Emergency Preparedness and Response (EPR)
Evaluating Emergency Planning

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Incident and Emergency Centre (IEC)
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- Introduction
- Appraisal of National Capabilities for EPR
- Self-assessment on EPR
- EPR-Embarking
- Emergency review missions (EPREV)
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IEC Mission Statement

Global Focal Point for
International Preparedness and Response
to
Nuclear and Radiological Safety or Security related Incidents, Emergencies, Threats or Events of Media Interest
IAEA Statute
Convention on Early Notification of a Nuclear Accident
Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency
Convention on Physical Protection of Nuclear Material
IAEA Safety Standards - EPR


Emergency definition (GS-R-2)

A non-routine situation or event that necessitates prompt action, primarily to mitigate a hazard or adverse consequences for human health and safety, quality of life, property or the environment. This includes nuclear and radiological emergencies and conventional emergencies such as fires, release of hazardous chemicals, storms or earthquakes. It includes situations for which prompt action is warranted to mitigate the effects of a perceived hazard.
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Requirements

- Safety Standards Series No. **GS-R-2** “Preparedness and Response for a Nuclear or Radiological Emergency”
  - Infrastructure needed and functions to be performed
  - Requirements level – ‘shall’
  - Approved on March 2002 by IAEA Board of Governors
  - General conference in Sept 2002 urged States to adopt
  - Co-sponsors: FAO, IAEA, ILO, NEA, OCHA, PAHO and WHO
Appraisal of National Capabilities for EPR

1. Basic responsibilities
2. Assessment of threats
3. Establishing emergency management and operations
4. Identifying, notifying and activating
5. Taking mitigatory actions
6. Taking urgent protective action
7. Providing information and issuing instructions and warnings to the public
8. Protecting emergency workers

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9. Assessing the initial phase
10. Managing the medical response
11. Keeping the public informed
12. Taking agricultural countermeasures, countermeasures against ingestion and longer term protective actions
13. Mitigating the non-radiological consequences of the radiation emergency and the response
14. Requirements for infrastructure
Appraisal of a Framework of EPR

ME 1: Basic responsibilities
ME 2: Assessment of threats
ME 3: Emergency management
ME 4: Identifying, notifying and activating
ME 5: Mitigatory actions
ME 6: Urgent protective action
ME 7: Information response
ME 8: Protecting emergency workers
ME 9: Assessing the initial phase
ME 10: Medical response
ME 11: Keeping the public informed
ME 12: Longer term protective actions
ME 13: Mitigating the non-radiological consequences
ME 14: Infrastructure

MAIN ELEMENTS
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- Introduction
- Appraisal of National Capabilities for EPR
- Self-assessment on EPR
- EPR-Embarking
- Emergency review missions (EPREV)
Ways of Providing IAEA Assistance

Provision for the implementation of standards

Developing Standards

Review services including appraisals
Appraisal of a Framework of EPR

MAIN ELEMENTS

ME 1: Basic responsibilities
ME 2: Assessment of threats
ME 3: Emergency management
ME 4: Identifying, notifying and activating
ME 5: Mitigatory actions
ME 6: Urgent protective action
ME 7: Information response
ME 8: Protecting emergency workers
ME 9: Assessing the initial phase
ME 10: Medical response
ME 11: Keeping the public informed
ME 12: Longer term protective actions
ME 13: Mitigating the non-radiological consequences
ME 14: Infrastructure
Appraisal of a Framework of EPR

1. Basic Responsibilities

1.1. Establish a governmental body or organization (or identify an existing one) to act as a national coordinating authority (NCA)

1.2. Clearly assign the functions and responsibilities of operators and response organizations and ensure they are understood by all response organizations

1.3. Establish a regulatory and inspection system that provides reasonable assurance that emergency preparedness and response arrangements are in place for all facilities/practices
2.1. Perform threat assessments of the facilities and activities in the State, categorizing them in accordance with the five threat categories in Table I of GS-R-2.
3.1. Make arrangements to coordinate the emergency responses of all the off-site response organizations with the on-site response to include a command and control system for the local and national response to any nuclear or radiological emergency.
Appraisal of a Framework of EPR

04. Identifying, notifying and activating

4.1. Establish a contact point operating 24 hours/day and 7 days/week

4.2. Ensure that on-site managers of scrap metal processing facilities and responsible officials at national borders are aware of indicators of radiation emergency and are able to take immediate actions

4.3. Ensure that first responders are aware of the indicators of a radiation emergency and they are familiar with the appropriate notification procedures and other immediate actions warranted if an emergency is suspected

4.4. Establish a system for promptly initiating an off-site response in the event of an emergency

4.5. Ensure response organizations have sufficient personnel

4.6. Make known to the IAEA and to other States the country’s single warning point of contact responsible for receiving emergency notifications and information from other States and information from the IAEA
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<th>Findings</th>
<th>Performance Indicator (0,1,2,3)</th>
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Emergency Preparedness and Response Considerations for Member States Embarking on a Nuclear Power Programme
Draft 15

PUBLICATION DATE: 21 March 2011

IAEA EPR-EMBARKING
Emergency Preparedness and Response Considerations for States Embarking on a Nuclear Power Programme (2011)
Objective and Scope

To assist the State to develop an adequate level of preparedness and capability for response to radiation emergencies before commissioning the first nuclear power plant and to enable emergency preparedness and response to be maintained during the life of the facility.
Application of the EPR-EMBARKING

