greatest volume coming from nuclear power generation and associated activities. The management of certain types of radioactive waste has reached a mature stage of industrial development, but the establishment of disposal facilities for the higher activity and longer-lived wastes remains a main challenge for the future.

1.2.1. National Responsibility

Nuclear safety and the safe management of spent fuel and radioactive waste are national responsibilities and each EU country with nuclear power plants and/or radioactive waste management facilities has a national regulatory body and national legislation setting out its requirements governing safety. The national nuclear safety regulators of each of the EU countries are listed on the ENSREG website [List of national regulators | European Nuclear Safety Regulators Group](#). (reference II) The standards applied in each country are developed based on European law, international requirements and guidance on best practice.

1.2.2. International Safety Conventions

All EU Member States are signatories to the Convention on Nuclear Safety and the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management.

The Convention on Nuclear Safety (CNS) was adopted in Vienna on 17th June 1994, and entered into force on the 24th October 1996. Its aim is to legally commit participating states operating land-based nuclear power plants to maintain a high level of safety by setting international benchmarks to which states would subscribe. The obligations of the states cover the siting, design, construction, operation of nuclear power plants as well as the availability of adequate financial and human resources, the assessment and verification of safety, quality assurance and emergency preparedness. The CNS obliges states to submit reports on the implementation of their obligations for "peer review" at meetings of the states held at the International Atomic Energy Agency (IAEA), every three years. The 5th Review Meeting of the CNS was held in at the IAEA in Vienna from the 4th to the 14th April 2011.

The Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (Joint Convention) entered into force on 18th June 2001. It applies to spent fuel and radioactive waste resulting from civilian nuclear reactors and applications and to spent fuel and radioactive waste from military or defence programmes, if and when such materials are transferred permanently to and managed within exclusively civilian programmes, or when declared as spent fuel or radioactive waste for the purpose of the Convention by the Contracting Party. The Joint Convention also applies to planned and controlled releases into the environment of liquid or gaseous radioactive materials from regulated nuclear facilities. As in the case of the CNS, the Joint Convention obliges states to submit a report on the implementation of their obligations for "peer review" at meeting of the states held by the IAEA every three years. The 4th Review Meeting of the Joint Convention is due to be held at the IAEA in Vienna from the 14th to the 23rd May 2012.

1.2.3. European Legislation

As described above, worldwide, the nuclear safety of nuclear installations is governed by national legislation and the international conventions, the aim of which is to ensure that people and the environment are adequately protected from the risks associated with the operation of nuclear installations. Within the EU, the EU Commission considers that further initiatives are needed to respond to EU citizens' desire for Europe-wide binding safety legislation for the operation of nuclear power plants and the management of spent fuel and radioactive waste.

Nuclear Safety Directive

For this reason, on 25th June 2009 the Council of the European Union adopted a new [Directive](#) (2009/71/EURATOM) establishing a Community framework for the nuclear safety of nuclear installations that provides binding legal force to the main international nuclear safety principles. The objective of the Directive is to maintain and promote the continuous improvement of nuclear safety. The right of each Member State to use nuclear energy or not in its energy mix is recognised and fully respected.

The Directive includes provisions relating to the establishment of a national legislative and regulatory framework for nuclear safety of nuclear installations, to the organisation, duties and responsibilities of the competent regulatory authorities, to the obligations of the licence holders, to the education and training of all parties' staff, and to the provision of information to the public. In terms of the organisation of the competent regulatory authorities, it constitutes the principle of "independence" which indicates that the competent regulatory authorities must be functionally separate from any other body or organisation concerned with the promotion or utilisation of nuclear energy. In addition, Member States must arrange for

periodic self-assessments of their national framework and competent regulatory authorities at least every ten years and invite an international peer review of relevant segments of their national framework and/or authorities. Outcomes of any peer review must be reported to the Member States and the Commission.

The content of the Directive has to be transposed into the national laws of the Member States by 22nd July 2011 and the first report on the implementation of the Directive must be submitted to the Commission by 22nd July 2014.

Proposal for a Community legislative instrument in the area of radioactive waste and spent fuel management

All Member States generate radioactive waste from nuclear power generation or in the course of industrial, medical and research activities, or through decommissioning of nuclear facilities and in situations involving the clean-up of contaminated facilities or land.

While the development and implementation of policy on the safe management of radioactive waste and spent fuel is the responsibility of individual Member States, the Commission considers that further EU legislation is needed in this area to supplement the Basic Safety Standards Directive as a logical next step after the adoption of the Nuclear Safety Directive.

To address these issues, the Commission adopted a proposal for a Council Directive on the management of spent fuel and radioactive waste (reference III). The proposed directive applies to all stages of spent fuel and radioactive waste management, where the spent fuel or radioactive waste arises from or is managed within civilian activities. It includes the general principles to be applied, as well as provisions relating to the establishment and elements to be included in, the national legislative, regulatory and organisational framework. A key element of the proposed national framework is the national implementation programme. The programme must cover all types of spent fuel and radioactive waste under the jurisdiction of the Member State and must be reviewed and updated regularly. The proposed directive envisages regular self- assessment, peer review and reporting to the Commission.

1.2.4. International Guidance on Nuclear Safety and the Safe Management of Radioactive Waste

As indicated above, two of the main influences on the development of national nuclear safety and radioactive waste management requirements are the International Safety Conventions and EU legislation. Another key influence is the international guidance and regulatory methodologies developed under the auspices of international bodies such as International Atomic Energy Agency (IAEA) and the OECD's Nuclear Energy Agency (NEA), and other groups such as the Western European Nuclear Regulators Association (WENRA).

International Atomic Energy Agency - IAEA

In addition to providing the secretariat for the international conventions described above, the IAEA also seeks to build and strengthen the international safety and security regime through the development of advisory international standards, codes, and guides. In the safety area, they cover nuclear installations, radioactive sources, radioactive materials in transport, and radioactive waste. The IAEA promotes the application of international safety standards for the management and regulation of activities involving nuclear and radioactive materials.

