IAEA Orientation for Diplomats 2013

Nuclear Safety and Security in Brief

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International Atomic Energy Agency

Inside Nuclear Safety and Security

- Role of the IAEA
- History: Chernobyl and 9/11
- Global Nuclear Safety and Security Framework
- Safety Standards and Security Guidelines
- Peer Reviews and Services
- Department Programme Directions

Role of the IAEA

- IAEA statute Article III, A.1 *"To encourage and assist research on, and development and practical application of, atomic energy for peaceful uses throughout the world; …"*
- IAEA provides the core engineering, technological and management support to interested Member States in the field of nuclear power
- IAEA statute Article III, A.6, *"To establish or adopt, in consultation …, standards of safety for protection of health and minimization of danger to life and property …and to provide for the application of these standards "*

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Safety History: Chernobyl

- Nuclear Safety lessons learned from the accident focused on identifying the weaknesses in and improving the design safety of VVER and RBMK reactors
- Acceleration in development of safety standards, guidelines and services to assist countries affected
- Department of Nuclear Safety was created a decade later
- 25 years later: Fukushima

"…Radioactivity does not respect national boundaries, or national sovereignties. Rules ensuring the safe use of large-scale nuclear activities should therefore be worked out internationally and accepted to apply everywhere…."

Hans Blix,
former IAEA Director General

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Security History: 9/11

- September 11, 2001 aftermath of terrorist attack:
- Security risks from outside groups or insider threats became of paramount concern surrounding nuclear power plant critical infrastructure
- Questionable whether reactors would withstand such attacks
- Apart from radioactive sources, reactors and other parts of the nuclear fuel cycle vulnerable to attack, e.g., reprocessing facilities and transport between sites
- 2003 Office of Security

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Safety Post Fukushima

- March 2011, accident at TEPCO Fukushima Daiichi nuclear plant.
- June 2011, adoption of the Ministerial Declaration at the Vienna Conference on nuclear safety
- September 2011, the IAEA Action Plan on Nuclear Safety was adopted by the IAEA's Board of Governors and subsequently unanimously endorsed by the IAEA General Conference. This is the first time in the life of the Agency that all Member States gather, in a comprehensive program, all nuclear safety tools to strengthen the global nuclear safety framework

"…It is essential that all of us - Member States, the IAEA and other key stakeholders - maintain our sense of urgency and our commitment to implementing the Action Plan in full. …."

Yukiya Amano,
IAEA Director General

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Global Nuclear Safety and Security Framework

