

IRRS Lessons Learned Workshop

3–5 November 2008, Seville

The Spanish Nuclear Safety Council (CSN), in coordination with the IAEA, conducted a workshop to discuss and review lessons learned from the Integrated Regulatory Review Service (IRRS) mission conducted in Spain from 28 January to 8 February 2008. Thirty-six countries participated in the workshop which was held in response to a request from the President of the CSN, Ms Carmen Martinez Ten, to the IAEA Director General. Senior regulators from around the world attended the workshop to discuss how to improve regulatory body effectiveness using the feedback from IRRS missions.

The main purpose of the workshop was to provide information to interested Member States regarding the IRRS, to discuss their experiences and lessons learned from the regulatory review conducted at the CSN and to explore further improvements in the planning and implementation of the IRRS, including the establishment of a network of experts from regulatory authorities.

Highlights from the main conclusions and recommendations are as follows:

- The IRRS together with the relevant knowledge networks are key tools for mutual learning and for sharing experiences.
- The IRRS can be tailored to the needs and requests of the Member States regardless of the size of the nuclear or radiation programme.
- The IRRS Lessons Learned Workshop every two years, using IRRS tools as the driving force to



The IRRS team

promote the global experience sharing and learning system, is important for all Member States but particularly countries embarking on nuclear power programmes.

- The self-assessment methodology, based on the IAEA's Safety Standards is a key element for having an effective review.

On 5 November, the IAEA Director General Dr. Mohamed ElBaradei opened the national presentation of the IRRS results. At this event, Dr. Mohamed ElBaradei expressed the wish that a strong nuclear safety culture be adopted worldwide; noting that while nuclear safety has improved significantly, vulnerabilities remain and continued vigilance is needed.

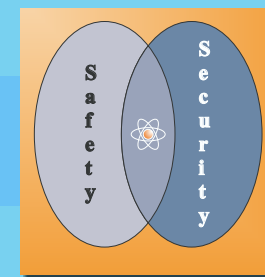
For more information about the Agency's IRRS programme, please visit:

<http://www-ns.iaea.org/reviews/rs-reviews.htm#irrs>

INES – the International Nuclear and Radiological Event Scale

The 2008 IAEA General Conference welcomed “the endorsement of the new *International Nuclear and Radiological Event Scale (INES) User's Manual* by the INES Advisory Committee and the INES national officers representing INES Member States as a tool to communicate the safety significance of events to technical communities and the public, and urged Member States to designate INES national officers and utilize the scale.” This confirms that the INES Scale has become the worldwide scale for communicating the safety significance of nuclear and radiation safety events. The revised scale is designed to better address areas and activities such as the transport of radioactive material and human exposure to sources of radiation.

INES applies to any event associated with the transport, storage and use of radioactive material and radiation sources, whether or not the event occurs at a facility. It covers a wide spectrum of practices, including industrial use such as radiography, use of radiation sources in hospitals, activities at nuclear facilities, and transport of radioactive material.



Highlights of the 52nd General Conference

The IAEA's 52nd General Conference (GC) of Member States was held in Vienna from 29 September to 4 October. 1400 delegates from more than 130 IAEA Member States attended the five-day event held at the Austria Center Vienna.

GC Resolutions

At its concluding session, the General Conference adopted resolutions backing the IAEA's work and setting future directions in key areas, including nuclear safety and security, nuclear applications, technology transfer and safeguards implementation. Highlights from the conference resolutions regarding nuclear safety and security, GC(52)/RES/9 and GC(52)/RES/10 respectively, relate to continuing efforts to assist Member States in developing and improving their national infrastructure; establishing safety priorities using an integrated assessment process; enhancing efforts to ensure coordination of nuclear safety and security activities; improving the capabilities of the IAEA's Incident and Emergency Centre; and assisting Member States, upon their request, in planning their future nuclear security activities, in particular through Integrated Nuclear Security Support Plans. In addition, the General Conference also welcomed the Board of Governor's decision from the prior week to establish as Agency safety standards the Safety Requirements, "Predisposal Management of Radioactive Waste" and the revision of the Safety Requirements, "Regulations for the Safe Transport of Radioactive Material." The full texts of the conference resolutions can be viewed at:

<http://www.iaea.org/About/Policy/GC/GC52/Resolutions/index.html>.

GC Events

During the General Conference, a two-day **Scientific Forum** looking at the nature and scope of the IAEA's programme to 2020 and beyond was held alongside several briefings on the Agency's work in areas such as



IAEA Deputy Directors General (from left): Mr. Tomihiro Taniguchi, Department of Nuclear Safety and Security, Mr. Werner Burkardt, Department of Nuclear Sciences and Applications and Mr. Yuri Sokolov, Department of Nuclear Energy at the 52nd General Conference. (Plenary Hall, Austria Center, 29 September 2008)

nuclear energy, safety and security and technical cooperation.