Nuclear Energy Agency - NEA

Nineteen of the 27 EU Member States are also members of the OECD/NEA. The mission of the NEA is to assist its member countries in maintaining and further developing, through international co-operation, the scientific, technological and legal bases required for the safe, environmentally friendly and economical use of nuclear energy for peaceful purposes. To achieve this, the NEA works as: a forum for sharing information and experience and promoting international co-operation; a centre of excellence which helps Member countries to pool and maintain their technical expertise; a vehicle for facilitating policy analyses and developing consensus based on its technical work.

WENRA

WENRA is a non-governmental organisation comprised of the heads and senior staff members of all the national nuclear regulatory authorities of European countries with nuclear power plants. The main objectives of WENRA are to develop a common approach to nuclear safety, to provide an independent capability to examine nuclear safety in applicant countries and to be a network of chief nuclear safety regulators in Europe exchanging experience and discussing significant safety issues.

1.3. Establishment of ENSREG

In May 2007, the Council of the European Union (Economic and Financial Affairs), in a set of detailed conclusions, supported the establishment of a High Level Group at EU level aimed at furthering a common approach to the safety of nuclear installations, the safety of the management of spent fuel and radioactive waste and the financing of the decommissioning of nuclear installations. Such a High Level Group was established by a decision of the European Commission in July 2007 (reference **IV**). The group later adopted the acronym ENSREG (European Nuclear Safety Regulators Group).

ENSREG is an independent authoritative expert body composed of the heads and senior officials from national regulatory and nuclear safety authorities from all 27 EU Member States. ENSREG believes that striving for continuous improvement is a vital safeguard against any sense of complacency in the operation of a nuclear facility and nuclear regulatory arrangements, and that it must be at the heart of any organisation's safety culture. It is a continuous leadership challenge. In adopting this as the fundamental principle for the work of ENSREG, it does not imply in any way that ENSREG considers that nuclear facilities in EU Member States are unsafe or that nuclear oversight arrangements are inadequate.

ENSREG is committed to encouraging initiatives aimed at improving nuclear safety and radioactive waste management at the EU level where they add value to the activities already undertaken in international and national contexts. It also considers that a vital aspect of its work, as an independent authoritative expert body, is to develop proposals to improve the cooperation and openness between Member States, and the overall transparency on issues relating to the safety of nuclear installations and effective radioactive waste management practices within their jurisdiction.

1.4. ENSREG work programme 2010 - 2011

ENSREG's central mission is to strive for the continuous improvement in nuclear safety and radioactive waste and spent fuel management and their regulation, and to promote openness and transparency in those areas. At its meeting in June 2010, ENSREG finalised its work programme for 2010 – 2011, building on its achievements since 2007. ENSREG agreed that its efforts will be focused on:

seeking continuous improvement through:

- pushing forward a programme of self-assessments and peer reviews of Member States nuclear safety and radioactive waste management regulatory bodies, in cooperation with the IAEA;
- pursuing the programme of work to identify key areas for improvement arising from review meetings of international conventions on nuclear safety, radioactive waste and spent fuel management and to implement those improvements in Member States;
- facilitating a consistent and high standard of implementation of the Nuclear Safety Directive by the 27 Member States to include providing guidance on:
 - the framework and methodologies that may assist in addressing the challenges of ensuring suitably qualified staff and knowledge resources in the nuclear field;
 - the information in relation to the regulation of nuclear safety to be made available to the workers and the general public;
 - the format of the reports to the Commission under the Directive.
- in the context of a possible proposal from the Commission for a directive on a policy on long-term radioactive waste management and long-term spent fuel management, preparing a proposal for the contents to be included in such directive and actively participating in the process of its adoption.

seeking enhanced **openness and transparency** by:

- putting in place a comprehensive ENSREG web-site that, in time, will be viewed as providing independent authoritative information on nuclear safety, radioactive waste and spent fuel management, and their regulation in the EU;
- providing guidance to national regulators on good practices in openness and transparency; and;
- organising an ENSREG led European Conference, accessible to all stakeholders, to be held every two years, dedicated to furthering the central mission of ENSREG for continuous improvement.

Method of Working

ENSREG has set up Working Groups covering three areas, namely:

Working Group 1 (WGNS) – Improving Nuclear Safety arrangements;

Working Group 2 (WGRWMD) – Improving Radioactive Waste Management, Spent Fuel and Decommissioning arrangements;

Working Group 3 (WGTA) – Improving in Transparency arrangements.

The details of the Work Programmes that underpin the main ENSREG activities for 2010-2011, with corresponding deliverables and milestones, were elaborated by each of ENSREG's Working Groups and approved by ENSREG.

2. SAFETY OF NUCLEAR INSTALLATIONS

2.1. Activities in support of the effective implementation of the Nuclear Safety Directive

On 25 June 2009, the Council of the EU (Council) adopted the Directive 2009/71/EURATOM establishing a Community framework for the nuclear safety of nuclear installations (the 'Directive') (reference V). This new Directive was the European Union (EU) response to the need to establish Europe-wide binding legislation governing the safety of nuclear installations. It sets up a legislative framework defining essential requirements and principles for the safety of nuclear installations in the EU, based on the Safety Fundamentals of the International Atomic Energy Agency (IAEA) and the obligations of the international Convention on Nuclear Safety to which the Euratom Community and its Member States are Parties.

The general objective of the Directive is to maintain and promote the continuous improvement of nuclear safety and its regulation. It further aims to ensure that Member States provide for appropriate national arrangements to protect workers and the general public against the dangers arising from ionising radiations from nuclear installations.

The Directive enhances the role and independence of national regulatory authorities, confirming licence holders have the prime responsibility for nuclear safety. Member States are also required to encourage a high level of transparency of regulatory actions and to guarantee regular independent safety assessments.

The Directive has to be transposed into national legislation by 22 July 2011. It also requires, in Article 9(1), that Member States produce a national report to the Commission on the implementation of this Directive for the first time by 22 July 2014, and every three years thereafter.

