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NUCLEAR ENERGY AGENCY
COMMITTEE ON THE SAFETY OF NUCLEAR INSTALLATIONS

NEA/SEN/SIN/WGRISK(2008)2
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Working Group on Risk Assessment (WGRISK)

SUMMARY RECORD OF NINTH MEETING

Held from 5th to 7th March 2008 at the OECD Heaquarters, Paris, France

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9th CSNI Working Group on Risk Assessment (WGRISK) Meeting

Highlights and Summary Record

The 9th Meeting of the Working Group on Risk Assessment (WGRISK) took place March 5-7, 2008 at the OECD Headquarters, Paris. The following is a summary record of the meeting; all presentations and papers distributed before and during the meeting have been made available to participants on a CD Rom and are being uploaded in the WGRISK section of the NEA web site. Additional copies are available to NEA Members upon request to the Secretariat.

HIGHLIGHTS

A. Opening: Dr. Siu, WGRISK Chairman, welcomed the Delegates and recalled the tools of WGRISK work and the challenges distributed to the WGRISK members in January, 2008.

B. New WGRISK Secretary: Dr. Abdallah Amri was introduced as the new Secretary of the WGRISK.

C. Exchange of information: A round table was held in which delegates presented briefly the status of the use and development of PSA in their countries.

D. Summary Report on the Use and Development of PSA in NEA Member and non-Member Countries: Dr. Lanore will finalise by end of June 2008 the Summary Report as a Technical Note.

E. Reports on Activities in the Area of PSA by other International Organisations (IAEA, CEC, WANO, VVER RG Forum, WENRA, etc.): the Group noted that no representatives from the international organisations were present. Therefore, the Secretariat was asked to establish as soon as possible a list of contacts in these organisations (in particular IAEA and EC) in addition to those who are already members of the WGRISK with the objective to ensure better coordination.

F. Report by the Secretariat: the Secretariat presented an overview of the relevant CSNI and CNRA Working Groups, its actions since the October Bureau meeting and an overview of the updated web site. WGRISK members were requested to provide feedback to the Secretariat regarding the web site (e.g., draft documents, any other problems). As far as the WGRISK co-operation with other Working Groups is concerned, the WGRISK Chairman will meet with the WGOE Chairman after the June CSNI meeting in order to discuss the cooperation between the two groups. The Secretariat will confirm to the SM2A Group Chair the willingness of WGRISK to be involved from the beginning in the relevant SM2A activities and its proposal that Dr. Lanore and Dr. Dang participate in the SM2A June meeting.

G. Risk Criteria and Safety Goals: The Task Group Chairman, Philippe Hessel, presented the status of the Task. The WGRISK members noted that Philippe Hessel will prepare and will make a presentation on the Task at the May 2008 PSAM9 conference. Besides, a schedule for the preparation of the report to be ready by March 2009 was proposed. The Secretariat was requested to see what MDEP is doing in the

frame of safety goals in connection with the present task and to inform the WGRISK for better coordination. Furthermore, the Secretariat will request feedback from the project leads on the project outcome (e.g., how the report was actually used) 1-2 years after its completion.

H. Human Reliability Analysis Data: the Task group Chairman, Dr. Vinh Dang, provided a presentation on the status of the draft report on Human Reliability Analysis. It was noted that he would revise the draft report by end of March 2008, taking into account HRA Task group comments and Bureau comments and would circulate it in parallel to WGRISK and PRG early April, the target being to get PRG approval during its April 29-30 meeting. WGRISK members were requested to provide feedback on the report within 2 weeks of receipt.

I. PSA of other Off-Site External Events than Earthquake: Mr. Jorma Sandberg, Chairman of the Task group, reported on the status of the Task. It was noted that Mr. Sandberg and the Secretariat would send in September the draft report to the WGRISK for comments. The final draft will be submitted to the PRG for approval during its October meeting. No follow-up activity would be expected for this country specific task.

