

# Session V: Nuclear Safety and Security

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**IAEA**

International Atomic Energy Agency

# Session objective

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- To provide an overview of how the IAEA ensures that all TC projects include the cross cutting safety aspect

# The beginning - Atoms for Peace

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- The Agency's genesis was US President Eisenhower's Atom's for Peace address to the General Assembly of the United Nations on 8 December 1953. These ideas helped to shape the IAEA Statute, which 81 nations unanimously approved in October 1956.

# The IAEA Statute

- 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 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 ”*



# Global Nuclear Safety and Security Framework

- Primary responsibility for safety and security rests with Member States
- Statutory Agency function: establishing standards and guidance and providing for their application
- Medium Term Strategy 2012 – 2017 Objective: promoting and improving nuclear safety and security through the global nuclear security and safety framework



*“The Agency has a key role to play in ensuring that the expansion in nuclear power takes place in an efficient, responsible and sustainable manner...”*

Yukiya Amano, Director General

# 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



# Security History: 9/11

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- 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 Nuclear Security**



# Promoting the Global Nuclear Safety and Security Framework





# Safety Standards Hierarchy

## Safety Fundamentals

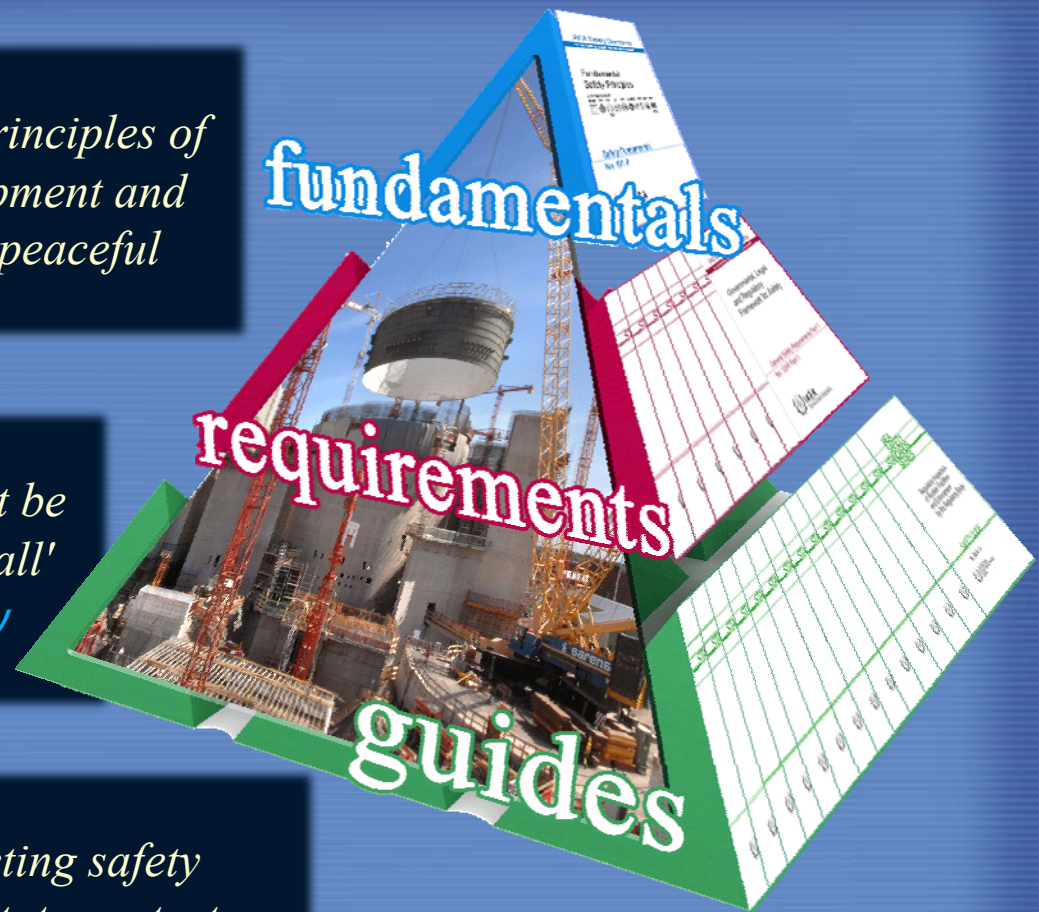
*“...basic objectives, concepts, and principles of safety and protection in the development and application of nuclear energy for peaceful purposes...”*

## Safety Requirements

*“...establish the requirements that must be met to ensure safety. Expressed as 'shall' statements” and governed by Safety Fundamentals...”*

## Safety Guides

*“...recommend procedures for meeting safety requirements. expressed as 'should' statements, to comply with the Safety Requirements...”*



# Nuclear Safety and Security Programme Priorities

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- Develop and strengthen capacity building and infrastructure in nuclear safety and security
- Contribute to global efforts to achieve worldwide, effective security
- Build national, regional and international emergency response capacity
- Strengthen control of radioactive sources and resolve denial and delays of shipments
- Improve medical, occupational and public exposure control
- Improve radioactive waste management



# TC facilitates the Department of Nuclear Safety and Security in Implementing Major Programme 3



3.1 Incident and Emergency Preparedness and Response



3.2 Safety of Nuclear Installations



3.3 Radiation and Transport Safety



3.4 Management of Radioactive Waste



3.5 Nuclear Security

# Action Plan

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- The purpose of the Action Plan is to define a programme of work to strengthen the Global Nuclear Safety Framework.
- 12 Actions with corresponding sub-actions

# 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*

# Action Plan (contd.)

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- Facilitate the development of the infrastructure necessary for Member States embarking on a nuclear power programme
- Strengthen and maintain capacity building

## Action Plan (contd.)

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- Significant progress has been made in several key safety areas since the adoption of the NSAP.
- Important activities are being and will be carried out in the future in all areas under the Action Plan.
- Effective implementation requires joint efforts and full commitment from the Secretariat, Member States and other stakeholders.

# Newcomers' Top Issues

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- How do I start?
- Is there public support?
- Do I have the knowledgeable people?
- Can I find the fund ?
- What am I going to do with the waste?
- Is it safe? Can I manage if there is an accident?



# IAEA Support to Newcomer Countries

All newcomers are working closely with the IAEA, using IAEA guidance and hosting international peer review missions



IAEA INIR mission team and Belarus counterparts at the Ostrovets site, June 2012



Preparatory work at the Ostrovets site, March 2013

# Conclusion

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The Secretariat will **continue enhancing** the global nuclear safety and security **framework**, and assist States in ensuring appropriate capacity building and infrastructure.



*Technical cooperation:  
delivering results for  
peace and  
development*