ENSREG identified that it had two significant roles in assisting the smooth implementation of the Directive:

- to provide guidance for Member States on the structure and format of the national reports required under Article 9(1), taking account of experience in producing the three yearly reports to the Convention on Nuclear Safety; and
- to progress the scheduling and resourcing of self-assessments and peer reviews required under Article 9(3) of the Directive.

This work was incorporated into the ENSREG Work Programme, which had been revised following the adoption of the Directive.

2.1.1 Guidance for Member States reports under Article 9(1) of the Nuclear Safety Directive

Article 9(1) of the Directive requires that "Member States shall submit a report to the Commission on the implementation of this Directive for the first time by 22 July 2014, and every three years thereafter, taking advantage of the review and reporting cycles under the Convention on Nuclear Safety".

ENSREG considered that it would be appropriate to assist Member States in the preparation of these reports, to provide guidance regarding information and material that it may be useful to include in the reports and thereby facilitate the most efficient and effective reporting of the implementation by Member States of their obligations under the Directive.

The guidelines, by providing a common structure of reporting, could also enable the Commission to meet their obligations under the requirement of Article 9(2) of the Directive to submit a report to the Council and the European Parliament on progress made with the implementation of the Directive.

In January 2010, ENSREG endorsed the initial principles that Member States reports should:

- fully address the requirements of the Directive;
- inform the Commission, Council and European Parliament on implementation of the Directive;
- be consistent in format and size to enable them to be compiled by the Commission; and
- clearly identify how nuclear regulation in Europe is carried out and provide open and transparent information for the Public.

An evaluation of the possible report options was carried out. The initial assumption being that the most convenient option would be to use (with some modifications) the national reports prepared under the Convention on Nuclear Safety (CNS). This took into account that use of the national report was also the intention of the drafters of the Directive (Article 9(1) contains the text *“taking advantage of the review and reporting cycles under the Convention on Nuclear Safety”*).

The preliminary view was formed that the use of Member States national reports for the Conventions for reporting under the Directive would require significant additional resource and effort, and that it would be more efficient to develop a separate, completely new report (drawing on data from the Convention reports where applicable) for which a Guideline should to be developed.

Although this preliminary view was difficult for all ENSREG Member States to accept, as it was perceived as unduly resource intensive eventually, after further analysis, ENSREG endorsed the further principles for Member States reports that they should be:

- newly written and concise, providing the necessary information to address the specific obligations of the Articles of the Directive, including their implementation;
- self-standing while drawing information from existing sources (e.g. National Reports to the CNS and the Joint Convention, where these are available);
- written in such a way as to make it also comprehensible for an informed non-expert audience; and to be
- consistent across Member States to enable the European Commission to compile its report to the Council and European Parliament

This clarity enabled the development of the Guidance document to progress. The current status is that the Guidance document for National Reports is being developed using the structure:

- I Introduction
- II General principles
 - A Basic Considerations
 - B General suggestions on the structure and format of the National Report
 - C General suggestions on the content of the National Report
 - D Article by Article Review
 - E Member States without nuclear installations
- III Detailed suggestions on the content of the National Report
 - A Introduction
 - B Summary
 - C Reporting Article by Article

Annex – Detailed Guidance e.g.

Article 7 *Guidance on the framework and methodologies to maintain expertise and skills in nuclear safety*

Article 8 *Guidance for National Regulatory Organisations - Principles for Openness and Transparency*

The principles, the structure of the contents of the Report, outlined contents of the Report under each Article, and topics requiring more detailed guidance were endorsed at the ENSREG meeting in May 2011.

Until early 2012 the contents of the Report under each Article and the topics requiring more detailed guidance will be developed. In parallel, a volunteer Member States will prepare a draft national report to test the guidance.

By the mid of 2012 ENSREG aims to have the final draft of the Guidelines and example national reports prepared and available for all Member States to apply in developing their individual National Report.

2.1.2 The programme of self assessments and IRRS Missions, in cooperation with IAEA under Article 9(3)

Article 9(3) of the Directive requires that “Member States shall at least every 10 years arrange for periodic self-assessments of their national framework and competent regulatory authorities and invite an international peer review of relevant segments of their national framework and/or authorities with the aim of continuously improving nuclear safety. Outcomes of any peer review shall be reported to the Member States and the Commission, when available.”

ENSREG agreed that, to satisfactorily meet both the obligations and spirit of Article 9(3) of the Directive, the best way forward is by cooperation with the IAEA Integrated Regulatory Review Service (IRRS) programme. ENSREG further agreed that self-assessments should be based on IAEA IRRS practices, noting that IRRS missions look beyond the scope of the CNS and the Joint Convention obligations and Full Scope IRRS missions are beyond the scope of the Directive. ENSREG also agreed that there is no need to modify the IAEA IRRS self-assessment guidance in order to use it for the European IRRS programme.

ENSREG delegated responsibility for assigning the work related with the development of an overall EU IRRS programme to a small coordination group who would provide the contact point required by IAEA for facilitating and progressing the work.

In order to implement the EU IRRS programme, ENSREG agreed that this would require adequate expert resources and that a European pool of suitable experts should be established. This will ensure an effective level of EU Member States participation in the IAEA IRRS programme both within Europe and worldwide, and contribute to harmonisation of European regulatory practices. The pool of experts will be supported by a network of regulatory contact points which, once established, will further enhance the European IRRS programme.

An indicative European IRRS programme has been established which includes schedules for EU Member States to carry out self assessments and IRRS missions for the years 2011-2021. The programme will be updated as and when needed and at least annually.

The implementation of a programme of IRRS missions in EU Member States was discussed with the IAEA. The IAEA identified that it would need additional resources in order to implement such a programme. Mechanisms for financing these resources was discussed by the Commission and the IAEA and, within the constraints of the Commission’s financial rules, financing has been ensured for one year. The Commission is willing to review and

consider further financing on an annual basis. In the event that the Commission is no longer able to guarantee such financing, a solution to establishing alternative funding will need to be considered.

Based on these discussions with the IAEA, a draft Memorandum of Understanding between ENSREG and IAEA for international peer review missions to the EU Member States was prepared. ENSREG has endorsed the Memorandum of Understanding and noted the indicative European IRRS programme.

