



The Abdus Salam
**International Centre
for Theoretical Physics**



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Joint ICTP-IAEA School on Nuclear Energy Management

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Lecture Notes

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IAEA, Vienna, Austria

**The ICTP/IAEA School of Nuclear Energy
Management School, Trieste, 18 July 2013**

Nuclear Installation Safety – Current Issues, and Challenges

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IAEA

International Atomic Energy Agency

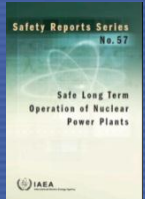
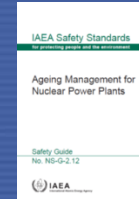
Current Issues and Trends

2013 Nuclear Safety Review

- ✓ **Strengthening Safety in Nuclear Installations**
 - ✓ Defence in Depth
 - ✓ Safety Culture
 - ✓ Long term operation
 - ✓ Site Design and External Hazards
 - ✓ Managing Severe Accidents
- ✓ **Improving Regulatory Infrastructure and Effectiveness**
 - ✓ Existing Nuclear Power Programmes
 - ✓ Embarking Nuclear Power Programmes

IAEA support to safe LTO of NPPs

- Establishment of IAEA Safety Standards
- Fostering information exchange & databases
 - IGALL Programme
 - AM and LTO workshops
 - SALTO methodology and experience transfer workshops
- Peer review service (SALTO* peer review) to assist Member States in application of the IAEA Safety Standards

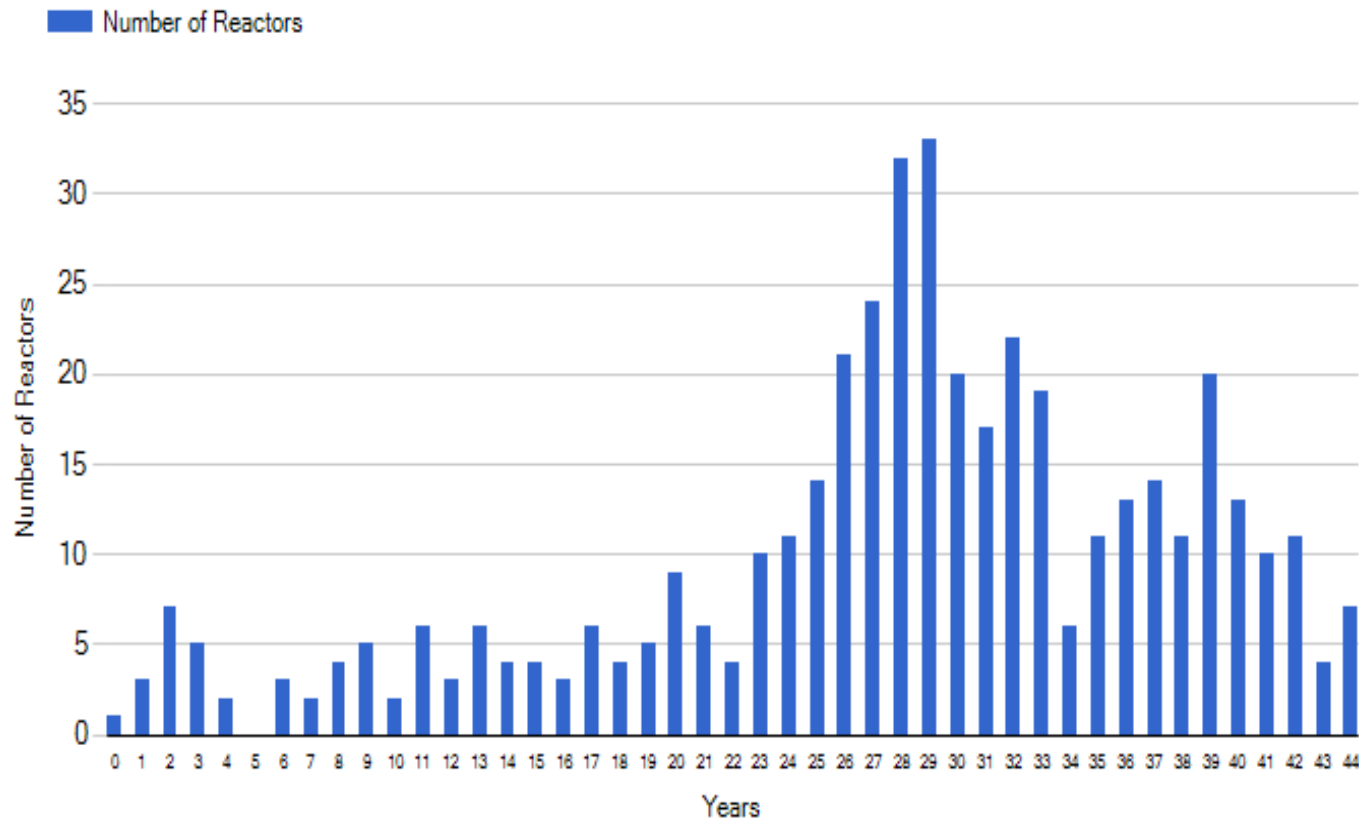


* SALTO – Safety Aspect of Long Term Operation



Reactors age

Total Number of Reactors: 437



- 162 reactors have been in operation for more than 30 years, and 22
- have been in operation for more than 40 years.

International Generic Ageing Lessons Learned Programme (IGALL) objective

- To provide technical basis and practical guidance on managing ageing of mechanical, electric and I&C components and civil structures of nuclear power plants important to safety
- To support the application of the Safety Guide NS-G 2.12 on “Ageing Management of Nuclear Power Plants”, of the Safety Guide NS-G 2.10 on “Periodic Safety Review”, of the Safety Report SRS No. 57 on “Safe Long Term Operation”, and of the Service Series No. 17 “SALTO Guidelines”.

International Generic Ageing Lessons Learned Programme (IGALL) content

- Collection of proven ageing management programmes for SSCs important to safety developed and implemented in various types of water moderated reactors.
- The IGALL report will provide a common internationally recognized basis on what constitutes an acceptable ageing management programme, as well as knowledge base on ageing management for design of new plants, design reviews, etc. and will serve as a roadmap on ageing management .

International Generic Ageing Lessons Learned Programme (IGALL)

EBP IGALL Programme stages



IAEA Action Plan on Nuclear Safety 12 Actions

✓ *Strengthen*

✓ *Enhance Effectiveness*

1. Safety Vulnerabilities

2. Peer Reviews

3. Emergency

Preparedness and
Response

4. Regulatory Bodies,

5. Operating
Organisations

6. IAEA Safety
Standards



IAEA

Actions for:

IAEA Secretariat

Member States

Other Relevant Stakeholders

7. Legal Framework

8. Embarking countries

9. Capacity Building

10. Protection of People
and Environment

11. Communication

12. Research and
Development



Thank you!

