1st Steering Committee Meeting
Global Nuclear Safety and Security Network

Zaheer Ayub Baig
Director General (Corporate)
Pakistan Nuclear Regulatory Authority

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Vienna, Austria
Outline

- Current Status of Safety Networks
- Experience on Knowledge and Information Sharing related to Nuclear Safety
- Recommendations
Current Status of Safety Networks
Internal Safety Networks of PNRA

- Intranet Portal for sharing information within PNRA
  - Developed in ASP 3.0 Classic
- Accessible from all the offices of PNRA located in Pakistan
  - Through Virtual Private Network
- 600 users in PNRA Headquarters and Regional Offices
- Information available on the portal:
  - Workings of Directorates
    - A Page has been Developed for Every Directorate
    - Working Procedures
    - Progress Reports
    - A coordinator has been nominated:
      - From the respective Directorate
      - Responsible for his/her Directorate's web page
      - Maintenance of information on the web page
Internal Safety Networks of PNRA

- Other Information available on the portal:
  - Legal Documents
  - Ordinance, Regulations
  - Data of NPPs, Research Reactors, Equipment Manufacturer
  - Trainings and Workshops
  - Information of Licensees
  - Soft Library
  - USNRC, IAEA, Lectures, Reports, E-Books, CDs etc.
  - Journals-Nucleonics Week, Nuclear Fuel, News Wire, Regulatory Oversight
  - Newsletters of IAEA, NEA, NEI, PAEC etc.
  - Incident Reports
  - Daily News Clippings related to PNRA from the major newspapers of Pakistan
  - Monthly Progress Reports of all the Directorates
  - General Forms and Office Orders/Circulars
  - Contacts
  - PNRA and IAEA
  - Address Book of PNRA Officials
Pakistan Nuclear Regulatory Authority

Our Mission: Pakistan Nuclear Regulatory Authority was established in 2001 with the mission to ensure the safe operation of nuclear applications in the fields of industry, Medicine and Agriculture and to protect the radiation workers, general public and the environment from the harmful effects of radiation by formulating and implementing effective regulations and building a relationship of trust with the licensees and maintain transparency in actions and decisions by the regulatory body.

Key Responsibilities: The primary responsibility of PNRA is to oversee and assess nuclear and radiation infrastructure and activities in Pakistan and ensure nuclear safety and radiation protection by developing and enforcing regulations via safety assessments and licensing. PNRA also coordinates and enforces emergency plans for foreseeable nuclear and radiological emergencies.

Hyperlinks

Pictures of 10th Anniversary of PNRA
Criteria for PNRA Inspectors
Criteria for licensing of Research Reactor Operating Personnel
Procedures for Posting and Removal of Information from the PNRA website

Event Gallery:

Operation license Award
PNRA Email Address Book
IAEA Contact Information
Pakistan Nuclear Regulatory Authority (PNRA) was established in January 2001 under the Pakistan Nuclear Regulatory Authority Ordinance 2001. It succeeded the Pakistan Nuclear Regulatory Board and the Directorate of Nuclear Safety and Radiation Protection (DNSRP) functioning within the Pakistan Atomic Energy Commission (PAEC). As part of PAEC, the DNSRP relied heavily on the large manpower and other resources of PAEC. However, after establishment as an independent authority, PNRA could not rely on the resources of PAEC. In order to fulfill its responsibilities, PNRA needed technically competent manpower equipped with necessary software/hardware, office space, transport and communication facilities, etc.

The safety review and inspection of nuclear installations including Nuclear power plants are among the main functions of PNRA. In many countries these functions are performed by a Technical Support Organization (TSO). Such an organization has also been established with in PNRA by the name of centre for Nuclear Safety (CNS).

