IAEA 60 Years
Atoms for Peace and Development

Application of the system of radiological protection of the environment in the IAEA Safety Standards – a position paper

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ALLIANCE & ICRP SESSION: Integrated Protection of People and the Environment

Introduction

-UNSCEAR has concluded that there is no apparent effects in plants and animals below certain levels of exposures typically observed from fallout and controlled (routine) releases. Effects are observed after accidents.

-In order to address the raise of concerns on environmental aspects, ICRP has been doing significant efforts to address the need to demonstrate more explicitly that the environment is protected and produced important publications (2003-2014).

-High level international Safety Standards incorporated new considerations on protection of the environment: 2006 SF-1 (Euratom, FAO, IAEA, ILO, IMO, OECD/NEA, PAHO, UNEP, WHO) and 2011/14 GSR-Part 3 (EC, FAO, IAEA, ILO, OECD/NEA, PAHO, UNEP, WHO).

-In 2013, international organizations, programmes and committees concluded that the ICRP approach is sound enough to be adopted into international safety guidance, particularly for planned exposure situations.

-IAEA SF-1 and GSR Part 3 incorporated ICRP principles and objectives for environment protection, and added some new elements such as the need of and integrated approach and the need of protection for more elements in the environment.

International practical guidance by the IAEA based on ICRP conceptual and methodological approaches

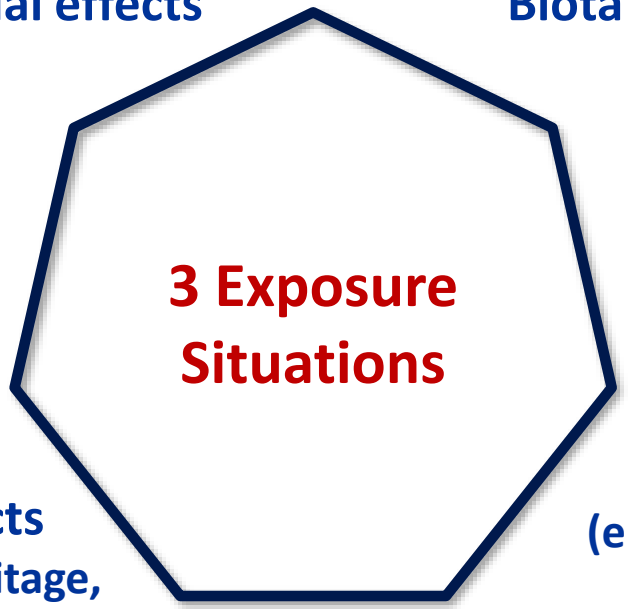
- Radiation Protection of the Public and the Environment, IAEA Safety Standards Series (DS432), Safety Guide GSG-8 (approved 2015, being published).
- Prospective Radiological Environmental Impact Assessment for Facilities and Activities, IAEA Safety Standards Series (DS427), Safety Guide GSG-10 (approved 2015, being published).
- Regulatory Control of Radioactive Discharges to the Environment, IAEA Safety Standards Series (DS442), IAEA Safety Guide GSG-9 (approved 2015, being published).
- Guidelines for the Application of the ´de minimis´ Concept (Based on IAEA TECDOC 1759, 2015), Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter and Protocol, International Maritime Organization, 2015.
- Methodology for Deriving Environmental Assessment Criteria and their application, OSPAR Agreement 2016-07 (based on the report Definition of Radiological Environmental Assessment Criteria for the OSPAR Convention: a proposal by the IAEA, Ref. OSPAR RSC 13/7/1, 2013), Convention for the Protection of the Marine Environment of the North-East Atlantic, 2016.

The ICRP approach for the protection of the environment is already incorporated by IAEA to the international safety standards and international conventions. All publications can be downloaded from Internet.

IAEA approach to environmental protection in the Safety Standards

- For planned exposures the quantitative assessment of exposures to RAPs and the comparison to relevant criteria (e.g. DCRLs) should be considered.
- For the management of environmental aspects during existing exposure situations and emergency exposure situations, the impact on the environment is part of the optimisation process. Assessment should be used to ensure that exposures to humans are ALARA taking account of economic, societal and environmental factors. Optimization requires both qualitative and quantitative judgements.
- Importance to give consideration to the impact on the environment from the protective and remedial actions to be taken to reduce the doses to members of the public as these impacts may be in some cases irreversible.

IAEA Secretariat views on some issues: What means “integration” of radiation protection?



Some of these aspects are already considered in the system for radiological protection and in the current approach for the protection of the environment by ICRP, and were incorporated in the IAEA Safety Standards, particularly for planned exposures. Others, needs from basic to detailed deliberation, specially for existing/emergency situations.

Summary and opinions (by the authors)

- **Considerable effort was undertaken to define the principles and methods for a regulatory framework that includes protection of the environment, this involved ICRP and a large number of organizations and experts.**
- **IAEA Safety Standards and guidance incorporating ICRP approach for are now included in the international radiation safety framework.**
- **The IAEA believes that an integrated approach should be adopted that takes account of all the aspects of radiation protection of the environment and has proposed those additional aspects which still needs consideration.**
- **Attempting to address those additional aspects needs discussions in the full range, from ethical principles to methodological and practical.**
- **Any further development of the approach to protect the environment should take on board the work done, be based on the experience of the application of the current international standards by the States and recognize the necessity of a certain stability in any regulatory framework.**

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