Radiation Safety Infrastructure: An IAEA TC Integrated Strategy for Safe & Sustainable Development

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OUTLINE

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3. Challenges & IAEA TC response
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RADIATION SAFETY STATUS PRIOR TO 1995

• The IAEA devoted considerable financial resources and technical efforts
• From 1984 to 1995 Radiation Protection Advisory Team (RAPAT) missions were conducted in 64 Member States

Conclusion: The vast majority of MS still had little or no infrastructure in radiation safety

Development of an integrated and proactive strategy

Three Mile Island
Chernobyl

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CHALLENGES (1)

1. Lack of adequate legal and regulatory infrastructure

2. Lack of adequate education and training in radiation safety
3. Insufficient financial and technical resources, and support services.

4. Lack of mechanisms for transfer of knowledge to, and the sharing of experiences among developing countries.

5. Institutional instability.
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IAEA TECHNICAL COOPERATION RESPONSE

Integrated and Proactive Strategy

I. Radiation Protection Country Profile: described in detail the existing safety infrastructure
II. Assessment Scheme and Performance Indicators Criteria: enabled quantification of the progress achieved
III. Radiation and Waste Safety Action Plans: identified real and specific needs of each participating Member State
IV. Peer Reviews: allowed assessment of effectiveness of radiation safety infrastructure
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IAEA TECHNICAL COOPERATION RESPONSE

Assessment by Peer Review

66 Missions to 50 different Model Project countries

Terms of Reference
1. To determine the status of radiation safety;
2. To determine how effective the Model Project has been in improving the situation in the country; and
3. To submit findings, conclusions and recommendations, if any, for further strengthening of the national infrastructure for radiation protection and safety.

New sets of appraisals
1. RaSSIA,
2. ORPAS,
3. EPREV,
4. The Radiological Protection of Patients Appraisal (RPoPA) and
5. The Integrated Regulatory Review Service (IRRS)
PROGRESS ACHIEVED BY THE END OF 2004

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THE MODEL PROJECT’S ACHIEVEMENTS (1): 87 Participating Countries

Milestone 1: Establishment of a legislative and regulatory framework

- Compliant legislation promulgated & implemented 80%
- Regulations adopted for most hazardous practices & compliant w/main requirements 75%
- System for inspection operational & covering major sources 50%+
- Inventory of radiation sources in place for major sources 70%+
The Model Project’s Achievements (2): 87 Participating Countries

Milestone 2: Establishment of occupational exposure control

- System for individual monitoring for external exposure for workers with higher risk: 80%
- Central dose record system: 80%
- Operational workplace monitoring in place: 50%
THE MODEL PROJECT’S EVOLUTION AND IMPLEMENTATION

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THE MODEL PROJECT’S ACHIEVEMENTS (5): 87 Participating Countries

- Training course participants: 4719
- Fellows: 871
- Scientific Visits: 304
- IAEA Staff: 861
- International experts and lecturers: 1401
- National Consultants: 174
- Participants in management meetings: 1093

IAEA MS participating in the model Project on Upgrading Radiation Protection Infrastructure

91 Countries
CONCLUSION

1. The IAEA TC Programme defined a vision and a strategy for an integrated and harmonious process of:

   Design – Planning – Prioritization – Delivery

2. The Model Project and its follow up projects:
   • Strengthened regional expertise, networking and sharing of knowledge and experience.
   • Led to the unprecedented active engagement of governments, at the government and regulatory authority levels, and of end-users in efforts to comply with the principal requirements of related standards.
3. Improvement of standards:

   Building on success of Model Project approach => expanded this proactive approach in international standards development

4. Substantial progress in upgrading radiation safety infrastructures in most participating countries.

5. Support by the IAEA to follow up to the Model Project, particularly key elements such as:

   - encouraging States to engage in periodic appraisals and self-assessments; expanding regional cooperation, self-reliance and networking; and further promoting the “train-the-trainer” approach.