Functions and Responsibilities of CNS

- To provide technical support in safety review and licensing decision making to different Directorates of PNRA in relationship with safety issues of existing and future nuclear power plants in Pakistan.
- To perform Independent audit calculations and conduct safety research and development work in different areas of safety analysis. These areas include Fuel, Neutronic and Thermal Hydraulic Analyses, Structure Analysis, Computational Fluid Dynamic (CFD) analysis, seismic Analysis, Detemrministic and Probabilistic Safety Analyses.
- To improve the skills and knowledge of the regulatory personnel through specialized training at local and foreign institutions, exchange visits to other nuclear regulatory bodies and participation in seminars, conferences and research projects etc.
- Developing strong documentation base and information centre equipped with regulatory documents (such as regulatory guides, review plans etc.) from countries such as China, USA, UK, Germany, France etc.
- Developing and strengthening bilateral links with TSOs working for the nuclear regulatory bodies of USA, China, etc. and international organizations e.g. IAEA, NEA etc.
External Safety Networks

- PNRA’s Official Web Site (www.pnra.org)
  - Legal Documents---PNRA’s Ordinance, Regulations, Regulatory Guides
  - General Information for Public
    - Nuclear Safety
    - Radiation Safety
    - Transport and Waste Safety
    - NPPs
    - Research Reactors
    - PNRA Emergency Coordination Centers
    - Information of PNRA’s Licensees
    - Licensing Information
    - Links to International Regulatory Authorities and other related International Organizations
  - Annual Reports
  - Tenders, Jobs Advertisements and Application forms etc.
Vision of PNRA

To become a world class regulatory body with highly trained, competent and dedicated personnel working in unison with a zeal to foster a positive safety culture in their licensees and regulate nuclear facility to protect the public, workers and environment from the harmful effects of radiation in a manner that wins the confidence of all the stakeholders viz. the public, the Government and the licensees.

Mission of PNRA

To ensure safe operation of nuclear facilities and to protect radiation workers, general public and the environment from the harmful effects of radiation by formulating and implementing effective regulations and building a relationship of trust with the licensees and maintain transparency in its actions and decisions.

History of PNRA

The nuclear regulatory infrastructure has been in place since 1965, when the first research reactor PARR-I was commissioned. The nuclear regulatory regime further improved when the first nuclear power plant was commissioned in 1971 at Karachi. A nuclear safety and licensing division was established in PAEC HQ, which functioned as the de facto regulatory body till it was upgraded to "Directorate of Nuclear Safety and Radiation Protection" (DNSRP) after the promulgation of Pakistan Nuclear Safety and Radiation Protection Ordinance 1984.

Pakistan signed the International Convention on Nuclear Safety in 1994, as a result of which, it became obligatory on the part of the Government of Pakistan to establish an independent nuclear regulatory body entrusted with the implementation of the legislative and regulatory framework governing nuclear power and radiation use in the country, and further to separate the regulatory functions from the promotional aspects of the nuclear programme. As a transitional measure Pakistan Nuclear Regulatory Board (PNRB), within PAEC was established to oversee the regulatory affairs. Complete separation of promotion and regulatory functions and responsibilities was achieved in 2001, when the President of Pakistan promulgated the
PNRA’s Knowledge Management Portal

- Being developed in SharePoint Server 2007
  - Configuration of Central Administration
  - Integration with SQL Server
  - Configuration of Shared Services Provider
  - Configuration of Corporate Portal
  - Configuration of MySites
  - Integration with Exchange Server 2003
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Consequently, Pakistan Nuclear Regulatory Authority (PNRA) was created, dissolving the Pakistan Nuclear Regulatory Board and Directorate of Nuclear Safety & Radiation Protection. It established PNRA as a competent and independent body for the regulation of nuclear safety, radiation protection, transport and waste safety in Pakistan, and also empowered it to determine the extent of civil liability for damage resulting from any nuclear incident.

The Authority devises, adopts, makes and enforces such rules, regulations, orders or codes of practice for nuclear safety and radiation protection as may in its opinion, be necessary. It plans, develops and executes comprehensive policies and programmes for the protection of health and property against the risk of ionizing radiation, and regulates the radiation safety aspects of

Exploitation of any radioactive one: Production, import, export, transport, possession, processing, reprocessing, use, sale, transfer, storage or disposal of nuclear substance, radioactive material or any other substance as the Authority may, by notification in the official Gazette, specify; and Equipment used for production, use or application of nuclear energy for generation of electricity, or any other uses.