J. Low Power and Shutdown PSA Information Base: Mr. John Monninger provided a presentation on the status of the Task and the relevant 3 sub-tasks and associated questionnaires. Due to the fact that some member countries did not receive part or all the questionnaires, the Secretariat was requested to distribute again the 3 questionnaires only to the WGRISK members and to the relevant experts whom answers are expected by May 15th. The lead country (USA) for sub-task 1 and the Secretariat were requested to incorporate feedback into draft information base and to upload it on the WGRISK web site section. It is expected that the lead countries (Germany and Czech Republic) respectively for sub-task 2 and sub-task 3 will issue the relevant final reports in September 2008 for WGRISK approval.

K. Digital I&C Reliability: Mr. John Monninger presented the status of the task and raised the issue of the foreseen April Technical Meeting on Digital I&C Reliability which might have to be postponed due to the very few commitments to attend the meeting. The Secretariat was requested to send apologies to the registered persons in case the April Digital I&C Reliability Technical meeting has to be postponed. The WGRISK members were invited to reaffirm their commitment to the Digital I&C Reliability task and to identify experts to be core members for the Technical meeting.

L. Task on the Use of OECD Data Banks for PSA: Mr. Jean Gauvain provided a presentation on the Data Banks relevant for WGRISK. The issue whether these Projects, especially ICDE, are really using the events to quantify the likelihood of PSA events and how WGRISK may use the results was raised. The discussion led to call for better interaction with the Projects. The WGRISK Chairman, the Secretariat and members from Canada, France, Germany, UK and US will develop a proposal for increasing/improving interactions with the Projects (COMPSIS, FIRE, ICDE, OPDE).

M. PSA based events (PSAEA): Dr. Pieter de Gelder made an update about the recent and planned PSAEA activities organised annually by AVN since 1998. He will send the slides indicating ideas for a co-operation between WGRISK and WGOE in the area of PSAEA.

N. Technical discussion about Risk Informed In-Service Inspections (RI-ISI): 3 presentations on this topic were made by Kaisa Simola (VTT), Patrick O'Regan (EPRI) and Dominique Vasseur (EDF). They allowed the WGRISK members to have an overview on RI-ISI methodologies and illustrations of their application.

O. WGRISK New Activities: 3 new CAPS were proposed. The first one, dedicated to a Workshop on Implementation of Severe Accident Management Measures, was endorsed by WGRISK and will be sent to WGAMA for review and comments. The second and the third CAPS are respectively dealing with PSA for Non-Light Water Reactors and Risk informed Approach for Decommissioning and Waste Storage Nuclear Facilities. The delegates were requested to check their country interest in participating in the activity and to answer to the Secretariat. A possible cooperation with WGRNR and WGFCS respectively has to be checked by the Secretariat.

P. WGRISK Succession Planning: Based on a short presentation made by Mr. Versteeg, the WGRISK concluded on the necessity to feed the Group with young blood and to enlarge members participation to industry. Steve Collier was designated to coordinate this activity and the WGRISK members were invited to think to enlarge the participation of their countries to the industry.

Q. WGRISK Success Factors: Dr. Lanore recalled the success factors she identified in a proposal already distributed to the WGRISK by the Secretariat. The WGRISK Chairman invited again the Delegates to think more about the WGRISK success factors and the Bureau Members to discuss this topic at the next Bureau meeting. Besides, a request was addressed for volunteers to develop and lead efforts to obtain feedback on WGRISK products.

R. Technical discussion during the next WGRISK annual meeting: The Delegates reached the consensus on the topic "Use of PSA for cost/benefit analysis" to be the basis for the Technical discussion of the next WGRISK annual meeting. The Bureau was requested to identify a lead for this Technical discussion.

