

# 放射能除染のための国際シンポジウム

International Symposium on Decontamination of Radioactive Materials

時間：5月19日 9:00-15:00

場所：パルセいいざかコンベンションホール

主催 環境放射能除染学会

共催 環境省

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1. 除染に向けての日本政府の取り組み

大村 卓（環境省福島環境再生事務所所長）

2. 福島における除染の取り組み

半澤隆宏（伊達市市民生活部次長兼放射能対策政策監付次長）

3. 放射能マッピングと除染との結合 - 英国およびヨーロッパでの経験

Linking Radiometric Mapping and Remediation: UK and European Experience

David C.W. Sanderson（英国グラスゴー大学）

Scottish Universities Environmental Research Centre, University of Glasgow, Scotland, UK  
This presentation considers the use of radiometric mapping to guide remediation following radioactive contamination. It draws on UK and EU experience of past accidents, and the development of methods to place radioactivity into spatial, environmental and radiological contexts. UK remedial actions following accidents at Windscale in 1957 and Chernobyl in 1986 were mainly limited to agronomic countermeasures. However these events had repercussions for subsequent organisation and regulation of nuclear activities, and in recognition of the importance of stakeholders to policy implementation. Public consultation was used this year before amending Chernobyl livestock controls on sheep grazing upland pastures in England and Wales. Other UK remediation activities continue in decommissioning nuclear sites and recovering radioactive particles from contaminated coastal environments. Whereas only modest levels of Chernobyl radioactivity reached Japan in 1986, larger scale and highly variable contamination was experienced in Europe, leading to diverse responses. Subsequent EU programmes have addressed some of the underlying themes, including international calibration of radiometrics, and projects in emergency management, decision support and remediation. These are briefly summarised here. Finally in respect of the Japanese situation it is suggested that there could be benefits in combining detailed radiometric mapping with targeted remediation. It is hoped that such approaches can be appraised collaboratively to improve conditions in affected areas.

#### 4. 米国における除染の経験

##### U.S. Experiences with Nuclear Site and Environmental Decontamination

Yasuo Onishi, Shas Mattigod, and R. Jeffrey Serne

(米国エネルギー省、パシフィックノースウエスト国立研究所)

The Hanford Site of the U.S. Department of Energy is located along the Columbia River. It had nine nuclear reactors to irradiate uranium fuel to produce plutonium, generating large amounts of radioactive waste. The fuel reprocessing also generated 210,000 m<sup>3</sup> of radioactive solid and liquid wastes that has been stored in 177 underground tanks. Some of the liquid wastes were disposed to ground and others inadvertently were leaked, contaminating soils, groundwater, and the Columbia River.

This paper describes monitoring; removal of contaminated soil; groundwater decontamination through a pump and treat, <sup>90</sup>Sr immobilization and phytoremediation; <sup>137</sup>Cs removal from Hanford soil; removal of spent-fuels and sludge from a spent fuel-pool; decommissioning and cocooning (a long-term storing) of eight reactors; and local public participation to remediation decisions and future local economic development. This paper also presents TODAM and FETRA model simulations of plutonium migration and accumulation over the land surface and receiving streams at the Los Alamos National Laboratory Site and Chernobyl remediation to prevent <sup>90</sup>Sr migration into the Pripyat River across the Chernobyl Nuclear Plant.

The U.S. has extensive experience in nuclear waste clean up that may be relevant to the Fukushima environmental remediation. However, the U.S. remediation methods must be evaluated to assess their applicability to Fukushima site-specific conditions.

#### 5. 除染とリスクコミュニケーション

Dr. John Cardarelli II (米国環境保護庁)

#### 6. リスクコミュニケーションと関係者の参加－NEA/CRPPHの経験

Stakeholder Involvement and risk communication

*– a perspective from the NEA's Committee on Radiation Protection and Public Health*

Dr. Thierry Schneider (経済協力開発機構原子力機関)

Member of Committee on Radiation Protection and Public Health (CRPPH)

Deputy Director, Nuclear Protection Evaluation Centre – France (CEPN)

The CRPPH mission to assist member countries in the regulation and application of the system of radiation protection by identifying and addressing identified issues - conceptual,

scientific, policy, operational and societal - in a timely, prospective fashion, and clarifying their implications. Since the beginning of 90s', the CRPPH has followed a pathway of national views and experiences to understand the benefits, challenges and implications of greater stakeholder involvement in radiation protection decision-making processes.

The benefits expected from stakeholder involvement are as follow:

- Incorporate public values into decisions
- Increase the substantive quality of decisions
- Help to resolve conflict among competing interests
- Build trust in institutions
- Provide information to the public in a timely manner
- Build mutual understanding
- Identify and build acceptance for sustainable decisions

After a general presentation of the key lessons learned from the feedback experiences, the focus will discuss:

- Why it is essential to work together, each party (e.g. person, group, organization) has a role;
- The different "tools" to facilitate stakeholder involvement, taking into account the national/cultural perspective;
- The necessity to develop stakeholder involvement approach to address complex situations.

## 7. 福島における ICRP 対話

### ICRP Dialogue in Fukushima

丹羽太貫（国際放射線防護委員会）

During the emergency exposure situation of a nuclear accident, it is the responsibility of the authority to decide on actions since the local inhabitants of the affected areas generally lack the knowledge and measures. However, when the emergency exposure situation shifts to the existing exposure situation, the responsibility also shift to the hand of local inhabitants since their lives in the affected areas are at stake. Under the recognition of the shift, ICRP issued Publication 111 in which the importance of self-help action was discussed. However, the self-help actions have to be aided by the professionals for the knowledge and by the local authorities for the resources and measures. In addition, the solidarity with the outside communities is also essential. Thus, the self-help actions are multidimensional for which dialogues of involved members are essential. This recognition urged ICRP to initiate the dialogue meeting in Fukushima. Two meetings since last November were attended by more than 100 participants who include local and outside inhabitants, local and governmental authorities, and domestic and foreign professionals, through which a number of problems were identified. The dialogue has to be continued until local stakeholders regain their self-control. Lessons learned will be discussed at this meeting.