Message by Chairman PNRA

PNRA has progressed remarkably during the last few years of its inception. However, we need to increase the pace of our progress to further strengthen the trust of our stakeholders upon us. One of the important things in this regard, I feel, is that we should strive to improve the coordination, communication and harmony amongst us so as to discharge our responsibilities in a smooth and effective manner.
Network of Regulators of Countries with Small Nuclear Programme (NERS)

(www.ners.co)

- List of Member Countries
- List of Coordinators
- List of Nuclear Power Plants
- Meeting Details
NERS is an international network of nuclear regulators and inspectors who are dedicated to the free exchange of nuclear regulatory information and its dissemination. NERS is a forward-looking independent organization, providing means of communication between regulators of countries with small nuclear programs having uniqueness of problems and specific common need. It is complementary to any bilateral engagement or agreements a regulatory body may have.

**AIMS & OBJECTIVE**

- To promote and facilitate information exchange between nuclear regulators and inspectors of different countries, particularly those having small nuclear programmes.
- To provide regulatory insights to nuclear safety issues specific to the countries with small nuclear programmes.
- To promote common understanding of safety culture aspects.
- To give mutual assistance to nuclear regulators and inspectors for addressing present and future challenges to nuclear safety.
- To recommend regulatory safety research activities and to assist in arranging co-sponsoring ventures.
- To support the activities of other international organizations such as the IAEA and committees of the OECD-NEA (CNRA and CSNI).
Brussels, Belgium 2009:
- General information on regulatory organization in member countries
- Rules, regulations and Licensing process
- Operating Experience
- Licensing and construction of new NPPs
- Safety assessment on "cranes" (fuel handling machines, polar crane in reactor building,...)
- Experiences with licensing of final disposal facilities
- Third Party Civil Liability Insurance

Prague, Czech Republic 2008:
- General information about important regulatory issues
- RA requirements and Licensing process for power increasing of operated units
- Use of PRA results for inspection activities (Risk based Inspections)
- Operational experience feedback

Egmond aan Zee, Netherlands 2007:
- News in the regulatory areas
- Maintenance and development of national nuclear safety competences, Impact on and preparation for new nuclear build of the Regulatory Body
- Management of Safety Culture with the special view to the changing ownership structure of nuclear facilities

Bled, Slovenia 2006:
- Ageing and life Time Management
- Regulatory Control of Radioactive Sources
- Regulatory Control of Radioactive Waste Management
- Regulatory Control of Transport of Radioactive Materials

Nathigali, Pakistan 2005:
- Assessment and management of safety and safety culture in licensees
- Quality Management (Switzerland, Pakistan and others)
- Ways of maintaining corporate knowledge with regulatory body
- 2004 review of Swiss legislative framework for conformity with IAEA safety requirements
- Licensing of new NPP to IAEA standards
- Most significant regulatory challenges/Areas for the improvement
Future Plans for Internal Safety Networks
Benefits of Safety Networks
Benefits of Safety Networks

- Knowledge Sharing
- Preservation of Knowledge
- Easy and Fast Accessibility of Knowledge
- Enhancement of Technical expertise
- Improved Quality of Service
- Speedy Resolution of Issues
- Awareness among the general masses on issues related to Nuclear Safety and Security
- Transparency/Openness
- Accountability
Recommendations
Web Site

- User friendly interface, design and structure
- Link for member’s area on the main page
- Each Member’s Web Page should have:
  - Open portion
  - Password protected portion
- Updates on Regular Basis
  - Issuance of reminders for any lapse
- Periodic review
- Discussion may be initiated by all the members
Structure

● Technical Committees
  ▪ Review the web site for Contents and Design
  ▪ Give recommendations
  ▪ Report to the Steering Committee
  ▪ Review the implementation on the recommendations

● Country Coordinators
  ▪ One from each member state
  ▪ Responsible for the maintenance of the web page of his country
  ▪ Responsible for the information of his country

● Topical Groups
  ▪ Topical groups for each topic
  ▪ Review web page frequently
  ▪ Give recommendations to their Coordinators
Popularizing the Network

- Marketing of the Network by:
  - Members of the Committees
  - Coordinators
- A Prominent Link on IAEA’s Home page
- Printing and Distribution of Brochures among the member organizations
- Provision for Questions and Prompt Answers
Thank you for your attention