2.2. Activities in support of the facilitation of a common learning from the Convention on Nuclear Safety review process and from IAEA IRRS missions to other Member States

2.2.1 Background

Whilst not explicitly required by the Directive, but taking into account its potential contribution to the continuous improvement of nuclear safety and of its regulation, ENSREG agreed that the facilitation of common learning from the Convention on Nuclear Safety (CNS) review process and from the IAEA IRRS missions to other EU Member States is an important task for ENSREG. With that benefit in mind, detailed templates describing the practical steps, responsibilities and follow-up of these two common learning processes have been endorsed.

The underlying principles of these learning processes are that:

- the regulatory bodies of the EU Member States are responsible for carrying them out at the national level; and
- ENSREG has an advisory and coordinating function and selects issues proposed for common learning, as well as endorsing any common actions at the EU level on the issues, if such actions are proposed and found to be justified.

The results of these processes will be subsequently evaluated by ENSREG Work Group 1 after one year from their inception.

2.2.2 Common learning process from the Convention on Nuclear Safety review process

The purpose of this process is to identify and agree on regulatory or safety issues, identified in the Convention on Nuclear Safety (CNS) review process, that merit being taken forward for common learning by the EU Member States.

The issues identified need to meet several criteria:

- they have been identified as relevant and of interest to a significant number of EU Member States;
- there are no obvious measures available or foreseen in the short term to resolve the issues, and there are no ongoing longer term activities for instance of IAEA, NEA or WENRA that appear sufficient to resolve the issues;
- the development of knowledge or methods and information sharing around the issues seem important; and
- the EU Member States would benefit from common approaches or to join forces in finding good solutions.

Ultimately, an issue of common interest could be a discussion highlight, a challenge, a planned measure to improve safety, or a good practice that needs some further elaboration in order to be generally applicable.

The practical testing of this learning process took place in a special meeting organised on 12 April 2011 in the framework of the 2011 Convention on Nuclear Safety review meeting in Vienna. Four issues (Integrated Emergency Preparedness Planning; Conditions for Lifetime Extensions/Prolonged operation; Peer Review of Safety Design by Foreign Peers; Adequacy of resources) have been identified and justified. ENSREG will form a view and formulate an opinion on follow up activities.

2.2.3 Common learning process from the IAEA IRRS missions to other EU Member States

Learning opportunities from IRRS missions to other Member States could generate learning points of interest for other Member States as well as good practices that could lead to further improvement.

The practical testing of this process will start in July 2011.

2.3. Request for ENSREG to form a technical opinion on an IAEA report on Ukrainian NPPs

On 9 June 2010, the Working Party on Atomic Questions (AQQ) of the Council was informed of the main conclusions of the IAEA final report, of the EC-IAEA-Ukraine Joint Project, entitled the "Safety Evaluation of Ukrainian Nuclear Power Plants", February 2010. Immediately after that meeting ENSREG was requested by AQQ to provide a 'technical opinion' on the IAEA report.

This technical opinion is proposed to be used for monitoring the implementation of the Memorandum of Understanding (MoU) on cooperation in the field of energy between the European Union and Ukraine signed on 1 December 2005, which, in turn, implemented the EU-Ukraine Action Plan, approved in February 2005 by the EU-Ukraine Cooperation Council in the framework of the Partnership and Cooperation Agreement. The MoU defines four roadmaps for bilateral co-operation, one of which is the Road Map for Nuclear Safety. Having followed the implementation of this road map from its inception, the AQQ formed the view that, given its expertise, ENSREG was best placed to provide this technical opinion in a European context.

Following a first response from ENSREG, this request was clarified by the Council such that the technical opinion would:

- serve as part of the monitoring process and would remain relevant even after Ukraine's accession to the Energy Community;
- be carried out in a like manner to the 'peer review' process carried out by the Working party on Nuclear Safety (WPNS) before the entry into the European Union of candidate countries as reported in 'Report by the Working Party on Atomic Questions on Nuclear safety in the context of enlargement', doc 13789/00, dated November 2000.

The issue has further been elaborated and discussed by ENSREG's nuclear safety experts. ENSREG at its plenary meeting 12-13 May 2011 has endorsed the approach proposed by its experts for providing the technical opinion to support the Working Party on Atomic Questions in its regular monitoring of continuous improvement of nuclear safety in Ukraine based on EU expertise.

ENSREG's experts screened former and current assistance and cooperation projects under the TACIS and INSC programmes. These projects resulted in safety significant findings that still have to be addressed. Therefore ENSREG's technical opinion will be based on ongoing or planned safety assessments by European nuclear safety experts, in particular on results

from the current INSC projects. Results will be discussed at the regular meetings of ENSREG and the Working Party on Atomic Questions will be subsequently informed.

2.4. Requests to ENSREG for strategic advice on nuclear safety matters in third countries

In January 2011, ENSREG received a request from the Commission in the domain of cooperation with nuclear regulatory bodies in third countries. This request is related to two Council Regulations that were adopted, 2006-2007, creating new financing instruments with new objectives and scope:

- the Instrument for Nuclear Safety Cooperation (INSC) requires that the European Atomic Energy Community finance measures to support the promotion of a high level of nuclear safety, radiation protection and the application of efficient and effective safeguards of nuclear material in third countries. This cooperation includes the promotion of an effective nuclear safety culture at all levels, in particular through support provided to regulatory bodies and technical support organisations and the reinforcement of the regulatory framework; and
- the Instrument for Pre-Accession Assistance (IPA).

The scope of ENSREG's activities would include advising the European Commission on the high-level, policy, definition of its cooperation activities with regulatory bodies in third countries. In order to achieve this objective the Commission has requested that ENSREG advise the Commission on the following topics:

- Assessment of needs in third countries and potential effectiveness and opportunity of cooperation with their regulatory bodies;
- Prioritisation of needs and definition of strategic objectives of cooperation with regulatory bodies in third countries;
- Preliminary definition of high-level programming instruments (Strategy Papers and Multi-annual Indicative Programmes), with respect to the envisaged activities of cooperation with the regulatory bodies in third countries;
- Availability of resources in the EU Member States to implement the proposed strategy for cooperation with regulatory bodies in third countries; and
- Policy for the promotion of international cooperation in nuclear safety, including through relevant international organisations (mainly IAEA).

