

Terminating a Nuclear or Radiological Emergency

IAEA-KINS Workshop on the Emergency Preparedness and Response to Nuclear and Radiological Emergencies

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Introduction

- Requirement 18: *“The government shall ensure that arrangements are in place and are implemented for the termination of a nuclear or radiological emergency, with account taken of the need for the resumption of social and economic activity.”*

Main Goal

- **Timely resumption** of social and economic activities, within the framework for protection and safety



Image courtesy of The Japan Times
<https://www.japantimes.co.jp/culture/2016/03/04/films/film-depicts-life-of-evacuees-from-fukushima/#.XQOtSohKiUk>

Discussion

Can you think of examples or consequences of:

- Premature termination
- Late termination



Termination and Transitioning

- Termination of an emergency and the subsequent transitioning shall be planned in the preparedness phase
 - Declaration of termination is end of transitioning and beginning of new exposure situation



Image courtesy of Cerpen
http://www.cerpen.co.id/post_153230.html

Criteria for Terminating the Emergency

- Qualitative and quantitative
- Set-up during the preparedness phase
- Adjusted during the response phase, according to the factual conditions
- Based on a graded approach and considering national, local and site-specific circumstances

Qualitative Criteria

- All necessary urgent and early protective actions have been implemented
- The exposure situation stable and well characterized
- New hazards assessed and new arrangements under implementation
- Transfer of authority and responsibilities
- Emergency analysed and corrective actions implemented

Qualitative Criteria (cont.)

- Strategy development for:
 - Management of radioactive waste
 - Restoration of infrastructure and public services in the affected areas
 - Long-term monitoring in relation to residual contamination
 - Health surveillance of the population
 - Consultation in relation to psychosocial health consequences
- Under consideration: compensation victims of damage

Qualitative Criteria (cont.)

- Registry completed with all those identified to necessitate longer term medical follow up
- Programme for long-term medical follow-up for the registered individuals has been developed
- No further individual monitoring of public for radiation protection purposes is needed
- Non-radiological consequences and other factors relevant to the termination of an emergency identified

Qualitative Criteria (cont.)

- Mechanism and means for continued communication and consultation are established and functional
 - With all interested parties
 - Including local communities
 - Public acceptance considered in the decision-making



Quantitative Criteria

- Dose limits for occupational exposure as for planned exposure situation can be applied for all workers
- Dose limits for the public can be applied when transitioning to planned exposure situation
- Pre-determined reference levels for public
 - Residual doses – close to the lower values of the reference level band for emergency exposure situation
- Below generic criteria for enabling transitioning and pre-determined operational criteria

International Requirements

- Requirement 18 of GSR Part 7: *“The government shall ensure that arrangements are in place and are implemented for the termination of a nuclear or radiological emergency, with account taken of the need for the resumption of social and economic activity.”*
- Requirement 46 of GSR Part 3: *“The government shall ensure that arrangements are in place and are implemented as appropriate for the transition from an emergency exposure situation to an existing exposure situation.”*
- Preparations are part of overall emergency preparedness at all levels with account taken of the fact that termination and the subsequent transitioning can happen at different times at different geographical areas

International Requirements (cont.)

- The **planning process** shall include:
 - Roles and functions of all organizations
 - Methods of transferring information
 - Means for assessing radiological and non-radiological consequences
 - Conditions, criteria and objectives
 - Review of the hazard assessment and of the emergency arrangements
 - Establishment of national guidelines for termination of an emergency
 - Arrangements for communication and consultation with the public and other interested parties

International Requirements (cont.)

- Arrangements shall be made for communicating with the public on the basis for adjusting or lifting protective and other actions and on terminating the emergency
- Any information provided to the public shall put health hazards in perspective
- Decision for terminating the emergency shall include prior consultations with all interested parties



International Requirements (cont.)

- Termination of the emergency shall be based on a formal decision made public
- Once the emergency is terminated:
 - All workers shall be subject to the relevant requirements for occupational exposure in planned exposure situations
 - Individual monitoring, environmental monitoring and health surveillance shall be conducted subject to the requirements for planned exposure situation or existing exposure situation

Detailed International Guidance

IAEA Safety Standards

for protecting people and the environment

Arrangements for the Termination of a Nuclear or Radiological Emergency

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ORGANIZATION

General Safety Guide

No. GSG-11



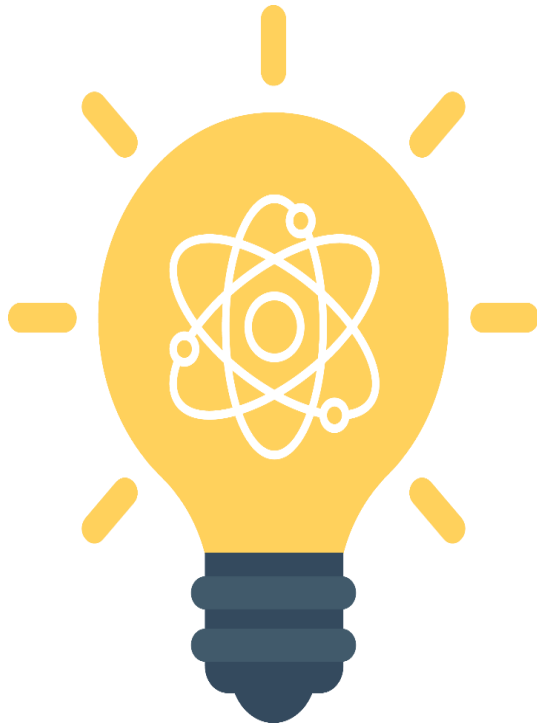
IAEA

International Atomic Energy Agency

Timeframes for Terminating an Emergency

- Timeframes anticipated to terminate the emergency should be discussed and agreed in the **preparedness phase**
- Account for weeks to a year or a few years - for terminating large scale emergencies
- Days to a few weeks may be adequate to terminate small scale emergencies

Key Points



- Planning for terminating a nuclear or radiological emergency has to be part of overall preparedness
- National guidelines for termination of an emergency have to be elaborated
- Conditions, criteria and objectives for terminating an emergency have to be established at the preparedness stage

Where to Get More Information

- IAEA GSR Part 7 (2015)
- IAEA GSR Part 3 (2014)
- IAEA GSG-11 (2018)

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Thank you!

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