S. Next WGRISK annual meeting: The next WGRISK meeting is scheduled March 25-27, 2009, in Paris.

SUMMARY RECORD

GENERAL ITEMS

1. OPENING OF MEETING

1.1 Chairman's welcome

1. The Chairman, Dr. Nathan Siu, welcomed all the participants to the ninth WGRISK meeting in the Chateau de La Muette, Paris. He recalled the tools of WGRISK work and the challenges distributed to the WGRISK members in January, 2008.
2. On behalf the NEA Nuclear Safety Division, Mr. Alejandro Huerta, WGRISK Acting Secretary, introduced Dr. Abdallah Amri as the new Secretary of the WGRISK.
3. Dr. Amri informed the Group on regrets received from members not being able to be present for various reasons. The following temporary replacements were observed: Mr. Jean Primet replaced Mr. Vincent Sorel and Mr. Gabriel Georgescu replaced Mr. François Corenwinder for this meeting. One observer from Slovenia (Mr. Djordje Vojnovic) and two observers from the Chinese Taipei (Dr. Chun-Chang Chao and Mr. Chung-Kung Lo) participated to the meeting. The participants' list is attached to these minutes (Appendix).
4. Announcement on the WGRISK dinner was made. The participants were invited to confirm their attendance to the Secretariat.

2. ADOPTION OF THE AGENDA - NEA/SEN/SIN/WGRISK/A(2008)1

5. The Agenda [NEA/SEN/SIN/WGRISK/A(2008)1] was unanimously adopted with possible revisions if needed.

3. APPROVAL OF SUMMARY RECORD - 8TH WGRISK MEETING- NEA/SEN/SIN/WGRISK (2008)1

6. The Summary Record of the 8th WGRISK Meeting [NEA/SEN/SIN/WGRISK(2008)1] was approved.

WGRISK PROGRAMME OF WORK

4. THE USE AND DEVELOPMENT OF PROBABILISTIC SAFETY ASSESSMENT (PSA) IN NEA MEMBER COUNTRIES

4.1 Summary Report on the Use and Development of Probabilistic Safety Assessment (PSA) in NEA Member Countries

7. Following a request from the Bureau during its October 2007 meeting, Dr Lanore prepared a Summary of the Report on the Use and Development of Probabilistic Safety Assessment (PSA) in NEA Member countries and non-Member countries. A discussion took place about the nature

of the document to issue and at which frequency to update the CSNI report. The Group reached the consensus to issue the Summary Report as a Technical Note.

Action WGRISK 9-1*: Dr. Lanore to finalise by end of June the Summary Report on the Use and Development of PSA in NEA Member and non-Member Countries; this Summary Report will be issued as a Technical Note.*

4.2 National Reports on the Use and Development of PSA in NEA Member Countries

8. The Delegates were invited by the Chairman to briefly report on the use and development of PSA in their countries with emphasis on new issues, topics or updated information since the publication of the report on the Use and Development of PSA in NEA Member countries.
9. The following presentations were provided:

- Dr. Rowekamp informed the Group about the participation of Germany to the starting activities of the WGRISK Task Groups on Low Power and Shutdown PSA Information Base and Digital I&C Reliablity. There is a focus on the latter topic owing to the fact that old I&C will be replaced by digital one within the coming years. She mentioned also recent developments in Germany in the area of Human Reliability Analysis, especially effect of administration on human actions during incidents.

- Dr. De Gelder informed that Belgium is following 3 axis regarding PSA: first, there is an ongoing update of PSA level 1 in the frame of safety periodic review; for level 2 PSA, the work programme is defined; it will cover all the types of NPP and containment and will include source term analysis and Low Power and Shutdown states as well. There has been an important input from the WENRA RHWG Reference Levels for defining the future PSA programme. Dr. De Gelder noted also a higher involvement of the utility in PSA; some actions have been already taken such as training of staff on PSA content and objectives, and a reflexion is under way for new applications of PSA.

- Mr. Gheorghe reported the Canadian activity regarding PSA. He recalled the regulatory framework notably the finalisation of PSA guideline and a regulatory document for new design which has been issued for comments. As for PSA application, Mr. Gheorghe mentioned the Risk Informed application to CANDU reactors and the environmental assessment. He also informed about a 3 year project on ageing and on the Canadian participation to the ICDE Project and to the WGRISK DICREL and External Events PSA Task Groups. Mr. Gheorghe agreed to provide a list of the documents he was referring to.