The Commission assumes that "ENSREG aims at developing a common understanding among European nuclear safety regulators concerning the safety of nuclear installations and spent fuel and radioactive waste management, and the objectives of the EU cooperation with third countries and their regulatory bodies". Therefore the Commission considers it reasonable to seek advice from the ENSREG in the process of programming such cooperation.

ENSREG agreed in principle with the European Commission request for assistance. The type of advice requested, practicalities of the Group's envisaged role, resources needed have to be clarified. ENSREG and the Commission have agreed at the meeting of May 13 to form a group reuniting representatives of the relevant stakeholders (COM, INSC-C, RAMG, ENSREG) to discuss and elaborate concrete proposal for providing advice for regulatory cooperation with third countries under the INSC and other related instruments.

3. SAFETY OF THE MANAGEMENT OF SPENT FUEL AND RADIOACTIVE WASTE

In its Report of July 2009, "ENSREG encourages:

- *the development of a national programme for waste management in each EU Member State and the adoption of an instrument defining the basics of and guidelines for the contents of such programmes in Europe;*
- *the development of ENSREG's role in the processes of sharing of lessons learned in waste safety experience among EU Member States;*
- *the continuation of ENSREG's role as a think tank and driving force in the search for solutions for improving the safety of waste management at European level."*

In its Council conclusions of 10 November 2009 (reference VI) on the report by the European Nuclear Safety Regulators Group, the Council of the European Union:

"Invites ENSREG to further specify the objectives, time schedules and deliverables to be reached by ENSREG,

.....

Calls on the National safety authorities, regulatory and administrative bodies participating in the ENSREG, and the Commission to continue their cooperative work within ENSREG, furthering a common understanding on the safe management of spent fuel and radioactive waste, with the prospect of developing a Community approach in this field, taking due account of the principles noted in the 2008 Council Resolution on Spent Fuel and Radioactive Waste Management; further INVITES the Commission to make full use of ENSREG expertise in the case of proposals for legally binding instruments in the field of safe management of spent fuel and radioactive waste being considered,

Reminds of the importance for Member States and the Commission to take into account within ENSREG the work of the International Atomic Energy Agency (IAEA), the Nuclear Energy Agency (NEA), the Western European Nuclear Regulators Association (WENRA), the Convention on Nuclear Safety, and the Joint Convention, and that initiatives at EU level should have an added value compared to the activities undertaken in the mentioned contexts."

Following the future directions specified in the 2009 ENSREG Report and the Council conclusions on this Report, ENSREG identified its contribution to a possible legislation on spent fuel and radioactive waste management as the main challenge in this field. In this context ENSREG also decided to continue its efforts for achieving better use of the review process under the Joint Convention on the Safety of Spent Fuel management and on the Safety of Radioactive Waste Management (Joint Convention).

3.1. ENSREG's suggestion for the content of a Directive on Sustainable Management of Radioactive Waste and Spent Fuel

The Commission informed ENSREG about its plans for proposing a Directive on the management of spent fuel and radioactive waste in the second semester of 2010, as well as internal decision-making process leading to the adoption of a Commission proposal for such a Directive.

In this context, the ENSREG Working Group on Improving Radioactive Waste Management, Spent Fuel and Decommissioning Arrangements (WG2) elaborated a proposal for possible content and elements of a Directive on Sustainable Management of Spent Fuel and Radioactive Waste, accompanied by a discussion paper.

The efforts were concentrated on the need to adopt a position on the scope of the Directive, to properly define radioactive waste, to ensure coherence with other international and European instruments, in particular Nuclear Safety Directive, to perform systematic checks against the international standards, to clarify the reporting requirements particularly in connection with other related reporting requirements under the International Conventions, to define the link between the peer-reviews and the Joint Convention Process.

At its 12th meeting ENSREG decided to submit to the Commission the initial document (reference VII) with the comments provided by the ENSREG members as expert advice to be further used when proposing Community legislation in the area of radioactive waste and spent fuel management.

3.2. ENSREG Statement on the Proposal for a Council Directive on the management of spent fuel and radioactive waste

On 3 November 2010 the Commission adopted and handed over to the Council a proposal for a Council Directive on the management of spent fuel and radioactive waste. This achievement was part of a long process, including extensive stakeholder and public consultation and thorough impact assessment addressing the management of spent fuel and radioactive waste in the EU.

At its 14th meeting on 1 February 2011 ENSREG discussed and endorsed its Statement (reference VIII) on the Commission proposal for a Council Directive on the management of spent fuel and radioactive waste, proposed by the ENSREG Working Group on Improving Radioactive Waste Management, Spent Fuel and Decommissioning Arrangements (WG2). This statement reflects the discussions between experts in ENSREG without addressing any specific national position. The ENSREG Statement was presented to the Council's Working Party on Atomic Questions (AQQ) on 9 February 2011.

ENSREG welcomes the Proposal for a Council Directive on the management of spent fuel and radioactive waste issued by the European Commission on the 3rd November 2010. The proposed legislation will improve and harmonize the safe and responsible management of spent fuel and radioactive waste in the Union i.e. by ensuring the establishment by each Member State (MS) of a national policy covering all stages of spent fuel and radioactive waste management.

ENSREG acknowledges that the ENSREG contribution (described in previous chapter) has largely been incorporated in the proposed Directive and does not identify any significant issue that needs to be covered by the Directive and that would be missing in the proposal. ENSREG states a general support to the proposed Directive, whose orientation aims at ensuring a comprehensive and safe management of spent fuel and radioactive waste.

At policy level, the Directive clearly sets that each Member State is responsible for its radioactive waste and spent fuel and consequently has to establish its own national spent fuel and waste management framework. This framework shall cover all steps of radioactive waste and spent fuel management, from generation to disposal, and be developed and implemented without undue delay. Those aspects are firmly supported by ENSREG.

