

NERIS WG2 MEETING: EMERGENCY PREPAREDNESS AND STAKEHOLDER PARTICIPATION

Mon 26th -Tue 27th November, Oslo

The meeting was opened by the NRPA host Astrid Liland who welcomed the participants, and Deborah Oughton the WG2 leader who introduced the meeting programme. The meeting topics covered local stakeholder participation experience from different countries (Belorussia, Spain, France, Norway, Slovakia and Japan), and was divided in several sessions (for the program of the meeting see attachment):

- European national stakeholder experience
- Fukushima experience – local stakeholder participation
- Catalogue/database of stakeholder involvement methodology

The presentations are available on NERIS website <http://www.eu-neris.net/>

1. SESSION 1: European national stakeholder experience

1.1 Belorussian experience in communication with local stakeholders in tackling post-Chernobyl problems

Viktor Averin (Institute of Radiology, Belarus) acknowledged the evolution of public communication system in Belarus. During the first years of post-accident management, information was being shared among the officials only and stakeholder involvement wasn't prioritized. Now, however, communication and information support is one of the priority tasks and is aimed to provide education of the residents of the affected areas in order to change their behavioral pattern so that they could safely live in the context of radioactive contamination. Centers for Practical Radiological Culture (CPRC) have been established in the schools of the affected areas. Those centers are meant to increase general radiological culture of the local population and provide them access to measuring contamination in food and feeds. The target groups of the CPRCs are school children. It is expected that children who are educated in such centers will bring the knowledge to their parents. People in Belarus are still experiencing radiation fear and young specialists don't want to come and work in the contaminated areas. Children with the background from CPRCs are expected to have a better understanding of the situation in contaminated areas to not be scared to work there.

About 20 forums and workshops have been organized. Meetings which included all groups of local residents together with specialists and some government officials has shown to be most effective. For successful communication, approaches should be area specific and they must be adapted as the process of communication proceeds.

1.2 Work on local-national cooperation with regard to post-accident rehabilitation in Spain

Eduardo Gallego (UPM, Spain) and Milagros Montero (CIEMAT, Spain) presented the initial planning for the work to be done in Spain within NERIS –TP WP3. They mentioned that the territory around Ascó NPP has been selected for the pilot methodology implementation. A number of the preparatory meetings with local and regional authorities and NPP representatives have been organized. Scenarios of the accidents are developed using source type, meteorological conditions and regional information. JRODOS tool is used to model consequences of the accident and vulnerable areas are determined. When scenarios are finalized, the table-top exercises will be developed and performed. The results of the exercises will be used to adapt or improve the tools. Guides for the local governments in the most impacted areas will be developed first. Milagros and Eduardo also mentioned certain political and legal issues. Project cannot be put in action without the help from nuclear council, and constant change of authorities is slowing down the process. Politics prefer to concentrate on the rehabilitation issues, rather than strategy development, because of already existing strategies. Challenges exist in the communication between regional and local authorities.

1.3 Involvement of pays de Montbéliard Agglomération in the preparedness of emergency situations: local emergency planning and water management

Sandra Biguenet (CEPN, France) presented Montbeliard urban community (PMA) which includes 29 municipalities and has been helping them establish Local Emergency Plan since 2005. Geographic Information System has been developed to visualize PMA and it includes data on:

- risk (floods, transportation of the hazardous cargo)
- stakes (population, public buildings, industry, agriculture)
- resources (firemen, police)

Radiation protection pilot project has also been developed with the support of CEPN. PMA was involved in the international projects like EURANOS and NERIS. Since 2010, PMA is a part of the CODIRPA project and is working on practical implementation of its recommendations in the local areas. Instruction cards for all actors involved in local emergency preparedness are developed and they will, in perspective, be adapted to the local specificity.

There are no NPPs on the territory of the community, but there are 5 NPPs within 100 km from the community. The only water draw off point for the whole community population is situated in the vicinity of the NPPs which makes it a vulnerable issue. The plan is to perform vulnerability analysis for the water issue and connect it to the local GIS.

