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Emergency Assistance

Capabilities of Emergency Response Centre at IAEA

Lecture
Introduction

- Specific emergency preparedness and response roles and functions are placed on the IAEA by its Statute and Notification and Assistance Conventions.

- The objective of this lecture is to present these roles and functions in general and more specifically explain them for IAEA Emergency Response Centre (ERC).
Content

- Background to IAEA
- Emergency Preparedness and Response Unit
  - Authorities, roles and responsibilities
  - Basis for response and preparedness
  - Concept of operations
- Assistance that can be provided
- Lessons learned
- Summary
IAEA Statutory Functions

- Establish safety standards
- Assist States in the applications of standards
- Functions indicated by the Conventions
  - Notification
  - Provide assistance
Legally Binding Conventions on Response Supported by IAEA

- Early notification of a nuclear accident
- Assistance in the case of a nuclear accident or radiological emergency
  - Preparedness
  - Response
Early Notification of a Nuclear Accident

- Accident state notifies IAEA
- IAEA authenticates and verifies notification
- IAEA provides notification and additional verified information to States Parties, Member States and relevant international organisations
- Liaises with accident state, affected states, other states and international organisations
- Analyses information and answers requests for information from Parties
- Frequent, accurate media releases
States should promptly notify potentially affected states and IAEA of radiation emergencies:

- General or site area emergency
- Uncontrolled movement of a dangerous source across a border
- Disruption in international trade or travel
- Affecting foreign nationals or embassies
- A problem (e.g. in equipment or software) with internationally implications
- Resulting in significant psychological effects in other States
Problems with Notifications

- Notification made by FAX in English
  - Notification phone numbers wrong
  - FAXs do not work (e.g. out of paper)
  - FAXs not monitored (e.g., over week end)
  - No English speaker
Emergency Preparedness and Response Unit (EPRU)

Department of Nuclear Safety

- Division of Radiation and Waste Safety
- Emergency Preparedness and Response Unit
- Division of Nuclear Installation Safety
- Emergency Preparedness
- Emergency Response Centre

Department of Nuclear Safety

Emergency Preparedness and Response Unit
Activities of EPRU

Development of standards
- Safety requirements
- Safety guides

Application of standards
- Safety reports
- TECDOCs
- Training
- T. Co-operation projects
- Expert missions
- Equipment
- Services
- E.P. reviews

IAEA emergency response
- Response preparedness
- Contact Points
- Response Centre
- Response plan
- Response network (ERNET)
Development of Standards

- Requirements on preparedness and response to nuclear and radiological emergencies have been finalised

“Preparedness and Response for a Nuclear or Radiological Emergency”

- Co-sponsored by FAO, WHO, NEA(OECD), IAEA
New Requirements

- International Standard
- Approved by March 2002 Board
- Hope to publish this summer
- Draft Available – there will be few editorial revisions
- Much of what applies to reactors is same as TECDOC-953
- All IAEA assistance (e.g., TC projects, training) - must be consistent with it!!
- If you follow TECDOC-953 – you will meet Requirements
Provisions for Applications of Requirements (Standards)

- Technical documents and reports
- Standard training material
- Technical co-operation projects
- Services
Assistance in Radiological Emergency

- **State** reports problem to **ERC** or requests assistance

- **IAEA**
  - Assesses available information
  - Offers its good offices
  - Coordinates provides assistance to requesting state(s)
Assistance in Radiological Emergency

- Request must come from official source
- IAEA will confirm with mission
- IAEA may respond directly – send team of IAEA experts (medical, monitoring, public affairs, other experts)
- IAEA may ask member States if they could provide assistance – and then coordinates the delivery
- In many cases can not help without support of other States!!!
Assistance in Radiological Emergency

- Before responding IAEA will get agreement by State on terms of reference
- Before IAEA can respond need help:
  - Counterpart – English speaking if possible
  - Logistics at location
  - Visa - security clearance (UN)
Emergency Response Network - ERNET

- Major objectives
  - Strengthen IAEA’s and international capability to provide assistance in event of emergency
  - Promote emergency preparedness and response capabilities among IAEA member states
- Qualified emergency response teams from member states that:
  - Can deploy promptly
  - Provide acceptable – known level of support
  - Interface effectively
Emergency Response Network - ERNET

- IAEA asking States to apply to have teams approved for membership in system

- Guidance is in “IAEA Emergency Response Network” ERNET EPR ERNET 2000

- Member teams will be used in event of emergency
ERNET Field Teams

- Aerial Survey Team (AST)
- Radiation Monitoring Team (RMT)
- Radionuclide Identification Team (RIT)
- Source Recovery Team (SRT)
- Assessment and Advisory Team (AAT)
- Medical Support Team (MST)
- Bioassay Team (BIT)
- Radiopathology Team (RPT)
- Biodosimetry Team (BDT)