However, the proposed Directive introduces more specific requirements e.g. regarding safety, waste origin, transfer and responsibility, reporting and reviewing... which could overlap and interact with existing Directives, i.e. the Safety Directive, and the policy framework. This should be further examined and clarified to avoid difficulties at the time of transposition in national legislative system and at the time of implementation.

3.3. *Continuing activities*

ENSREG work programme 2010 – 2011 in the field of spent fuel and radioactive waste management is related to the implementation of the future Directive on the management of spent fuel and radioactive waste. It is in line with the work programme in the field of nuclear safety, which is related to the implementation of the Nuclear Safety Directive, in order to provide for consistency. In this context the continuing activities have been prioritised as follows:

1. Methodology and way forward developing format of and Guidance for Reports under the future Directive on the management of spent fuel and radioactive waste, including better use of the Joint Convention process.
2. Methodology and way forward developing self-assessment and peer-review guidance.
3. Exchange of information and discussions on waste safety implementation issues.

4. OPENNESS AND TRANSPARENCY

4.1. The ENSREG website – www.ensreg.eu

One of the key initiatives of ENSREG to improve transparency was the establishment of a dedicated EU website to provide the public and other stakeholders with coordinated and easy access to information on nuclear safety. The project was commenced during the previous work programme and the website was launched in January 2010. The initial aim of the website is to improve public accessibility to the information already available and to present it in a user-friendly format.

The website includes information on ENSREG, its role, composition, work programme and outputs. It lists the nuclear regulatory organisations in each Member State and provides links to their individual websites. Profiles of each country, listing the national regulators, the nuclear activities they regulate and the key national legal instruments are easily accessible through an interactive map on the home page.

The website also includes basic information about the nuclear fuel cycle and radioactive waste, and describes how safety is ensured in nuclear power plants and in the management of spent fuel and radioactive waste. It sets out in detail how safety regulation is achieved at the national, EU and international level.

There is a separate section dedicated to transparency and public involvement. Here, members of the public can learn about the type of information that is available from their national regulators and the different means by which they can participate in national stakeholder processes.

Arrangements are in place to update the website with “news” and “documents” as they become available and web statistics are gathered routinely to help inform future improvements to the website.

4.2. Guidance for National Regulatory Organisations – Principles for Openness and Transparency

The Nuclear Safety Directive (Directive 2009/71/Euratom establishing a Community framework for the nuclear safety of nuclear installations) in Article 8 establishes legally binding obligations on Member States in relation to information to the public. These obligations confirm the commitments of the Member States pursuant to already existing national, European and International Law.

Nuclear Regulatory Organisations (NRO's) face many challenges in their quest to be open and transparent with those that are interested in or affected by what they do. A particular challenge is the need to strike the right balance between openness and security and commercial-related considerations, whilst still accommodating the public's desire to be well informed.

ENSREG's Working Group on Transparency (WGTA), in co-operation with the NEA's Working Group on Public Communication, has developed general guidance to NRO's on principles for ensuring openness and transparency in their communications activities. The principles are challenging and go beyond the legal obligations set out in Article 8 of the Nuclear Safety Directive. They are generic in nature and may need to be adapted to the organisational structures in individual Member States.

The principles are:

Develop a communications strategy which sets out clearly the organisation's commitment to open communication and the way in which transparency will be implemented, taking account of the principles set out in this document. Underpin the communications strategy with regular plans detailing the activities that the NRO will undertake to ensure effective communications with all those that are interested in or affected by what the NRO does.

Disclose information in a timely manner. Some national legislation may require specific timescales for specific types of information, but generally a 4 week timescale is deemed to be good practice. In the event of an incident or event, communicate quickly to avoid an information vacuum developing or rumour and speculation taking over in the media where news is a 24-hour a day fast paced business.

Develop an accessible web site for the general public and for specific stakeholders where they can find in-depth and understandable information on all aspects of the NRO's work and, in particular, on regulatory decisions and opinions. The website should, for example, include access to live monitoring data, to all relevant guidelines and legislation, to information on specific events and incidents, to research and other reports and to press releases. It should also support interactive consultations with stakeholders and incorporate a facility to gain feedback from visitors to the site.

Produce an annual report on the NRO's activities which seeks to demonstrate key achievements during the previous year. The annual report should be developed in a way that makes it easy for those reading it to see if the organisation has achieved what it set out to at the beginning of the year.

When developing documents, consider in advance which information might be sensitive, and organise the contents so as to ensure that the public version contains as much useful information as possible. For pre-existing documents being made public, delete only those parts of the document where commercial, national defence, public safety, security, proprietary, privacy issues or other restrictions within the framework of national legislation apply. This promotes a high degree of transparency.

Proactively engage with stakeholders who are interested in or are affected by the work of the NRO using traditional and emerging means and seek to build on and enhance the stakeholder engagement or consultation activities that are required by law. Establishing relationships in a more informal manner helps to promote a more trusting environment.

Proactively build relationships with the media and become the point of reference for the media for neutral, objective information on nuclear safety issues. Doing this will help to establish the NRO as a credible source of information and will ensure that there is regular interaction in addition to when an event or incident has occurred. Eurobarometer surveys have shown that, in most countries, the media is the main source of information for the public on nuclear matters.

Promote a culture of openness and transparency within the NRO so that all staff understand the importance of being transparent and of proactive engagement with all stakeholders. Embed openness and transparency into the organisations values and behaviours.

Produce information in plain language that is easy to understand. The information may need to be adapted for different target audiences. For example, some audiences will require more technical and complex information. (the KISS principle: Keep It Simple but not Stupid). Provide translated information where deemed necessary.

Measure the effectiveness of openness and transparency with a stakeholder and staff survey at least every two years. Share the results of the survey and develop an action plan for improvements.

4.3. Current Community and International Law with relevance to transparency – Obligations and opportunities for regulators

During 2008/2009, ENSREG compiled a “Working Paper on Current Community and International Law with relevance to transparency” (reference **IX**). The paper provided a factual overview of the existing European and international legal instruments covering transparency. It serves as a reference document for interested stakeholders on the means by which they can participate in decision making processes related to nuclear safety.