1.4 Local-national forums in nuclear and radiological emergency and recovery

Inger Margrethe Eikermann (NRPA, Norway) mentioned that no emergency plan existed in Norway in the time of the Chernobyl accident. Whole body measurements of the most

affected Sami population were introduced and countermeasures for reducing animal contamination were developed. Norway gained a lot of experience from long-term effects of Chernobyl fallout on agriculture, environment and health, but this experience is now forgotten, especially in the non-affected regions. A national Crisis Committee for Nuclear Preparedness has been appointed to ensure an efficient, rapid and competent crisis management of the early phase of a nuclear event. The committee consists of the representatives from central authorities which have special responsibility in nuclear preparedness. A series of seminars for the 19 county governors have been organized. The context of the seminars included hazard assessment, methods and tools for decision-making, communication and countermeasure strategies. First local-national forum seminar for emergency and recovery strategies was held in Østfold County and was aimed on bringing together all involved parties to strengthen the late emergency phase after a nuclear accident/incident in the county and the municipalities. Seminar discussions showed that there are practical issues to be solved, including decision-support and education tools, and development of procedures and systems for communication between local, regional and national levels in the emergency response organization. A different emergency plan has to be developed for marine environment and fishing industry has to be prepared for the emergency situation.

1.5 Local stakeholder participation in Slovakia – regional-local cooperation and improvement of local preparedness

Tatiana Duranova (VUJE, Slovakia) emphasized the importance of the emergency strategy for Slovakia, as it is a small country with 2 NPPs on its territory and 2 NPPs in the neighboring countries (Czech Republic and Hungary). Slovakia has also been impacted by Chernobyl accident. Slovaks are interested in sharing experience about different initiatives on emergency and rehabilitation preparedness and management throughout Europe and they have been involved in various European projects (EVATECH, EURANOS etc.) since 2000s. Under the EVATECH project, a thorough study, survey and documentation of the emergency management process and duties of the parties involved in Slovakia were performed and the core of target group of stakeholders was identified. Several seminars and workshops on development of Generic Handbook for Assisting in the Management of Contaminated Inhabited Areas in Europe Following a Radiological Emergency were held in the period of 2005-2008 and local stakeholders were involved. Handbooks were presented to the local authorities and other stakeholder groups in 2011-2012. The experience of Slovakia confirmed that:

- Stakeholders are able to work together, to communicate problems and to absorb new comers to the working groups
- Working in the form of facilitated workshops with scenario developed using customized operational tools (RODOS/JRODOS, RTARC, Web-HIPRE) makes work more efficient, focus on possible real problem and finding real solutions

- There is a common understanding that it is necessary to continue joint meetings of stakeholders and willingness exists to organize annual workshops for sharing experiences, identifying gaps and improving preparedness
- Introductory meetings before the start of workshop help to learn how to work together and training on using available computer-aided techniques is also very important
- The Handbooks could be used as a preparatory tool, under non-crisis conditions to engage stakeholders and to update local and regional plans; can be applied as part of the decision-aiding process to develop a recovery strategy following an accident and are useful for training purposes and during emergency exercises.

Some political issues exist in Slovakia, changes in the government influence effectivity of National Emergency Commission for Radiation Accidents (NECRA), but results of the work performed on stakeholder involvement suggest that well-organized stakeholder cooperation on the local levels, their acquaintance with each other and clear plans, constantly updated with the local information, could mitigate effects of governmental instability. However, good communication between all the ministries and commission is important.

1.6 Progress of Post-accident preparedness in the French context: the contribution of the Local Commissions of Information (attached to nuclear installation) and their federation (The ANCCLI)

Stéphane Baudé (MUTADIS, France) gave a historic overview of the stakeholder involvement programs in France. Yves Lheureux (ANCCLI, France) presents National Association of the Local Commissions of Information (ANCCLI) as an interesting and original example of local actors' empowerment. CLIs are autonomous actors in the field of the monitoring of nuclear activities. They represent a diversity of contexts and experiences that highlight the issue of the contribution of local actors to safety and protection of people and the environment around nuclear sites. National Association of the Local Commissions of Information (ANCCLI) was created in 2000 and is aimed to help exchanges of experience and sharing of information between CLIs, to establish relations with national (ministries, ASN, HCTISN, IRSN...) and international organizations, to offer logistic support to the CLIs etc. An example of pluralistic expression in the post accident preparedness is creation of a WG «Post-Accident» where CLI and ANCCLI shared their questioning on urbanization, crisis, emergency plan, synergy nuclear/chemical risk. Emergency plan was developed and members of the CLIs participated as observers during the crisis exercise. The feedback from the participants were then submitted to the authorities and integrated in emergency plan.

ANCCLI and IRSN developed a tool (OPAL) to sensibilise local actors on post-accident issues: awareness of the consequences of a radiological accident. This tool provides maps which highlight the consequences of an accident on agriculture, drinking water network, school, populated areas, economic activities etc. It is important that stakeholders provide local information for the GIS and define local priority stakes. For example, the quality image of the vineyard and wine might be affected.

