RP Science, Values and Societal Response: Where Social Sciences and Humanities could Help

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Typical Engineer's View of Stakeholder Involvement

Overview

- CRPPH and Stakeholder Involvement: What has been Learned
- Science and Values
- Lessons from Fukushima

Societal Framework

- Radiological protection decisions are rarely taken by radiological protection experts
- The role of radiological protection experts is to support decision making by providing information and advice
- Prevailing circumstances play a key role in judging what is the best decision to take

CRPPH and Stakeholder Involvement

Since 1990 the CRPPH has worked to show the importance and value of stakeholder involvement in radiological protection decision-making processes

- Villigen Workshops (1998, 2001, 2003)
  - Integrate RP aspects into societal decisions, rather than integrating societal values into RP decisions
- Chernobyl Work (1987 – 2011)
  - The RP expert should be at the service of stakeholders
- Science and Values Workshops (2008, 2009, 2012, 2015)
  - Decisions are informed by science, but are driven by social values
- ICRP Dialogues (12 between 2011 and 2015)
  - Supporting stakeholder involvement requires trust and resources

Science and Values

Medical Surveillance

- Why perform surveillance?
- Who should be included and how long should it last?

Uses of Effective Dose

- Is effective dose a good tool for communication?
- Other RP tools to explain complex RP concepts?

Addressing Safety Concerns

- How is it decided that it is safe enough?
- How are ALARA and Optimisation judged?

Post-Accident Surveillance

Workers

- Workers' rights
- Preventive purposes
- Science based
- Psychological effects

Affected Populations

- Guidance for asymptotic population needed
- General public – what questions can arise? – reassurance?
- Data registers open?

Uses of Effective Dose

- Improve the scientific basis (e.g., age, gender, and BMI)
- Develop and implement definitions and simple communication concepts for radiation induced risks with concerned populations (parents and children) using plain language and various media.
- Develop concepts to achieve informed consent of emergency workers to accept doses well above dose limits – how to balance individual vs. collective risk?

Addressing Safety Concerns

- What is safe – prevent deterministic effects, reduce risks for cancer and inheritable effects
- ”Safe” is defined in a specific context, involving the concerned parties - not a global quantity
- Justification and optimization require value judgements, not merely science
- Areas where guidance is required:
  - Remediation of contaminated sites
  - New site selection
  - Post-accident recovery

Values are Central to Radiological Protection

ICRP Dialogue Initiative: CRPPH Involvement after Fukushima

	Dialogue Focus	Date
1	Initiation of a new process of discussion among affected stakeholders	November 2011
2	Understand what has been accomplished in Date	February 2012
3	Food production, distribution and marketing	July 2012
4	Education and memory	November 2012
5	The difficult decision to stay/return or go/not return	March 2013
6	The situation and challenges faced by the citizens of Iitate	July 2013
7	Self-help actions taken by local people in cooperation with experts	Dec 2013
8	The situation and challenges faced by the citizens of Minamisoma	May 2014
9	The challenges of raising children in a contaminated area	August 2014
10	The importance of tradition and culture for recovery	December 2014
11	The importance of measurements for recovery	May 2015
12	The future, in particular the future of the Suetsugi region	September 2015

Lessons Learned from Fukushima

The experience gained from the ICRP Dialogues has all been in the context of post-accident recovery

- Obvious lessons
- Less obvious lessons
- Behaviour lessons
- Lessons in trust
- Lessons in setting objectives

Obvious Lessons

- Before any accident, government should establish:
  - active stakeholder-interaction presence around hazardous sites
  - generic criteria for starting and ending countermeasures
- After an accident, government should:
  - Use local knowledge as key input for decisions
  - Engage with stakeholders to rapidly allow people to choose whether or not to return home
  - Support experts to address stakeholder questions
  - Encourage stakeholders to share experience
  - Help stakeholders to access and understand data
  - Establish health follow-up processes

What Obvious Lessons Imply

Responsibility for protective actions will shift away from central government, but central government will need to support protective actions such as:

- Individual dosimetry
- Whole body counting
- Environmental monitoring
- Addressing concerns

The resources needed to address these lessons are extremely significant and need to be planned

A multi-risk, integrated national approach can be effective

Less-Obvious Lessons

- RP experts are rarely decision makers, but provide advise
- Personal decisions must be respected and appropriately supported
- Recovery decisions should be well informed
- Decisions regarding returning home should be taken as-soon-as-possible
- For such decisions, expert advice can:
  - Provide understanding to help them regain “control”
  - Help individuals develop their vision of the future
- Cultural aspects will need to be taken into account

What Less-Obvious Lessons Imply

- There is no “average person” or “average concern”
- Cultural aspects can play a role in decisions, and in planning and implementation of protective actions
- Concerns should be addressed in the context of culture, and as individually as possible

A huge effort may be needed from experts to appropriately interact with affected individuals to address their concerns

Resources for such an effort should be pre-planned

Training of experts in public interactions, to facilitate effective, non-confrontational exchanges, would be of great use

Behavior Lessons

- Affected stakeholders will address their situations themselves, with or without government assistance (e.g. dose and dose-rate measurements, cleanup, etc.)
- Stakeholder trust in government can strongly influence confidence in government actions
- Stakeholders will inform their protection choices with whatever science is readily available, big picture or not

What Behavior Lessons Imply

- Measurements are easy to achieve
- Understanding measurements needs scientific input
- Radiological context and judgement takes time to develop

Good judgement comes from experience

Experience comes from bad judgement

Lessons in Trust

- Trust and acceptance must be earned, and for this experts should become and remain locally connected
- Independent verification of information, measurements and data can be an important element of trust
- Unaffected populations will be concerned about food from and travel to affected area, and will need to establish trust in producers and in governmental decisions

What Trust Lessons Imply

- Trust is easy to loose and difficult to build
- Building or maintaining trust is a long-term process

Following an accident experts may emerge from universities, laboratories, hospitals and government organisations

Not all “experts” will be experts

For stakeholders to build trust in government, government must have trust in stakeholders

Lessons in Setting Objectives

- Achieving recovery is a step-by-step process
- Radiological recovery is only one part of the accident recovery
- RP criteria, short- and long-term, are important government choices for which stakeholder input should be transparently considered and reflected

What Objective-Setting Lessons Imply

- Recovery is “achieved” when the “New Normal” becomes “Normal”. Affected individuals recognise that the situation is new, but new behaviours become “natural” and no longer cause significant stress
- Achieving this needs understanding of all aspects of an individual’s circumstances (e.g. RP, economic, social, political, physical, etc.)

Recovery is a state of mind

Achieving such a state will take time, and will need social and technical support

Recovery Conclusions

- The RP focus for stakeholder involvement in recovery should be on long-term technical support
- This support can be very resource intensive
- Trust is a necessary and central component of successful stakeholder involvement
- A positive vision of their future will help an individual to choose to stay or to go
- Individual decisions, whether to stay or to go, are all valid

Messages

- This has been a learning process
- It has taken time to recognise the role of the RP specialist in decision processes
- The skills needed for stakeholder interactions are not “normally” addressed in RP education programmes
- The “most effective” stakeholder interactions are by RP experts trained in public interactions, not by communications experts trained in RP

Open Question

We should include radiological protection aspects in societal decisions, rather than including societal aspects in radiological protection decisions

BUT

The principle of optimisation of protection: the likelihood of incurring exposures, the number of people exposed, and the magnitude of their individual doses should all be kept as low as reasonably achievable, taking into account economic and societal factors, and prevailing circumstances, including stakeholder involvement

How to resolve the conflict of who takes what into account – RP or Society?

This is a question of Ethics