

Document Preparation Profile

1. IDENTIFICATION

Category:	<i>Safety Guide</i>
Working ID:	DS-44
Proposed action:	<i>Revision and extension (2000/9)</i>
Existing Series number(s):	Published title(s) (year(s) of publication) :
	SS109: Intervention Criteria in a Nuclear or Radiation Emergency (1994)
Proposed title:	<i>Criteria for Use in Planning Response to Nuclear and Radiological Emergencies</i>
Review Committee(s):	<i>RASSAC (to lead); TRANSAC, WASSAC and NUSSAC</i>
Technical Officer:	<i>T.McKenna</i>

2. INTRODUCTION

The existing Safety Guide provides the radiation protection principles for intervention in a nuclear or radiation emergency. It discusses the factors that need to be taken into account in developing and using intervention levels or action levels when making emergency plans. It then presents consensus values for generic intervention levels of avertable dose for evacuation, sheltering, iodine prophylaxis, temporary relocation, permanent resettlement and food countermeasures, as well as generic action levels of projected dose to avoid serious deterministic effects. The guidance formed the basis for the relevant radiation protection requirements of the Basic Safety Standards (SS-115) on intervention in emergency situations.

During the development of the requirements document "Preparedness and Response for a Nuclear or Radiological Emergency" (NS-43) and Safety Guide "Preparedness for Nuclear and Radiological Emergencies" (NS-105) numerous technical aspects of emergency planning and response have been identified that are not addressed by existing IAEA guidance. Guidance on these issues would benefit from formal review and/or incorporation into a revision and extension of the 1994 Safety Guide (Safety Series No. 109). These issues include:

- There is no guidance currently within the Safety Standards Series that addresses decision-making in the pre-release or early phase of an accident at a major facility, when faced with large uncertainties. A usual approach is to use an accident classification scheme with precautionary actions based on observable conditions. This Safety Guide is the obvious place for guidance on this subject, extending its scope beyond radiation protection criteria alone.

- The scientific information about the risks and benefits of stable iodine prophylaxis have been better quantified by WHO and IAEA on the basis of the Chernobyl experience.
- No generic intervention levels were given for surface contamination of people or objects, nor for animal foodstuffs.
- No generic intervention levels were given for events involving small areas or urban environments.
- The Guide did draw the distinction between planning for response and response itself, which was reflected in the guidance on generic intervention levels. However there is a need to strengthen this clarification, extend it to precautionary protective actions, to provide further guidance on how the generic intervention levels can be used during the planning process to develop default operational intervention levels, and procedures for their modification during a response.
- There is no existing guidance in the Safety Standards Series on the methodology for performing hazard assessment for emergency planning purposes of selecting emergency planning zones or level of preparedness needed (determination of the threat category) .
- More explicit recognition of the importance of psycho-social effects and the need for co-ordinated response mechanisms is needed.
- Safety Series No. 109 was published before the International Basic Safety Standards and there are some minor inconsistencies in terminology that would benefit from clarification.
- The language in Safety Series No. 109 contains much explanatory material. The extent of this should be reconsidered in the updating process in order that the document fulfills the principal purpose of a Safety Guide in the new Safety Standards Series, namely to present “recommendations, on the basis of international experience, of measures to ensure the observance of safety standards.” There may be a need to produce a complementary Safety Report that provides some analysis of the issues involved.
- With the exception of clarification of the guidance on iodine prophylaxis, no numerical changes to generic intervention levels as given in the Basic Safety Standards and in Safety Series No. 109 are expected.
- No guidance is provided on assessing the effectiveness of decontamination and other mitigation actions.
- No guidance is provided on the management of the medical treatment of exposed individuals or populations.

