Protection of Emergency Workers and Helpers

Recent Developments in International Standards in Emergency Preparedness and Response

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Safety Standards in EPR
Addressing Protection of Emergency Workers

All cosponsored by IAEA, ILO, PAHO, WHO etc.
GSR Part 7
Revised GS-R-2

- GS-R-2 revision initiated in 2011 to take into account experience and developments since 2002
- CSS Endorsement in November 2014
Supporting documents & Implementation
Addressing Protection of Emergency Workers

Technical guidance for first responders and training

Accident Reports
Who is an emergency worker?

“A person having specified duties as a worker in response to an emergency.”

(Worker is any person who works, full time, part time or temporarily, for an employer & who has recognized rights and duties in relation to ORP)

- Designated operating personnel
  - directly and indirectly employed
- Designated personnel of responding organizations
- Designated personnel providing care and support to affected population
- Some emergency workers who may not be designated prior to emergency
Rights and duties of emergency workers in ORP in EPR

• Rights and duties in ORP are recognized by definitions of emergency worker and worker

• It implies:
  ✓ Responsibilities, commitments and duties of employers
  ✓ Recognition that those emergency workers who are not designated prior to emergency are not necessarily workers prior to emergency

• Designation of emergency workers provides basis for adequate discharge of rights, duties, responsibilities and commitments when needed
Who are helpers in emergency?

“Members of the public who willingly and voluntarily help in response to a nuclear or radiological emergency.”

Helpers are aware that they may be exposed to radiation while helping in response to nuclear or radiological emergency.
Framework for protection of emergency workers and helpers (1)

• Assess hazardous conditions in which emergency work might be undertaken
  • Valuable input into arrangements for protection of emergency workers and helpers

• Designate emergency workers
  • Account for those who cannot be designated at preparedness stage

• Assess initial and continuous fitness for duty of designated emergency workers
  • System for provision of health surveillance
Framework for protection of emergency workers and helpers (2)

- Provide medical support
  - Longer term medical follow up or medical examination and treatment adequate to doses received
  - Medical care and psychological counseling
- Establish arrangements for managing doses received in emergency
  - Identify tasks for which doses might be received higher than those in planned exposure situation
  - Set guidance values for restricting exposure of emergency workers for different groups of tasks
Framework for protection of emergency workers and helpers (3)

- Establish **comprehensive system for monitoring and controlling doses** that includes:
  - **Individual dosimeters** or other appropriate methods
  - **Registration** of emergency workers and helpers
  - **Continuous monitoring of working conditions**
  - **Planning** for expected tasks
  - **Assessment procedures** for doses received in response (total effective dose and organ doses)
  - **Communication of doses received to emergency workers and helpers** placing health hazards in perspective
Guidance values for restricting exposure of emergency workers

- Doses due to external penetration radiation ($H_p(10)$) may not provide a sufficient measure of hazard for emergency workers ($E$ and $AD_T$ to be assessed and used for that purpose)

<table>
<thead>
<tr>
<th>TASKS</th>
<th>GUIDANCE VALUES</th>
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<tbody>
<tr>
<td></td>
<td>$H_p(10)$</td>
</tr>
<tr>
<td>Life saving actions</td>
<td>$&lt; 500$ mSv</td>
</tr>
<tr>
<td>Actions to prevent severe deterministic effects and actions to prevent development of catastrophic conditions that could significantly affect people and environment</td>
<td>$&lt; 500$ mSv</td>
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<tr>
<td>Actions to avert a large collective dose</td>
<td>$&lt; 100$ mSv</td>
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This value may be exceeded — with due consideration of generic criteria used for taking actions to prevent severe deterministic effects to occur — under circumstances in which expected benefits to others clearly outweigh emergency worker’s own health risks, and emergency worker volunteers to take action and understands and accepts these health risks.

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*a RBE weighted absorbed dose in an organ or tissue at which precautionary actions are to be taken to prevent severe deterministic effects*
Framework for protection of emergency workers and helpers (4)

- Establish arrangements to register and integrate in emergency response organization those emergency workers who were not designated prior to emergency, and helpers
  - Provide them with ‘just-in-time’ training
  - emergency workers who were not designated prior to emergency not to be first choice for life-saving actions
  - Protect helpers within provisions for occupational exposure in planned exposure situation
  - Identify organization(s) for their protection and assign responsibilities
Framework for protection of emergency workers and helpers (5)

- Female emergency workers:
  - Establish arrangements for:
    - Notification by female worker to employer
    - Providing information by employer on health risk to fetus
    - Assessing and monitoring conditions in which female emergency worker might perform assigned emergency tasks
      - Restrict involvement when received doses are anticipated to be greater than 50 mSv equivalent dose to fetus
    - Provision of adequate protective and monitoring equipment
    - Assessment of equivalent dose to fetus as basis for further work restrictions and identifying need for medical consultation
Further occupational exposure

• Doses received in emergency response are considered separately from occupational exposure in planned exposure situation.

• Emergency workers who receive doses in an emergency response are not to be precluded from incurring further occupational exposure.
  * Such decision need to be based on qualified medical advice to assess worker’s fitness for duty.
Protection of emergency workers and helpers: **Transition phase**

- Characterized with increased knowledge and understanding of situation
- **No urgency** in decision-making
- Detailed planning of emergency work doable
- Helpers involvement more likely
  - More stringent provisions such as for planned exposure applicable for most emergency work
  - Simultaneous implementation of different schemes for protection of emergency workers and helpers possible
- Safety Guide DS474: on-going work
Next steps – Looking forward

- **Workshops** on GSR Part 7 implementation
  - Session on details for emergency workers
- **EPnet** – Emergency Preparedness Network
  - online platform aimed at connecting EPR professionals through collaborative space
  - part of Global Safety and Security Network (GNSSN)
- **International Conference on Global Emergency Preparedness and Response**
  - 19-23 October 2015, IAEA, Vienna
  - Session on emergency workers
Summary

- GSR Part 7: provides comprehensive framework for ORP in EPR:
  - Describes framework and arrangements for full range of emergency workers and helpers in emergency response and for their protection
  - Protection of emergency workers builds upon ORP measures but shall account for specifics of emergency and emergency response
  - Supporting materials are available
Thank you for your attention!