CLI and ANCCLI are involved in French authorities post accident initiative - CODIRPA, which is a French doctrine aimed to protect people against ionizing radiation, provide support to people affected by the consequences of the accident, reclaim areas affected economically and socially.

2. SESSION 2: Fukushima Experience – Presentations focusing on local stakeholder participation

2.1 Initial findings of the Fukushima Action Research on Effective Decontamination Operation (FAIRDO) in Fukushima.

Yoshiaki Totoki and Hiroshi Suzuki (IGES, Japan) presented a decontamination plan for the affected areas. The affected areas in Japan are divided into the categories according to the extent of the contamination. National government is responsible for cleaning up Special Decontamination areas – most affected areas within 20 km from NPP. Municipalities are responsible for decontamination of Intensive Contamination Survey Areas and hotspots. The decontamination has already been conducted in 77% of public areas and 50% of agricultural lands. However, it has been delayed in most of the households. FAIRDO aims at providing substantive inputs to the ongoing decontamination/remediation operations, reflecting the realities of local conditions for effective designing and implementation. Initial findings on decontamination showed number of difficulties in understanding decontamination process, decontamination technology, information sharing, participatory decision making, collaboration among municipalities, concerns about temporary storage sites.

Consensus building on future direction of rehabilitation through dialogue among local residents, municipalities, national government, scientists and expert is necessary and this is possible.

2.2 Feedback from the participants at the FAIRDO meeting, ISAP2012, Yokohama

Gilles Heriard-Dubreuil (MUTADIS, France) stressed that public authorities in Japan concentrate mainly on decontamination. However, in practice, total decontamination is hardly achievable and people will have to learn how to live with the contamination. Narrow reference criteria for relocation and compensation can cause a serious discrimination among inhabitants of the affected areas. It is important to adapt risk management policies to the complexity of the situation. Multiple issues need to be addressed (health and environment, but also social, economical, legal, ethical, political and cultural dimensions). Citizens in the Oguny Village have organized themselves to develop their own capacities to assess their radiological environment in order to regain control on their exposure and also in order to check the consistency of the public policies on decontamination and compensation. There is a wealth of the initiatives of this kind on territorial level and they should receive more support from the government. An ethical framework for the FAIRDO needs to be established.

Viktor Averin (RIR, Belarus) mentioned that there were no unified standards or coordination of work and each municipality decided on its own what to do. This led to confusion, social

unrest and incorrect evaluation of the decontamination effectiveness. It is important to develop criteria for decontamination and to provide people opportunity to have an independent control. For that, radiological centers can be created, where people can receive information and measure radiation dose in their body or foodstuffs free of charge. Individual monitoring devices can be given to representatives from the public to give people a real-life estimate on the doses they might be receiving. Experience shows that international assistance can be one of the ways to encourage trust of public, but, due to the cultural differences, one can't say if this would work in Japan.

Wolfgang Rasch (KIT, Germany) emphasized the need for proper tools. European handbooks can be used; simulation models can be adapted to Japanese conditions (need for public access to the existing information of decontamination experiments). Courses should be organized to teach users how to use the tools. Many questions can be answered by models, but limitations should be discussed.

Discussion after presentation:

- Handbooks and tools should be distributed on the local levels – they are the ones who'll be dealing with it.
- Farmers should be taught how to work on the contaminated land
- Do we have knowledge concerning production of rice on contaminated territories? Need for experiments to determine parameters for models, transfer parameters..

2.3 Impressions from a short visit in the context of the FAIRDO project

Eduardo Gallego (UPM, Spain) mentioned certain issues.

Optimization of decontamination:

- resources aren't unlimited
- zero contamination levels are not achievable

Role of compensation to affected populations:

- Why decontaminate household if people won't come back?

Ensuring acceptability of the locally produced food:

- reference levels for food need to be thoroughly discussed and thought through
- legal limit is just a technical number, it doesn't mean safe/unsafe

Radiation is only one side of the catastrophe that happened in Japan.

2.4 ICRP Fukushima dialogue initiative

Thierry Schneider (CEPN, France) presented how the dialogue has started with ICRP showing concern with the situation in Japan. This dialogue was aimed to show how the experience of ICRP can be adapted to the circumstances and help. All the information on the post-accident management was put into free access.

ICRP was the facilitator of the process, so they invited participants and observers and made dialogs open for media. During 2011-2012, four such dialogues were organized. First dialogue was mainly introductory, to get started. The dialogues after that concentrated on a localized problem of the Date city or on the more specific issues like management of foodstuff and education of young people.