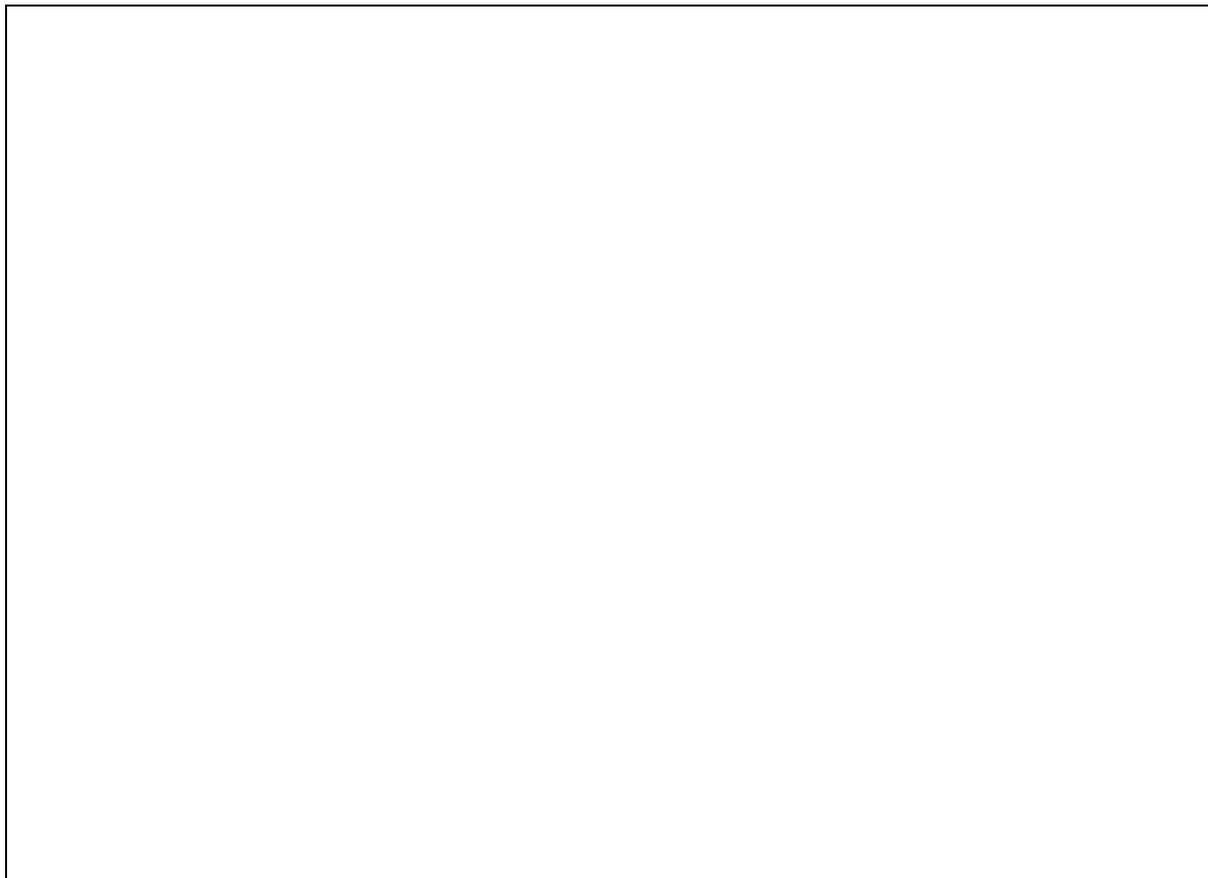
The proposed revision to Safety Series No. 109 would therefore have as a fundamental objective the provision of nuclear safety and radiation protection guidance on the criteria to be used in planning response to nuclear or radiological emergencies.

3. INTERFACES

- a) The FAO, IAEA, NEA(OECD) and WHO are co-sponsoring the production of Safety

Requirements for *Preparedness and Response to Nuclear and Radiological Emergencies* (NS-43). That document together with the Basic Safety Standards provides the overall framework for emergency response. A separate Safety Guide "*Preparedness for Nuclear and Radiological Emergencies*" (NS-105) provides the guidance on the infrastructure needed to meet the *preparedness* requirements in NS-43.

- b) Co-sponsorship with WHO, NEA/OECD, FAO, ILO and other relevant international organizations is regarded as important and will be actively sought. Support will also be sought from the InterAgency Committee on the Response to Nuclear Accidents, which co-ordinates interagency functions under the Conventions on Early Notification of a Nuclear Accident, and on Assistance in the Case of a Nuclear Accident or Radiological Emergency. While this involvement of other organizations will make the production process more complex the resulting document should benefit from the improved status, be of more use and reach a wider number of countries.
- c) While RASSAC will co-ordinate the document preparation, NUSSAC will need to be actively involved in emergency classification, and WASSAC and TRANSSAC kept informed since emergency preparedness cuts across all uses of radiation.
- d) Throughout the development process, care will be taken to redraft the document in a way that makes the links to the Requirements level document clear; and to actively track, record and cross-reference to other relevant documents, such as the International Basic Safety Standards for Protection against Ionising Radiation and for the Safety of Radiation Sources; the Safety of Nuclear Power Plants: Operation (Requirements); the Convention on Early Notification of a Nuclear Accident; and "*Preparedness for Nuclear and Radiological Emergencies*" (Safety Guide).