ENSREG has further developed its work in this area by completing a case study to identify the roles for national regulatory organisations under this legislation.

The case study concluded that European and international legislation contains no direct legal obligations for regulators as regards transparency. Such obligations, if any, are established in national legislation. Examples of good practices of various regulators were highlighted.

Based on the results of the case study, ENSREG agreed a number of opportunities for regulators regarding transparency. In particular, the members agreed that more information could be made available through appropriate mechanisms such as online based systems and that the public could be involved more effectively.

With regard to the obligations under the Euratom Treaty:

- Art. 35: Regulators could publish more information, for example the results of the Commission verification (main findings and technical report).
- Art. 37: Regulators could exert their influence that persons or entities concerned give their consent that the Commission may publish the information communicated to it.
- Art. 41: Regulators could exert their influence that persons or entities concerned give their consent that the Commission may publish investment projects communicated to it.

With regard to the Convention on Nuclear Safety and Joint Convention:

- Not only the national reports but also the questions and answers could be published, in anonymous form.
- The review meetings could be partly open to press, as recommended by the Open Ended Working Group in the 4th Review Meeting of the Convention on Nuclear Safety in 2008 (CNS/RM/2008/8).
- The public and NGOs could be involved, e.g. through the possibility to pose questions on their respective national reports.

ENSREG identified finding the right balance between transparency and security as the principle challenge for regulators in this area as, and agreed to undertake further work on this topic.

4.4. ENSREG Nuclear Safety Conference

Three years after it started its activities, ENSREG believed it was time to present the progress made on the European approach to nuclear safety to the nuclear regulator's major stakeholders and to the international community of nuclear safety authorities. As a matter of fact, ENSREG has frequently observed that the work of nuclear regulators and the European Commission is not well known or recognised inside the industry and also in the wider public.

Therefore it has decided to organise a two days conference on 28 and 29 June 2011 in Brussels.

The aim of this event is to describe the achievements made during the last ten years on the path to improving nuclear safety in Europe.

First of all, the conference will present the substantial technical work undertaken by WENRA on safety reference levels for existing nuclear power plants, on safe management of radioactive waste and spent fuel and, more recently, on the crucial topic of the safety objectives for new nuclear power plants.

It will also provide an opportunity to explain to what extent members of ENSREG took part in drafting the directive on nuclear safety and how they are helping to implement it in every Member State.

Moreover, European regulators will provide an overview of the challenges they will have to face in the years ahead, notably on the safety of new reactors, extending the service life of existing reactors and safe decommissioning of nuclear installations.

Finally, stakeholders, NGOs, non-European regulators and international organisations dealing with nuclear safety, will be given the floor to comment on how nuclear safety is organised in Europe and on recent developments in this part of the world.

The events at Fukushima have once again underlined the fact the accidents know no frontiers and that we have a shared responsibility as regards the safe use of nuclear energy. ENSREG will take the opportunity provided by the Conference to discuss in detail appropriate measures to further improve the safety of EU nuclear plants, based on the outcome of the *stress tests* in particular.

As this activity report should be available for the conference, results and findings will be reported on the ENSREG website.

5. ENSREG'S ROLE AFTER THE FUKUSHIMA EVENTS

On 11 March 2011 very strong earthquake took place under the sea east from the Japan. It was followed by a big tsunami, which has devastated the eastern coast of the Honshu island. Among tremendous damage to the country and people of Japan also several nuclear power plants were hit. The devastation, caused by the earthquake and tsunami, has initiated the very serious nuclear accident in the Fukushima Daiichi Nuclear Power Plant. The event was developing for many weeks and is not brought to the final stable state until the time of writing of this report.

The nuclear accident in Japan has triggered immediate response all over the World, also in the European Union. The public was very concerned. The nuclear regulatory bodies of EU Member States have followed the development of the event and informed accordingly their politicians and public. The EU Commissioner for Energy Mr. Günther Oettinger has organised the first larger meeting of major EU nuclear stakeholders (political representatives, nuclear regulators and representatives of the industry) already on 15 March 2011. During that meeting the necessary actions to be taken in EU have been streamlined. The idea to prepare so called "*EU nuclear power plant stress tests*", originally proposed by the Austrian minister for environment, has received overall principle support, although at that point it was not defined yet how such tests would look like.

One week later, on 21 March ministers for energy of EU Member States at their meeting further developed the idea for *stress tests* and prepared the wording, that was later that week adopted as the conclusion of the European Council on the nuclear situation in Japan (reference X), where it is also written:

"the European Nuclear Safety Regulatory Group (ENSREG) and the Commission are invited to develop as soon as possible the scope and modalities of these tests in a coordinated framework in the light of lessons learned from the accident in Japan and with the full involvement of Member States, making full use of available expertise (notably from the Western European Nuclear Regulators Association);"

By this statement ENSREG, European Commission and WENRA were formally asked to contribute.

Already on 22 and 23 March the European nuclear regulators of countries with nuclear power plants had a regular meeting of WENRA, where they immediately started preparing a methodology for *stress tests*. During the meeting the first skeleton of the methodology was prepared and a task force to improve it in the next days was formed. The task force had the first elaborated draft of *stress tests* methodology prepared by 12 April and has sent it to the wider consultation inside WENRA and later also by the industry and other stakeholders.

By the 7 May 2011 the draft *stress tests* methodology was submitted to ENSREG. By that time there were some initiatives to include into the *stress tests* also the risk and consequences of potential terrorist attacks to nuclear power plants. It was the prevailing opinion of nuclear regulators, that a pertinent risk analysis would go much beyond the responsibilities of both operators of nuclear power plants as well as nuclear regulators.

After extensive discussions during the days following the regular meeting of ENSREG on 12 and 13 May 2011, ENSREG, including the European Commission, reached a consensus on the scope and modalities of a comprehensive and transparent risk and safety assessment ("*stress tests*") of European nuclear power plants on May 24, 2011, as requested by the European Council (24/25 March 2011). This consensus comprises the following declaration and two subsequent annexes:

“ENSREG and the European Commission have worked intensively to provide a response to the request of the European Council on 25 March 2011.