Deborah Oughton (UMB, Norway) mentioned that

- it was suggested at the later dialogue meetings that the resilience of people participating in the dialogues had changed with time: emotional reactions changed from «worried and concerned», to «angry» and then to «ready to deal with the situation»
- there was a specific concern about how people from «outside» will treat their products, in many cases this was deemed more important than radiation risks to themselves
- the initiatives and actions of the affected populations showed great community spirit

2.5 Approaches to prioritizing decontamination strategies on external radiation doses in Fukushima

Wataru Naito (AIST, Japan) presented some previous work done by his institute which concentrated on risk assessment for chemicals only before the Fukushima. He gave a short comparison of Fukushima and Chernobyl and gave an overview over legal framework for decontamination in Japan. Decontamination process includes decontamination technologies, volume reduction technologies and storage of the contaminated material.

Problems of the ongoing decontamination:

- Effectiveness of risk reduction is unclear
- Limited stockyard spaces for contaminated soil
- Will people return to their homes? How many?
- Huge costs of the contamination. How long will it last and who will pay?

In order to develop remediation strategies for radiation contaminated areas on Fukushima, based on cost-effectiveness analysis including social and psychological aspects of evacuation or resettlement, project Prioritization had been started.

The project has showed so far that

- effectiveness of decontamination varies depending on the method, land-use and air-dose rate
- reduction factor (shielding/occupancy factor), “return ratio”, air dose rate and population density can be important factors affecting the prioritization of decontamination strategies.

2.6 Stakeholder involvement in decontamination operation in Fukushima

Takehiko Murayama (IGES, Japan) mentioned existing difficulties in communication of the radiation risks to people:

- different views on radiological health impacts with low doses (linear/non-linear dose-threshold relationship, loss of trust to the experts)
- changes of the standards after the accident (change in regulation of radioactive substances in food and water is difficult to understand for public, even in the crisis situation)

Activities within stakeholder involvement include regional dialogues on general issues (health risks, decontamination etc.), consensus-building on siting of tentative facilities for radioactive wastes generated by decontamination and explanation and consensus-building on decontamination of each house. Strategic Environmental Assessment approach has shown to be better in dealing with waste storage placement issues, compared to DAD style (Decide, Announce, Defend). Municipality officials realize the importance of the participatory process. Each group of stakeholders has its role in the process:

- Local municipality in Fukushima city coordinate the comprehensive plan, participate in construction of cooperative framework and take part in the local decontamination panel
- Local decontamination panel consists of community organizations and member of city council. They give suggestions on local situations and can request specific procedures
- Local residents participate in explanatory meetings on decontamination and in tripartite meetings (residents, municipality officials and contractors) for each house.

It's a learning process, there is often contrast between cases, but it gives experience. There is still a big gap between decontamination and safe levels of radiation, discussions on levels of reduction continue after decontamination. Cost and expenses are still unknown.

3. SESSION 3: Stakeholder Participation Processes – Knowledge Databases

Three short presentations on the topic were given prior the discussion.

3.1 Decision making processes and practices

Nadia Papamichail (The University of Manchester Boot Street East, UK) has presented that decision making process includes many issues:

- management (How to organize? Whom to invite?)
- people and skills (Do they have necessary skills? How do we teach them?)
- technology (Which tools do we use?)
- efficiency (How sustainable is the process? Would e.g. change of the government influence it's success?)
- information (Everything has to be put into context)
- outcome (How do we evaluate the result?)

The process of the decision making can be captured in the different ways: timeline, conceptual model, role-activity diagram.

3.2 A Knowledge Base to help build Good Practice in Stakeholder and Public Engagement

Simon French (University of Warwick, UK) stressed the need to move from exploratory action research to providing empirical basis, so stakeholder involvement and public participation processes can be designed as effective as possible. Knowledge base of existing experience has to be made in order to help choosing appropriate measures and assembling them into a process suitable for the purpose.

3.3 Nuclear or radiological emergency and post-accident recovery management and/or preparedness processes. *Criteria for Description and Assessment*

Gilles Heriard-Dubreuil (MUTADIS, France) proposed a list of criteria in order to facilitate

- a consistent description facilitating cross comparison
- an evaluation of the national processes considered in the NERIS activities

Criteria for process description include context, characterization of the process (stage of action, type of situation, actors involved, issues and dimensions considered), who did initiative come from, description of the process, methods, tools, resources, and expertise, outcomes of the process. Process evaluation criteria will help to assess successfulness of the process, roles of stakeholders, relations between stakeholders and framing of the issues, appropriation of emergency and post-accident recovery issues, resilience.