The EPR-EMBARKING provides recommendations on steps that should be taken by State embarking on a Nuclear Power Programme to establish an effective framework of preparedness and response to a radiation emergency, which is an important part of safety infrastructure for a Nuclear Power Programme.
Baseline for State embarking on a Nuclear Power Programme

It is expected, that prior the State takes a decision to embark on a Nuclear Power Programme, some arrangements and capabilities should be at place for managing response to radiological emergency involving radioactive materials at facilities and activities, and these arrangements and capabilities are in compliance with the international requirements from GS-R-2.
Establishment of a Framework of EPR

Phase 1
- Milestone 1: Ready to make a decision on whether or not to introduce nuclear power
- 1 to 3 years
- Appraisal of national framework for EPR
- Ready to start establishment/extension of EPR capabilities

Phase 2
- Milestone 2: Ready to invite bids
- 3 to 7 years
- Issuance of regulations on emergency preparedness and response
- Ready to staff response organizations

Phase 3
- Milestone 3: Ready to commission and operate the first NPP
- 7 to 10 years
- Fuel delivery
- Issuance of on-site and off-site radiation emergency plans
- Ready to combat I and II category of threats

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What is an EPREV?

- The EPREV (Emergency Preparedness Review) is a service provided by the IAEA to appraise preparedness for nuclear and/or radiological emergencies in the Member States.

The compliance of Member States with these Standards to ensure they are being applied.

The scope of the services is directly related to the areas addressed by the safety standards.
The EPREV concept

- While each Member State is responsible for conducting a periodic appraisal of its emergency preparedness and response capabilities, the IAEA can also conduct, at the request of the Member State, an independent Emergency Preparedness Review (EPREV)
Why to request an EPREV?

- To compare the host nation’s arrangements with current international standards and best practices
- To initiate a fundamental re-assessment of well established arrangements that have evolved over time, but are now thought to contain some inefficiency
- To benefit from the EPREV team members’ experience by considering how other Member States have successfully implemented innovative and effective solutions
- To ensure that the host nation’s arrangements are complete at all levels, are practical within the constraints of the local conditions and can be implemented effectively
- To determine if the legal framework has ensured an appropriate set of arrangements for all types of facility, reflecting the full range of risks to which they apply
Why to request an EPREV? (cont’d)

- To highlight the **positive** and **negative** aspects of the arrangements
- To **prioritize** the **aspects** requiring **improvement** recognising resources are limited
- To highlight the need for additional **training**
- To identify possible objectives for future **emergency exercises**
- To raise the profile of **emergency planning** within the host country
- To demonstrate the **commitment of the government** of the host country to safety and particularly emergency preparedness
Practical objectives of an EPREV

- The purpose of the EPREV service is to **verify and evaluate** the practical implementation of emergency preparedness arrangements for responding to a radiation emergency.

- An EPREV peer appraisal is **performance-based**, i.e. the review tries to answer the question “are the arrangements adequate and will they work?” given the national context in which they are applied.

- An EPREV service also aims at **identifying specific strengths and best practices** that can be shared with other Member States.

- An EPREV provides a basis for **determining where improvements may be required** and for measuring progress made in those areas.
What benefits can the host country expect?

• Maintain or enhance the **credibility** of the host country’s emergency preparedness programme

• Identify in an objective and unbiased manner the areas where **improvements** may be required

• Provide information on **best practices** from the host country to be made available to other Member States
The cooperation attitude

• The EPREV can only be conducted with the total cooperation of the host country.

• For the host country to get the most out of the appraisal, they will need to be prepared to pro-actively organize meetings, describe their arrangements in detail, provide documentation, provide tours of facilities, and provide access to equipment used in emergency response.
Overall EPREV process

Request by the MS → Evaluation and Approval → IAEA Coordinator

Recruitment → Team Leader → Team

Preparation of documents

Decision on Pre-EPREV

Yes → Pre-EPREV

No → ToR, Requesting national self assessment

Gathering of information Evaluation Report

EPREV

Assistance ?

Yes → Assistance Action Plan

No → Post-EPREV

Render Assistance
Eprev as a process

**Country Inputs**
- Counterparts
- Stakeholders
- National legislation
- Existing infrastructure
- National plan
- Self-assessment
- Others

**Eprev Team Inputs**
- IAEA standards
  - GS-R-2
- Team members’ expertise
- Self-assessment appraise
- Other appraisal reports
- Others

**Process**
- Existing situation
- What is good
- What is bad
- What to do to make things better (interim, long-term)

**Eprev Mission**

**Outputs**
- Action plan
- Better compliance with GS-R-2

No text content.
Appraisal is an important component of strengthening safety!

Provision for the implementation of standards

Developing Standards

Appraisals: EPREVs
EPREV missions so far

EPREV missions
- Indonesia 2004
- Qatar 2006
- Egypt 2007
- Murmansk Region (Russia) 2007
- Tajikistan 2007
- Uzbekistan 2008
- Tunisia 2008
- Montenegro 2008
- Kyrgyzstan 2008
- Malaysia 2009
- Macedonia 2009
- Romania 2010
- Azerbaijan 2010
- Philippines 2010
- Thailand 2010
- Belarus 2010
- Qatar (follow-up) 2010
- Georgia 2011
- Archangelsk Region (Russia) 2011
- Estonia 2011

Planned for 2011/2012:
- Latvia
- Albania
- Croatia
- Mexico
- Paraguay
- Uruguay

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Thank you!