- Dr. Yang reported on Risk Informed Periodic Inspection Programme dedicated to improve the existing periodic inspection through the incorporation into the regulatory inspection programme of risk information (insights from PSA and safety performance of NPP). The Risk Informed Periodic Inspection (RIPI) is being officially implemented as regulatory inspection for 8 units of Korean NPPs. As a next step of the RIPI, the inspection items and inspection resources will be adjusted at plant level according to safety performance of each NPP. The whole programme is scheduled to be completed by 2010.

- Mr. Lantaron informed the Group about the status of application and development of PSA in Spain: he reported that the structure of PSA development and use will include the

reference level of WENRA. As for PSA development, the latter is being completed notably by consideration of Low Power and Shutdown reactor states.

- Mr. Monninger presented an overview on how the NRC research programme supports the NRC efforts in risk-informed decision-making for reactors, materials and radioactive waste. These areas of research include technical basis development, quality standards, applications, methods, tools and data. The major accomplishments since March 2007 were highlighted.
- Mr. Sandberg provided a short presentation on current PSA activities in Finland related to Loviisa 1 and 2 and Olkiluoto 1, 2 and 3. Regarding Risk Informed In-Service Inspection (RI-ISI), while a Loviisa 10 year inspection programme will be soon submitted to STUK for review, the RI-ISI is in progress for Olkiluoto 1 and 2, and a methodology description has been submitted for Olkiluoto 3. As general information, Mr. Sandberg advised about the extensive updating of nuclear legislation, the plans for 2 new reactors at existing sites and about the new utility Fennovoima.
- Dr. Lanore recalled the situation in France with standardized PWR. As far as PSA is concerned, there are two teams (in EDF and in IRSN) working in parallel. She pointed out that the update of PSA is consistent with Periodic Safety Review. Level 2 PSA development is now in progress for 1300 MWe at EDF and at IRSN. For EPR, level 1 and Level 2 PSA are in progress at IRSN and at EDF; they will cover external events and Low Power and Shutdown (LPDS) reactor states. Dr. Lanore mentioned also the studies going on to support level 1 and level 2 PSAs; a future work on seismic PSA is foreseen at IRSN and an update of reliability data is expected at EDF. Regarding PSA applications, Dr. Lanore advised that the use of PSA is increasing; this concerns all current safety analysis issues and treatment of Beyond Design Basis Accidents. Comparisons of IRSN PSA are made in the frame of bilateral or multilateral cooperation with countries owning reactors of the same design. Lastly, she mentioned on-going activities at CEA with achievement of a level 1 PSA for gas fast cooled reactor in a preliminary design phase.
- Dr. Bareith addressed the ongoing review and update of the Nuclear Safety codes by the Nuclear Safety Directorate of the Hungarian Atomic Energy Authority (HAEA/NSD). These codes have to include, among others, the WENRA requirements. A new version of the Nuclear Safety Codes will be published in 2008 after review completion. As for the extension of the PSA scope, Dr. Bareith recalled that level 1 PSA of Paks NPP has been extended to include LPDS PSA for internal fires and internal flooding at unit 2, and LPDS PSA for seismic events at unit 3. He mentioned also that the scope of Level 2 PSA has been extended with an analysis of seismic events at full power operation and an update of the level 2 PSA has been started. An update of PSA reliability database has been performed and the new reliability database is to be included into the Paks PSA during the 2008 PSA update. As PSA applications, Dr. Bareith mentioned the PSA use by Paks NPP in support of the periodic safety review of Paks NPP which was submitted to HAEA/NSD last December. On the other hand, PSA based event analysis has been continued in support of regulatory activities. Lastly, he mentioned the plant specific risk monitor which is under development for Paks NPP.