3.4 Group Discussion on Stakeholder Database

Discussion on Stakeholder Database

All the participants of the meeting were divided into three groups and given time to discuss a set of questions on the stakeholder knowledge database (for the list of participants in each group see attachments)

Questions addressed by the various groups:

1. Why and how to preserve the knowledge base of stakeholder engagement?
2. What elements need to be shared? What is meaningful? What is useful?
3. What is the goal?
4. Who is the audience?

Why?

The knowledge of experience needs to be preserved. People change jobs – valuable tacit experience is lost. The need is supported by available documents. The database should also enable a critical analysis and comparison of the different processes and procedures.

A structured form/template will/should:

- Enable comparisons to be made
- Allow evaluation
- Give a clear list of criteria so that people can see how their cases might fit
- Act as a source of reference if new processes are initiated
- Build a common culture and language at the local level – the database can also for them serve as an exchange of experience?
- Offer the opportunity to share experience on challenges, successes, lessons learned.

At the same time the template needs to:

- Recognise plurality in context and procedure
- Recognise flexibility, complexity, evolution

The ultimate goal would be to build societal resilience in the communities towards nuclear or radiological accident management. It is a societal challenge, not a research challenge on its own.

What should it contain? General Description

Basic and Organizational Information about stakeholder meetings: how many, how often, how long, cost

- Context –what, when, where, why, what questions, what issues, what background information existed?

- What methods and tools were used?
- What results were foreseen?

Possibly some “click on” criteria choices

What was the outcome? Process Evaluation Criteria

This needs to be more flexible. Perhaps with some guidance or examples,

- Who did the evaluation?
- How was it used in a wider process? Received by stakeholders, regulators etc.?
- Was there opportunity for evaluation by the stakeholders themselves?
- Did all the relevant actors participate? If no, why not?
- Did the outcome meet the initial objectives of the process?
- Did the process contribute to building common awareness of the reality at stake and the consequences?
- Did the process contribute to putting the consequences / earlier experiences in a wider context for a positive development of the society (long term decisions beyond the contamination management)?
- “In what way did it contribute to international interaction/harmonization?” – this is relevant both for early measures (like iodine tablets) and long-term measures (like changing food intervention levels).

General comments

- At what time does one evaluate? The responses will probably depend on who you ask and when.
- The key element is to create the conditions for dialogue, according to the context needed to adapt to the situation

Who is the target?

Different levels of access can be provided for different user groups.

Specific comments on context:

- Difference between accident/disaster (Fukushima vs. Europe)
- In Europe more an issue of planning (accident management and preparedness) and communication (also Europe’s reaction after Fukushima)
- The context needs to be made relevant to the process (e.g. scenario based activities)

Inclusion of other stakeholder engagements processes?

- Experience from not only nuclear field, also other environmental issues
- Other nuclear processes (e.g., waste repository, NPP, decommissioning)
- Chemical risk management more widely available
- Integrated approach – those engagement processes using these (e.g., emergency preparedness). But it was pointed out that Fukushima is an integrated approach (in a way): Earthquake, tsunami, nuclear accident (and now nuclear power and economic consequences)

Proposed references/sources

US: Database of decision-making process Polnat

Russell Bradford studies.

General Conclusion

- Common agreement on the need to get started on the process of database creation
- Merge the "G. H-D/French" document and the "S. French/UK" documents to a shorter, simpler, more straightforward intro document and template
- This should comprise a short introduction and outline, a basic template, and some examples; further details and guidance can be given in background information
- Once the template and two examples are completed, all NERIS partners can test by entering at least one example from their country.

NERIS WG2 MEETING: EMERGENCY PREPAREDNESS AND STAKEHOLDER PARTICIPATION

Mon 26th -Tue 27th November, Oslo

Mon 26th November

09:00-12:00 European National stakeholder experience

Presentations from NERIS participants on activities related to local stakeholder engagement