Notably, they have developed the scope and modalities for comprehensive risk and safety assessments of EU nuclear power plants. On 13 May 2011, ENSREG and the Commission have agreed the following:

1. In the light of the Fukushima accident, comprehensive risk and safety assessments undertaken by the operators under the supervision of the national regulatory authorities of nuclear power plants will start at the latest by 1 June 2011. These assessments will be based on the specifications in annex 1 largely prepared by WENRA and will cover extraordinary triggering events like earthquakes and flooding, and the consequences of any other initiating events potentially leading to multiple loss of safety functions requiring severe accident management. The methodology of these assessments is covered by annex 1. Human and organisational factors should be part of these assessments;

2. Risks due to security threats are not part of the mandate of ENSREG and the prevention and response to incidents due to malevolent or terrorists acts (including aircraft crashes) involve different competent authorities, hence it is proposed that the Council establishes a specific working group composed of Member States and associating the European Commission, within their respective competences, to deal with that issues. The mandate and modalities of work of this group would be defined through Council Conclusions.

3. Paragraphs 1 and 2 above contribute to a comprehensive risk and safety assessment.”

The scope and the modalities of the *stress tests* were presented then at a press conference on May 25, 2011.

The methodology for *EU Stress Tests of Nuclear Power Plants* is defined in the reference **XI**. It is up to national nuclear regulators to enforce its implementation starting on 1 June 2011.

6. CONCLUSIONS AND FUTURE ACTIVITIES

After four years of work ENSREG has proved to be a very effective institutionalised framework within the European Union for communication, coordination and cooperation among national nuclear regulatory authorities and the European Commission. Through intensive discussions between top regulators the exchange of positions and ideas has helped each member to inform and improve arrangements in their own country based on good practices in other Member States. This process is significantly contributing towards the harmonisation and permanent improvements of nuclear safety in the European Union.

ENSREG played an important role in the preparation of the Nuclear Safety Directive and the Radwaste and Spent Fuel Management Directive. The intensive exchange of views among ENSREG members in the period when the European Commission was preparing proposals for both Directives has contributed to the smoother conduct of the following formal process of the adoption in the Council. ENSREG plays also a leading role in harmonisation of implementation of these two directives.

The effectiveness of the ENSREG's structure and the level of cooperation achieved in the past four years were proven also by its role in EU activities after the nuclear accident in Japan in March 2011. ENSREG has immediately recognised how indispensable it is that also in the European Union we review the nuclear safety of our nuclear power plants and identify lessons to be learned from the events in Japan as well as the potential for further improvements in nuclear safety. ENSREG has promptly responded to the request from the

European Council and took active part in preparation of so called *stress tests*. It will have important role also in evaluation of the results of planned activities.

ENSREG has very well used synergies of two existing associations of nuclear regulatory bodies in Europe. The Western European Nuclear Regulators Association WENRA as a voluntary, non-binding club of professionals is producing valuable proposals for nuclear safety improvements in member countries, while ENSREG as the formal advisory body is using those proposal for careful introduction into the legally binding instruments on EU level. This synergy proved especially effective and efficient in the process of preparation of *stress tests*.

ENSREG will continue to work on issues recognised to be especially important for nuclear safety in the EU and work in accordance with its work programme. In addition it is available to quickly respond with its expertise to any demand that might come in the future from other stakeholders.

7. REFERENCES

All documents made publicly available by ENSREG can be obtained from the site http://circa.europa.eu/Public/irc/tren/nuclear_safety_and_waste/library?!=/general_archive/public&vm=detailed&sb=Title.

Individual documents referred to in the text of the report are listed below:

I Report of the European Nuclear Safety Regulators Group, July 2009:

[http://www.ensreg.eu/sites/default/files/HLG_p\(2009-09\)_35.FINAL_ENSREG%20Report%202009.pdf](http://www.ensreg.eu/sites/default/files/HLG_p(2009-09)_35.FINAL_ENSREG%20Report%202009.pdf)

II List of Nuclear regulators in EU countries: <http://www.ensreg.eu/members-glance/national-regulators>

III Proposal for a Council Directive establishing a Community framework for the responsible and safe management of spent fuel and radioactive waste:

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:0618:FIN:EN:PDF>

IV Commission Decision of 17 July 2007 on establishing the European High Level Group on Nuclear Safety and Waste Management:

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2007:195:0044:0046:EN:PDF>

V Council Directive 2009/71/Euratom of 25 June 2009 establishing a Community framework for the nuclear safety of nuclear installations:

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:172:0018:0022:EN:PDF>

VI Council conclusions on the report by the European Nuclear Safety Regulators Group, 10 November 2009:

http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ecofin/111009.pdf

VII ENSREG's suggestions for the content of a Directive on Sustainable Management of Radioactive Waste and Spent Fuel:

http://circa.europa.eu/Public/irc/tren/nuclear_safety_and_waste/library?!=/general_archive/public/hlg_p2010-12_46pdf/EN_1.0_&a=d

VIII ENSREG Statement on the Proposal for a Council Directive on the management of spent fuel and radioactive waste:

http://circa.europa.eu/Public/irc/tren/nuclear_safety_and_waste/library?!=/general_archive/public/hlg_p2011-14_55pdf/EN_1.0_&a=d

IX Working paper on current Community and International Law with relevance to transparency:

http://circa.europa.eu/Public/irc/tren/nuclear_safety_and_waste/library?!=/general_archive/public/p2009-08_instrumentspdf_1/EN_1.0_&a=d

X European Council conclusions on nuclear situation in Japan:

<http://ec.europa.eu/dgs/energy/newsletter/dg/2011/0328newsletter.html#ancre1>

XI The EU Stress Tests for Nuclear Power Plants Methodology:

http://ec.europa.eu/energy/nuclear/safety/doc/20110525_eu_stress_tests_specifications.pdf