- Dr. Burgazzi advised that the ENEA in Italy is active in the areas of reliability of passive systems (notably in the case of natural circulation) and ageing PSA which started in 2007 and which is expected to be completed in 2009. He mentioned also the participation of Italy to the EC PSA level 2 project coordinated by IRSN and involvement in the TACIS programme (Kola and Medzamor NPP PSA) and EPR. Mr. Bassanelli completed the information by the activity undertaken for facilities decommissioning and informed that a CAPS on Risk Informed Approach for Decommissioning and Waste Storage Nuclear Facilities will be proposed at item 19 of the agenda (WGRISK new activities).
- Dr. Fukuda presented the status of the standards of levels 1, 2 and 3 PSAs, the standard for parameter estimation for PSA and standard of PSA for seismic events during rated power operation, the latter having been published in March 2007. He informed that the standard for level 1 PSA for internal events during reactor shutdown is being revised. He pointed out that the standard of PSA for seismic events covers identification of containment failure scenarios caused by earthquakes. Level 2 seismic PSA can be conducted by combined use of this PSA standard level 2 PSA standard for internal events.
- Mr. Lopez discussed adaptation of US NRC guides and updating the regulatory level 1 PSA in Mexico. The utility is asking for extension of power level which motivated the Mexican safety authority to participate actively to the CSNI Task Group on Safety Margins Application and Assessment (SM2A). Mr Lopez recalled that his organisation is also taking part in the LPSD Task Group.
- Mr. Collier advised about the tests on HRA methods conducted in the frame of the OECD Halden Reactor Project. He also informed about the upcoming Enlarged Halden Programme Group Meeting which will be arranged in May 2008 in order to promote dissemination of the results of the Halden Project research activities.
- Mr. Versteeg informed the Group about the development of safety goals for large research reactor in Petten.
- Dr. Husarcek addressed the utility request of power increase. He also informed about the regulatory body approval of risk informed decision in the Slovak Republic.
- Mr. Patrik discussed the status of PSA programme in the Czech Republic; he mentioned the HRA revision as well as risk-informed in-service inspections, risk-informed decision making guide. He addressed also the harmonisation of low power and shutdown VVER PSA which is underway as well as the discussion on the implementation of on live maintenance.
- Ms. Ana Gomez Cobo reported about the regulatory evaluation of new reactors (AP1000, EPR and ESBWR) in the UK. Information on this can be found in http://www.hse.gov.uk/newreactors/index.htm. She also addressed the guidelines and standards developed or being developed in the United Kingdom. In this frame, she mentioned that a revised PSA Assessment Guide will soon be available on HSE's web page and that the development of a Severe Accident Assessment Guide is currently under progress. She also reported that work on level 3 PSA is being undertaken in cooperation with the Health Protection Agency (formerly called NRPB).

- Mr. Schoen informed the Group that two PSA guidelines "Scope and Quality of a PSA" and "PSA applications for NPPs" are currently revised after they have been submitted for public comments.. He also informed about the discussion going on in Switzerland about new NPPs and that HSK has formed a small group in order to be prepared for the applications. Dr. Dang completed the reporting by mentioning the participation of PSI to the CSNI Task SM2A.
- Mr.Vojnovic provided short information on the update of the PSA of Krsko NPP in order to take into account new seismic data. He also mentioned the start of using PSA tool as information basis for inspection.
- Dr. Chao gave a short presentation on PSA related activities in the Chinese Taipei. As main points, he informed that the risk profile was checked and that the external events will be included in the PSA during the next three coming years. He also informed that INER developed a user friendly computer tool for utility to check if the risk profile of maintenance schedule meets the requirements of maintenance rule. In addition, the Significance Determination Process (SDP) tool will be extended for regulatory body to include the external events and refueling outage.
- These presentations were followed by a discussion based on questions-answers by the delegates.