Conventions: NSC,JC, CPPNM, UNSCR 1540…etc

International Instruments

CoCs: RRs & S&S of RSs

IAEA Safety Standards & Security Guidance

IAEA Safety & Security Peer Reviews & Advisory Services

Global Knowledge Network

Regulations & enforcements

National & Regional Nuclear Safety & Security Infrastructure

Research, Education & Training

Operation & use

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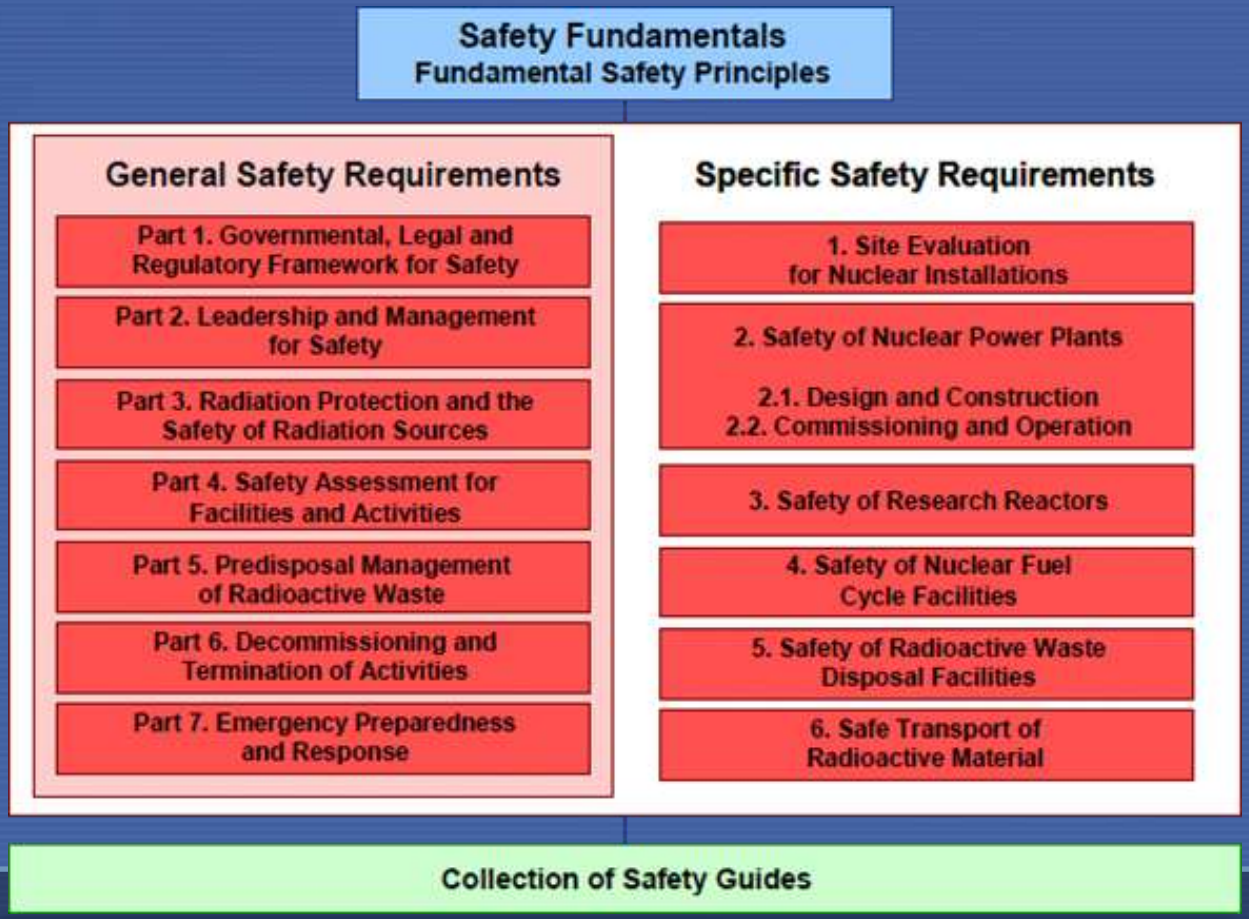
Safety Standards and Security Guidelines



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Process to Develop Safety Standards and Security Guidelines

Process takes between 3 – 5 years from start to publication

Outline and work plan
Prepared by the Secretariat
Review by the Committees

Drafting or revising
by the Secretariat and consultants

Review
by
Committee(s)

Member States

Endorsement

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Department Programme Directions


Incident and Emergency Preparedness and Response


Safety of Nuclear Installations


Radiation and Transport Safety


Management of Radioactive Waste


Nuclear Security


Nuclear Safety Action Plan

Programme Directions:
Incident and Emergency Preparedness and Response (EPR)

- EPREV/RANET provides 24/7 Response
- ConvEx Exercises
- Promoting effective national and global preparedness and response to nuclear and radiological incidents and emergencies
- Many Member States are currently not adequately prepared to respond to such emergency situations
- Without standard procedures or common approaches, protective actions can differ between countries resulting in confusion

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Programme Directions:
Safety of Nuclear Installations

- OSART, IRRS, INSARR, SEDO, SCEA…and more
- Building capacity for emerging, embarking, expanding Nuclear Power Programmes
- Assessing safety issues with ageing of nuclear power plants and research reactors
- Harmonizing national and international regulatory practices
- Assist Member States in external hazard assessment