4. CONTENT

1. INTRODUCTION

- 1.1. Background
- 1.2. Objective
- 1.3. Scope
- 1.4. Structure

2. BACKGROUND AND PRINCIPLES

- 2.1. Emergency Preparedness and Response
- 2.2. Basic principles for Intervention
- 2.3. Intervention Situations
- 2.4. Health grounds for protective action following an accident
- 2.5. Psycho-social aspects
- 2.6. Risk, uncertainty and timing considerations in decision-making

3. HAZARD ASSESSMENT AND THREAT CATEGORIES

- 3.1. Overview
- 3.2. Range of consequences
- 3.3. Effectiveness of protective actions

4. APPLICATION OF PRINCIPLES TO MEMBERS OF THE PUBLIC

- 4.1. Exposure pathways and protective measures
- 4.2. Intervention levels
- 4.3. Medical symptoms indicating a radiological emergency
- 4.4. Facility indication of an emergency (Event Classification)
- 4.5. Emergency planning zones
- 4.6. Operational Intervention Levels
- 4.7. Precautionary protective actions
- 4.8. Urgent protective actions
- 4.9. Longer term protective actions
- 4.10. Intervention in relation to food and other products

5. APPLICATION TO WORKERS

- 5.1. Saving life and/or preventing severe consequences
- 5.2. Short term recovery operations and/or urgent protective action affecting the public
- 5.3. Longer term recovery operations
- 5.4. Work not directly connected with an accident
- 5.5. Operational levels: Turn-back guidance
- 5.6. Psycho-social aspects

6. PUBLIC/WORKER - EXPOSURE & CONTAMINATION RESPONSE

- 6.1. Introduction
- 6.2. General considerations
- 6.3. General criteria specialized medical treatment or decontamination
- 6.4. Medical treatment or decontamination
- 6.5. Psycho-social aspects

7. REFERENCES

APPENDICES (detailed methods to perform analysis)

(For Example)

- Appendix 1: Development of Emergency Action Levels
- Appendix 2: Development of Operational Intervention Levels and procedures for revision
- Appendix 3: Development of protective action strategies and zones
- Appendix 3: Development of Turn-back Levels and procedures for revision
- Appendix 4: GIL and OIL for small scale events and urban environments
- Appendix 5: Criteria for management medical treatment or decontamination

In Supporting Safety Report (s) (information -data needed to perform analysis)**(For example)**

- Technical analysis to assist in the selection of generic intervention levels
 - Approach adopted in developing generic intervention levels
 - Doses for comparison with intervention levels
 - Factors influencing the choice of intervention level
 - Realism in developing intervention levels

Risk Perspectives

Example classification systems for PWRs (WWERS), BWRs, RBMKs, research reactors,

5. PRODUCTION

Proposed schedule:

Approval for development	Present at RASSAC DPP circulated to all other committees for comment and approval by correspondence	June 2000
Development	Identify topics requiring development of technical guidance (during TCM on NS-105)	Oct 2000
	Preparation of draft; consultation with other potential co-sponsoring organizations	Aug 2001
	Specialists (TCM) meeting to review first draft	Oct 2001
	Preparation of new draft	Jan 2002
Review	Draft for comment to RASSAC and NUSSAC, WASSAC and TRANSSAC members, co-sponsoring organizations and IACRNA members	Q1 2002
	Discussion of draft by RASSAC and NUSSAC	Q2 2002
	Comments to be incorporated into edited draft	Q3 2002
	Presentation to RASSAC Anticipate approval of draft by correspondence with RASSAC and other international organisations	Q4 2002
	Circulate to Member States and other international organisations for comment	Q2 2003
Approval for publication	Approval by ACSS sought	Q3 2003
	Approval by Publications Committee sought	Q3 2003
Production	Publish document	Q4 2003

Resources:

- (a) IAEA staff: 12 man weeks
- (b) Consultants: 6 man weeks
- (c) 1 SPM