Science and Values in Radiological Protection

# Radiological Protection Challenges From NGOs' Perspective

## An Independent Expert View

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## Focus: the NGOs, radiological protection and me…

**Status of NGO applies to a various range of organisations, e.g.:**

- **local / national / international**
- **concerned citizens / professionals / corporate**

**Not many specific NGOs in the radiological protection field as in other fields of environmental / health protection**
(taking out "institutional" and corporate ones)

**Networking between concerned individuals, NGOs from related fields and independent experts**

**My position: an independent expert on nuclear/energy issues commissioned by NEA to analyse NGOs views**

## Scope: summarising non-governmental views

**No reference documents comprehensively expressing the diversity of NGOs views**

**Good basis for review: comments filed in the ICRP revision process**

**—> analysis based on that material completed with other documents**

**Need to complete this selected bibliography-based analysis**

**—> planned interviews with representatives of NGOs showing specific concern in the field**

**Today: preliminary findings put in a provocative manner**

**Note: such review would not replace required direct dialogue**





## Taking NGOs views: five critical steps

- **Global framework: transparency of policy making**
- **Principles: values and ethics**
- **Science: research results and orientations**
- **Implementation: recommendations in practice**
- **Involvement: contribution of NGOs**

## Global framework: a crisis of responsibility

**Overall feeling of:**

- **growing public anxiety**
- **erosion of social confidence**
- **fearing a loss of control of risks**

**Overall questioning of:**

- **legitimacy and credibility of decision makers**
- **integrity or competence of experts**

**Relevance for questioning the foundations of the radiological protection with stakeholders involvement**





## Global framework: more direct questions

**Documented criticism on statutory deadlocks:**

- **IAEA "in permanent conflict of interest" when dealing with health problems**
  (aims to "enlarge the contribution of nuclear energy to peace, health and prosperity")
- **WHO "paralysed by the nuclear lobby" because of the WHO/IAEA Agreement of 1959**
- **ICRP "a private agency comprised of nuclear advocates" status (part of the International Radiology Society) and rules raise questions**

**Need to bring serious answers and bear some changes**

## Principles: the level of protection

*"There are no safe levels of radioactivity"*

**Strong refusal of any exclusion or exemption principle**

**Precautionary Principle:**
**the radiological protection system is not precautionary (protecting even if uncertainty on the fact it's needed)**

**Negligible risk does not mean acceptable risk**

**Replace "reference person" with the protection of the most vulnerable**

**No rationale to the segmented dose approach, i.e. need to consider together occupational/public/medical exposures**





## Principles: the balance of risks

*"Be honest with yourself: don't pretend to protect"*

**The protection of the general public (citizens) must be placed above the protection of any other interests, including economic aspects**
**—> minimisation preferred to optimisation**

**ALARA: embeds weakening of best technically possible protection**

**Towards future generations: *"we bear a great responsibility"***
**(against ICRP recommendation to give them less weight)**

**Justification and optimisation based on the vision of society as a whole (or the community concerned with exposure)**

**In reality, need to balance between benefits to parts of it and detriments to other parts of it –> on which criteria?**

## Principles: protection of the environment

**Traditional concern of NGOs,
only new concern in the radiological protection framework**

**Still not included in ICRP concept of "network"
between sources of exposures and individuals exposed**

**Environmental (naturalists) NGOs not involved
in the radiological protection process**

**Field for further discussion with NGOs on:**

- **Definition of the protection of the environment**
- **Insertion of the environment (species, ecosystems…)
in the "network"**





## Science: need for pluralistic evaluation

*"The more we learn about radiation impacts,
the more we need better protection"*

**Devastating impact of official statements regarding Chernobyl:**
**• IAEA long "in denial" of the death toll**
**• UNSCEAR "minimizes the negative health evidence"**
**(plus the role of national authorities in key countries like France)**

**Need to recognise evidence and develop new science to understand rather than using established science to deny evidence**

**Still very disturbing that the word "Chernobyl"
does not appear in ICRP new recommendations**

**Need for shared evaluation of the lessons from new science and
the derived orientations of further research**

## Science: some pressing issues

**Demand for better recognition of field and scientific evidence on a number of pressing issues:**

- **uncertainty / underestimate of the risk factor associated with internal radiation**
- **underestimate alpha internal risks**
- **non cancer/hereditary diseases (circulatory diseases)**
- **studies indicating increased risks from low doses**
- **develop research on specific risk linked to chronical exposure**
- **uncertainty on other parts of the risk models (like concentrations in the environment, e.g. tritium)**

**Demand to make models and computer codes available for review**





## Implementation: recommendations in practice

**Justification and optimisation are broad principles**
**Their implementation in decision making is prone to controversy**

**Justification backing key decisions (like new power plants) not based on fair application of the justification principle**

**Medical field: place of radiological consideration in justification?**

**Radiological protection system allows for operational decisions increasing doses (e.g. increase of tritium discharges)**

**ICRP: not unduly limiting desirable endeavours and actions associated with exposures. Who decides that it's "desirable"?**

**Area of work with NGOs: what would be a proper periodical implementation of justification and optimisation principles**

## Involvement: contribution of NGOs

*"The very people that should suffer from these recommendations are excluded."*

- **develop information of citizens, their representatives, authorities**
- **get means to produce information and carry independent analysis**
- **some of them considering stakeholder involvement as a trap but some of them willing to contribute to participative, pluralist decision making**
- **everything but not a social process for public acceptance** (implies to compensate imbalance between NGOs and other players)
- **not substitute to the authorities**





## Science and values: general comment

**ICRP recommendations - hence the RP system - are written (perceived?) as evolving mostly on the basis of science**

**Paradoxical observation:**

**Evolution of recommendations globally towards NGOs values although roughly:**

- **NGOs values (among others) are not explicitly recorded as influencing the radiological protection system**
- **the science called upon by NGOs to support them is mostly discarded**

## Conclusions: fields for improvement

**Drive to get involved requires confidence in the system:**
**—> implement new processes and deal with statutory concerns**

**No roadmap to involve NGOs without giving consideration:**
**—> discuss the potential influence of NGOs values on global concepts and principles**

**Discussion of science and values are distinct but interlinked:**
**—> get NGOs involved in the evaluation of scientific evidence and the definition of further research needs**

**NGOs are familiar with shortcomings in real implementation:**
**—> set periodical review of implementation with stakeholders**





## Thank you for your attention…

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