- Belorussian experience in communication with local stakeholders in tackling post-Chernobyl problems – *Viktor Averin*
- Local Stakeholder participation in Spain – *Eduardo Gallego, Milagros Montero*
- Involvement of pays de Montbéliard Agglomération in the preparedness of emergency situations - *Sandra Biguenet*
- About local stakeholder participation in the NERIS Working Group meeting: Norwegian Experience - *Inger Margrethe Eikermann*
- Local stakeholder participation in Slovakia – regional-local cooperation and improvement of local preparedness - *Tatiana Duranova*
- Progress of Post-accident preparedness in the French context: the contribution of the Local Commissions of Information (attached to nuclear installation) and their federation (The ANCCLI) - *Gilles Heriard-Dubreuil, Yves Lheureux, Valerie Demet*

12:30-14:00 Lunch

14:00-16:00 Fukushima Experience – Presentations focusing on local stakeholder participation

- Institute for Global Environmental Strategies, IGES, Japan – Governance and Local Resident Communication. Report from Workshop and Public Symposium. Outline and initial findings of the Fukushima Action Research on Effective Decontamination Operation (FAIRDO) in Fukushima - *Hiroshi SUZUKI*.
- Feedback from WP3 participation at the FAIRDO meeting, ISAP2012, Yokohama: *Giles Heriard Dubreuil, Viktor Averin, Wolfgang Raskob*
- Local Stakeholder participation in Japanese contaminated areas after Fukushima: Impressions from a short visit in the context of the FAIRDO project – *Eduardo Gallego*
- ICRP Stakeholder Dialogues. Summary of the three ICRP co-expertise local stakeholder dialogues on rehabilitation of living conditions after Fukushima, held in Fukushima prefecture, Nov 2011-July 2012: *Thierry, Astrid, Francois, Lavrans, Deborah*

- Risk Assessment Strategy Group, AIST, Japan. Approaches to Prioritizing Decontamination Strategies on External Radiation Doses in Fukushima - *Wataru NAITO, AIST*

16:00-16:30 General Discussion

Joint Dinner (sponsored by NERIS and UMB)

Tue 27th November

09:00-09:30 Fukushima experience – cont.

- Stakeholder involvement in decontamination operation in Fukushima - *Murayama TAKEHIKO, Hiroshi SUZUKI.*

09:30-10:00 Catalogue/database of stakeholder involvement methodology – *Simon FRENCH, Nadia Papamichail.*

10:00-11:30 Group Discussions

Focused discussions on key questions (based on the criteria for the CAT3 framework evaluation)

11:30-12:00 Feedback

12:00-13:00 Lunch

13:00-14:00 General brainstorming – development of tools, sharing of experiences, merging database and discussions from Monday including expectations and preparation of the NERIS Workshop on Stakeholder involvement 2014

14:00-15:00 Brief Information round

- Overview of NERIS activities
- Information on PREPARE
- NERIS Workshop on stakeholder involvement 2014
- ...

Departure: 16:00

Breakout Groups for Stakeholder Database Discussion

Attachment 2

Group 1	Organization and country
Herieard-Dubreuil, Gilles	MUTADIS, France CHAIR/RAPPORTEUR
Biguenet, Sandra	CEPN, France
Gallego, Eduardo	UNIVERSIDAD POLITÉCNICA DE MADRID, Spain
Hugon, Michel	European Comission, DG Research & Innovation, Belgium
Naito, Wataru	AIST, Japan
Suzuki, Hiroshi	IGES, Japan
Scheuermann, Walter	University of Stuttgart Institute of Nuclear Technology and Energy Systems (IKE), Germany
Sobolev, Oleg	BB-RBIC, Belarus
Liland, Astrid	NRPA, Norway SECRETARY
Group 2	Organization and country
Schneider, Thierry	CEPN, France CHAIR/RAPPORTEUR
Totoki, Yoshaki	IGES, Japan
Montero, Milagros	CIEMAT, Spain
Grimm, Christian	Ministry of the Environment, Climate Protection and the Energy Sector BW, Germany
Papamichail, Nadia	University of Manchester Booth Street East, UK
Frøvig, Anne Marie	NRPA, Norway
Charron, Sylvie	IRSN, France
Oughton, Deborah	UMB, Norway SECRETARY
Group 3	Organization and country
French, Simon	University of Warwick, UK CHAIR/RAPPORTEUR
Reaud, Cynthia	CEPN, France
Raskob, Wolfgang	KIT, Germany
Averin, Viktor	Research Institute of Radiology, Belarus
Lheureux, Yves	ANCCLI, France
Baude, Stefane	MUTADIS, France
Takehico, Murayama	IGES, Japan
Duranova, Tatiana	VUJE, Slovak Republic
Tomkiv, Yevgeniya	UMB, Norway SECRETARY
Eikermann, Inger Margrethe	NRPA, Norway SECRETARY