All with logistic support
Capabilities of ERC
To meet IAEA obligation under Conventions

- Can deploy notify other States in about 2 hours
- Can activate and provide assistance by phone and deal with international media in hours
- After official request have
  - Deployed a basis assessment team (management and limited monitoring and medical assessment capability) in 2 days.
  - Arranged for medical treatment in about week.
- Have
  - Emergency response fund of $500,000
  - Standing arrangements for laboratory, dosimetry and medical services
Initial Response Organization

- 24-hr contact point for notification & requests for assistance
  - Duty Emergency Response Manager
  - Duty officers
    - Nuclear and Radiation Safety
    - Logistic Support
    - Public Information
      - Screen incoming information
      - Authenticate and verify
      - Decide on the ERC activation level

- Emergency Response Center
Resources and Capabilities

General

- Human Resources (trained personnel)
  - Technical Team at ERC
  - Field Team
  - Liaison Officers
  - Administrative and Logistic Support
  - Public Information

- Logistic Infrastructure
  - Telecommunications Systems
  - Radiation Monitoring Equipment
  - Data Banks
  - Media Screening System
Resources and Capabilities

Staff

- Technical Team (5 per shift)
- Liaison Officers (4 per shift)
- Public Information (2 per shift)
- Field Team (Minimum of 3)
- Adm.&Logistic (8 per shift)

Trained personnel (Total of 53)

48 staff members from Nuclear Safety Department
5 from Public Information Division
Staff Major Duties

- Technical assessment of information received
- Liaison with Member States, International Organisations and Missions
- Public and media liaison
- Sending and receiving notification/information
- Field operations (within 24 hrs)
  - ERNET (Emergency Response Network)
Resources and Capabilities
Administrative/Logistic

- Emergency Response Manager on duty has authority to activated as necessary the IAEA’s Emergency Response System
- Emergency response fund of $500,000
- Databases
  - Contact points, expertise, equipment, technical data
- Standing arrangements for laboratory, dosimetry and medical services
Resources and Capabilities
Telecommunications

- Telecommunications system which includes satellite field communications
- Internet capabilities
- Media screening systems
Resources and Capabilities
Radiation Monitoring Equipment & Supplies

- Radiation survey instruments
- Personal protection equipment
- General supplies
Training, Drills and Exercises

- All response staff regularly trained:
  - General overview
  - Function-specific training
- Standard training material tied to procedures
- Training records and programme
- Communications drills
- Exercises
Emergency Exercises

- **Assistance exercises**
  - Radiological emergency field exercises for response assistance teams from east Asia region, China, November 1998

- **Information exchange exercises**
  - INEX-2 exercise in Hungary, 3 Nov/1998
  - INEX-2 exercise in Canada, 27-28 April/1999
  - Y2K transition used as exercise, Dec 1999/Jan 2000
Examples of Assistance

- French airborne monitoring in Georgia
Examples of Assistance

- Monitoring and verification
Examples of Assistance

- Medical consultation and treatment
IAEA Emergency Assistance in 2002

- **Georgia** – mission to:
  - Medical advice, drugs and treatment (in France and Russia)
  - Advice and assistance on recovery of sources

- **Afghanistan and Uganda** – missions to:
  - In situ verification/monitoring to ensure safety of source
  - Advice on storage
Lessons Learned

- Information from IAEA helps stem rumours (Spain and Japan)
- Be prepared media interest – (Georgia ALL major international news organization interested - CNN, BBC) - good response can be very helpful (Georgia) – bad response can be disastrous
- IAEA needs support of other States (e.g., French medical support) to met requests for assistance
Lessons Learned

- IAEA can alert States of potential transboundary event (mission 60Co source Turkey; contaminate steel – detected by Italy)
- International medical assistance can reduce suffering (Georgia, Peru, Poland...)
- International teams can improve confident in local officials (Georgia, Uganda)
Summary

- IAEA has provided tools very useful in developing an adequate response capability
- Early notification of IAEA can enhance confidence
- IAEA can provide assistance
- Support of IAEA requests for assistance is essential
- Effective use of these international capabilities requires some preparations
Where to Get More Information

- On the following web addresses and links there

  http://www.iaea.or.at/
  http://www.iaea.org/ns/
  http://www.iaea.org/worldatom/
  http://www.iaea.at/worldatom/