Also during the General Conference, the Agency organized the annual **Senior Regulators' meeting**, which was opened by Deputy Director General Taniguchi. The senior regulators who attended the meeting discussed in depth their views on establishing a national nuclear safety infrastructure and the worldwide application of the IAEA safety standards. The occasion of the General Conference also provided an opportunity for members of the broader nuclear community to celebrate the 50th anniversary of the IAEA safety standards programme. The first IAEA safety series publication was issued in December 1958.

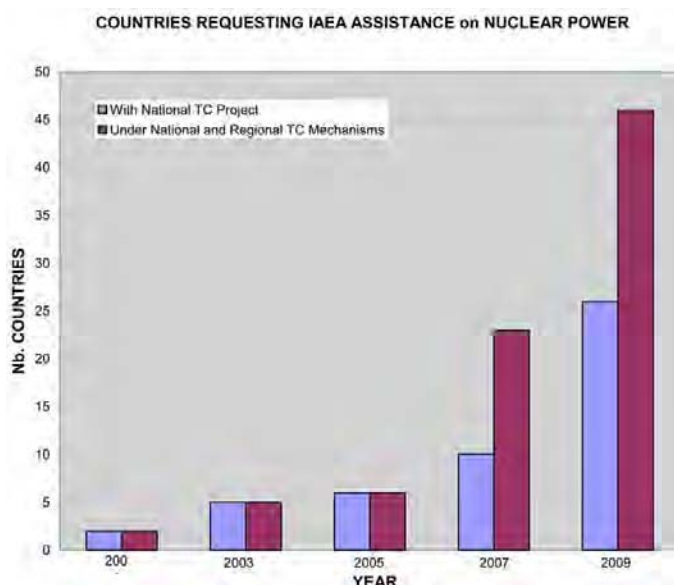
Other events at the General Conference included a forum held by the **International Nuclear Safety Group (INSAG)** focusing on the infrastructure needed for nuclear safety, and included the perspectives of five nuclear "newcomers" in Asia, the Middle East and Europe, and an exhibit highlighting the work of the IAEA in various areas, as well as special exhibits organized by Member States.

Safety and Security Infrastructure for Countries Embarking on Nuclear Power Programmes

Climate change, environmental awareness, growing energy needs, fossil fuel depletion and price instability are among many factors boosting the growing interest in nuclear power.

New entrant countries

A growing number of new entrant countries, some of them with little or no experience with nuclear power, have announced their consideration of the nuclear power option in the short or medium term. These countries are also requesting assistance from the IAEA,



other international organizations and/or countries supplying nuclear technologies.

While these new entrant countries may have adequate infrastructure for their current nuclear applications, some of these countries do not yet have a complete infrastructure for nuclear power. Unlike other industrial projects, a nuclear power plant project involves unique characteristics related to non proliferation, safety and security, long term waste management and public trust.

Current experiences

Current experiences show that even mature nuclear power countries that have recently restarted nuclear power plant projects face certain difficulties with these projects. For new entrant countries, it is therefore of utmost importance and priority that the safety and security dimensions of their national nuclear infrastructure are effectively developed in order to ensure that the nuclear power programme is implemented in a safe and secure sustainable manner.

Before the nuclear power plant can be put in operation, many complex processes and skills need to be managed with safety culture as an overarching umbrella. In November 2008, following an International Nuclear Safety Group (INSAG) meeting, Mr. Jukka Laaksonen, chairman of STUK, the regulatory body of Finland, gave a presentation on the lessons learned from the Olkiluoto 3 construction project and explained that not only quality assurance is important during a nuclear power plant construction project but also safety culture.

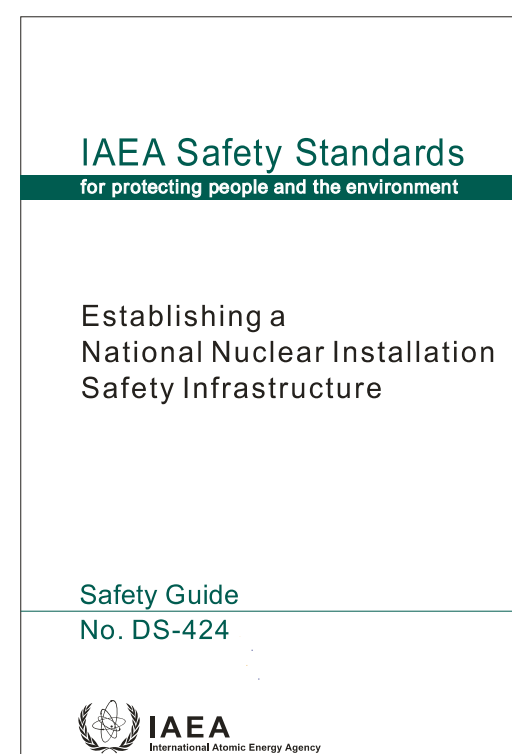
Safety infrastructure guidance

In this context, the IAEA has repeatedly highlighted the need for a detailed and holistic national nuclear infrastructure development programme. IAEA documentation published in recent years¹ was completed in 2008 and will continue to be elaborated on in following years. Particularly, the Commission of Safety Standards during its 22nd meeting at the end of November 2007 asked the Secretariat to issue a new safety guide on “Establishing a national nuclear installation safety infrastructure”. The CSS recognized the need of new entrants for practical guidance and requested that this safety guide provide a roadmap to apply the entire suite of IAEA Safety Standards progressively during the early phases of the implementation of a nuclear power programme.