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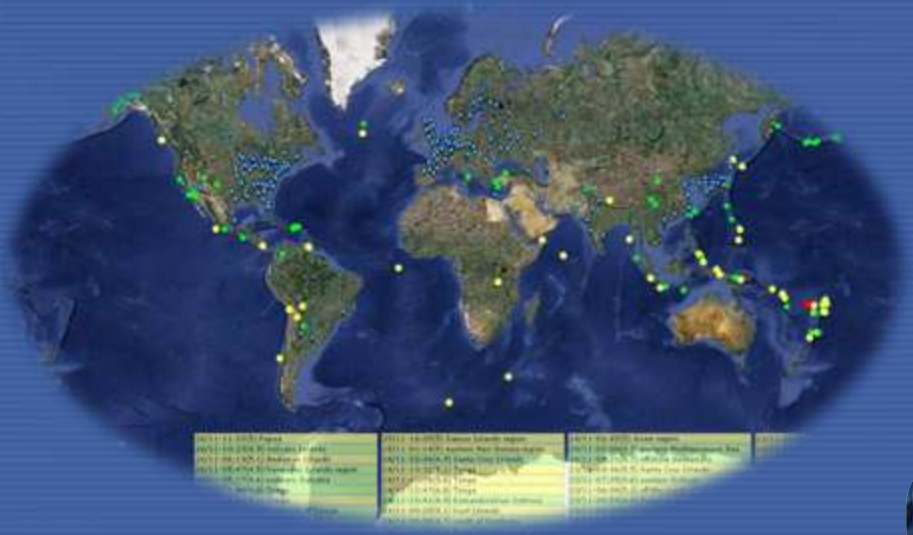
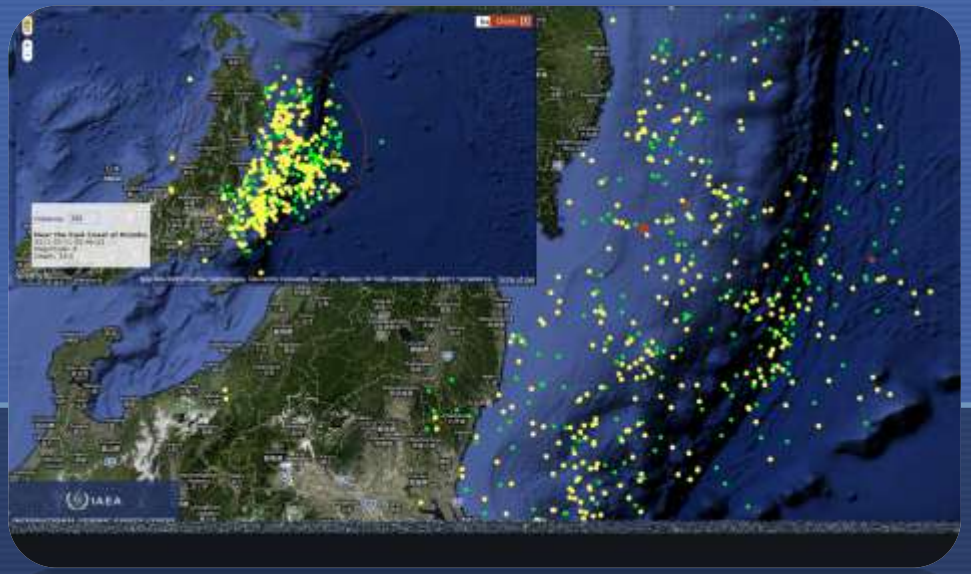
Programme Directions:
Seismic Centre



- Provides Site and External Event Design Review Services for new and existing NPP sites
- Provides Safety Review of SSC's against external and internal hazards
- Develops guidance for the implementation of IAEA site safety

ISSC created as a global focal point for assimilation and dissemination of NPP safety against external hazards



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Programme Directions: Radiation and Transport Safety

- ORPAS, RPoPAS, TransSAS
- Wider use of radioactive sources and ionizing radiation globally
- Increased annual per capita dose due to increasing medical exposure
- Denials and delays of shipment of radioactive materials continue to occur in all parts of the world

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Programme Directions: Management of Radioactive Waste

- Peer review services as requested
- Assessing and managing radioactive discharges to the environment
- Assessing radiation protection measures in work involving minerals and raw materials
- Supporting safe and cost effective decommissioning
- Rapid re-development of the uranium production cycle industry, and current remediation of legacy sites
- Unresolved concerns on waste and spent fuel management and protection of the environment

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Programme Directions: Nuclear Security

- Security Advisory Missions
- INSSP – Integrated Nuclear Security Support Plans
- Illicit Trafficking Data Base & INTERPOL
- Promoting and assisting countries in setting up Nuclear Security Support Centres
- Provide nuclear security measures at major public events (Pan-American Games -Brazil and Summer Olympic Games -China)
- Forensics

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Programme Directions: Nuclear Security

NUCLEAR SECURITY PLAN 2010 – 2013

Contribute to global efforts to achieve worldwide, effective security wherever nuclear or other radioactive material is in use, storage and/or transport, and of associated facilities…*by supporting States, upon request, in their efforts to establish and maintain effective nuclear security through assistance in capacity building, guidance, human resource development, sustainability and risk reduction.*

Future Goals and Priorities

- Information management
- Services
- Nuclear Security Guidance
- Research and Development
- Education and Human Resource Development
- Risk reduction

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IAEA Action Plan on Nuclear Safety

12 Point Plan

1. Safety Vulnerabilities
2. Peer Reviews
3. Emergency Preparedness and Response
4. Regulatory Bodies,
5. Operating Organisations
6. IAEA Safety Standards
7. Legal Framework
8. Embarking countries
9. Capacity Building
10. Protection of People and Environment
11. Communication
12. Research and Development

✓ ***Strengthen*** ✓ ***Enhance Effectiveness***

Actions for:

IAEA Secretariat

Member States

Other Relevant Stakeholders

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Questions?

Thank you!

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