Experts from regulatory bodies, technical support organizations and industry from mature and new entrant countries have participated in several consultancy meetings in 2008 and produced a draft safety guide that will be posted for comments on the IAEA Safety Standards website. Although not yet approved, this draft safety guide combined with other safety standards under revision, such as GS-R-1, “Governmental and Regulatory Framework for



Construction of EPR at Olkiluoto - Finland



Safety,” will provide useful guidance for Member States to consider.

INSAG also published a report on the subject and provides a definition for a nuclear safety infrastructure, understood as, “the set of institutional, organizational and technical elements and conditions established in a Member State to provide a sound foundation for ensuring a sustainable high level of nuclear safety.”

In 2008 the Agency continued to receive requests from Member States for assistance in establishing a sustainable nuclear safety infrastructure. The Nuclear Power Support Group implemented by the IAEA Director General at the end of 2006 is now fully established and coordinates the IAEA’s actions in response to requests for assistance from individual Member States or groups of Member States.

Measuring progress

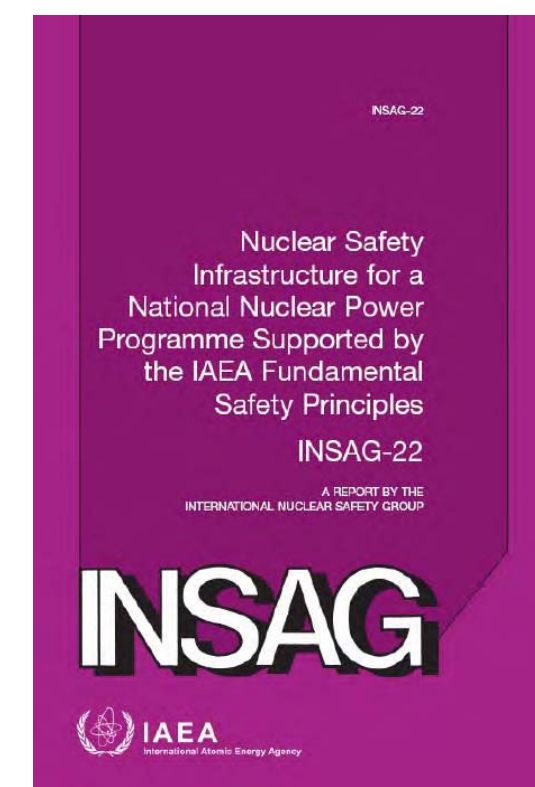
The implementation of a national nuclear installation safety infrastructure for nuclear power plants is a lengthy and complex process and Member States are interested in assessing their progress in each phase of its development. The results of these assessments are important for planning and managing the steps of the nuclear power programme and for establishing stakeholder confidence, including the public, that the country has implemented all the necessary measures. The IAEA is developing documentation to help Member States perform such assessments, establish related action plans and implement integrated interdepartmental missions as well as specific technical missions to follow the progress of the Member States.

With regard to safety and security, it was decided in 2008 that integrated safety and security review services will be developed, along with associated education and training programmes, in order to support such assessments. These services will be derived from the existing Integrated Regulatory Review Service (IRRS) programme and adapted to the needs of Member States in the early development phases of a nuclear power programme.

Other international support

The IAEA is not the only organization providing assistance to new entrant countries. The European Union has also developed such activities and other international initiatives can be mentioned such as the Global Nuclear Energy Partnership (GNEP) and the G8 initiative on nuclear energy infrastructure. In 2008, during the General Conference and other occasions, Member States emphasized the need to develop the role of the IAEA in coordination and leadership at international level. Coordination should prevent gaps, leapfrogging, overlaps and inconsistencies and should promote harmonization of good practices and should ensure that international resources are effectively and efficiently used.

International coordination and collaboration also implies a certain level of responsibility from countries that supply nuclear technologies. Safety and security need to be recognized as of prime importance in bilateral or multilateral agreements or memoranda of understanding between countries that supply nuclear technologies and new entrant countries.



[1] In 2007, the IAEA published a brochure “Considerations to launch a nuclear power programme” and the Nuclear Energy Series report NG-G-3.1 “Milestones in the development of a national infrastructure for nuclear power”.