5. REPORTS ON ACTIVITIES IN THE AREA OF PSA BY INTERNATIONAL ORGANISATIONS

10. Here, members and/or Observers from International and other organisations were invited to present a brief update about their current and planned activities.
11. However, for different reasons, no representative from the IAEA nor from the EC or from WANO was present.
12. Dr. Burgazzi, participant to the IAEA activity on the Passive Systems Reliability, provided information on the status of this activity. He mentioned that ten countries are participating to this activity which is mainly focused on natural circulation and related systems; the reliability being a small part of it. The activity is scheduled to finish in 2008; however, a follow-up of 2-3 years will be dedicated to the reliability of passive systems related to natural circulation. Several reports were issued and an IAEA workshop on Natural circulation was recently organised in Trieste, Italy.
13. Information was also given on the Project of EC/JRC on ageing. This Project involves 17 countries and includes 7 tasks related to active and passive components. The Project was conducted through case studies and workshops, the last one was organised in Budapest.
14. Dr. De Gelder informed the Group about WENRA RHWG activities of interest for WGRISK.
15. The Group noted that no representatives from the international organisations was present and discussed the importance of such participation to the WGRISK annual meeting for better coordination.
16. Dr. Lanore recalled the call for information about various international bodies dealing with WGRISK like activity. She recommended to take the Spanish answer as a good example and to complete the information by giving a contact person for each item.

Action WGRISK 9-2*: the Secretariat to establish as soon as possible a list of contacts in these organisations (in particular IAEA and EC) in addition to those who are already members of the WGRISK with the objective to ensure better coordination.*

6. REPORT BY THE SECRETARIAT

17. Dr. Siu recalled the WGRISK Integrated Plan and its link with the CSNI Safety Topics and Issues. The current version of this Integrated Plan is uploaded in the WGRISK web site section.
18. Dr. Amri provided a detailed presentation on the ongoing activities of the CSNI and its relevant Working Groups. A similar presentation was made for the CNRA activities. The December 2007 CSNI-CNRA Joint Workshop on the Role of Research in a Regulatory Context was also addressed.
19. Mr. Huerta completed the presentation about MDEP through details related to the designs (AP1000 and EPR) considered and the issues (standards, I&C, etc.) discussed in the frame of the stage 2 of MDEP.
20. The WGRISK Chairman emphasized the importance of the cooperation between WGRISK and the relevant CSNI and CNRA Working Groups. In this respect, the Chairman informed about the meeting he intends to have with the WGOE after the next CSNI meeting.
21. The Group then discussed the cooperation with other Working Groups for activities of common interest. Dr Lanore pointed out the need for WGRISK to be involved at the beginning of the activities of the SM2A Task Group due to the role of PSA in the application of safety margins method. It was concluded that WGRISK should be continuously informed in order to avoid overlaps with other Working Groups and for better coordination and possible contribution.

Action WGRISK 9-3: *The Secretariat to inform the WGRISK on the ongoing activities of the other relevant Working Groups in order to avoid overlaps, to establish better coordination and possible contribution of WGRISK. In particular, the Secretariat should confirm to the SM2A Group Chair the readiness of WGRISK to be involved in the relevant SM2A activity from the beginning. WGRisk proposes that Dr. Lanore and Dr. Dang participate in the SM2A June meeting.*

7. PROBABILISTIC RISK CRITERIA AND SAFETY GOALS [TASK 2006-2]

7.1. Report on the status of the Task

22. Mr. Hessel reported about the results of the meeting of its Task group held March 3-4, 2008. He recalled the aim of this task, the results of the first meeting (March 2007) and of the second meeting (November 2007) which was coupled with the seminar on NKS project held in Stockholm.
23. Before the March 3-4, 2008 meeting, Mr. Hessel prepared a compilation of the answers received to the questionnaire sent in May 2007 to all OECD/NEA member countries and to IAEA. During the Task group meeting, the participants worked out and discussed this compilation in order to draft a detailed structure of the final report. This structure will include a section dedicated to open issues such as late releases, small releases and use and band criterion and uncertainty. The report will include two appendices, one for the referenced documents and the other one for the compilation of the received responses.
24. Looking ahead, steps are to be taken by the lead organisations of the Task: the CNSC of Canada, VTT of Finland and Relcon of Sweden in order to clarify with the respondents pending questions, to agree on the first draft mid September 2008 and to send it to the respondents by

end of September 2008. The comments of the respondents are expected before or at the Task group November meeting.

25. The final report is scheduled to be submitted to the WGRISK during its March 2009 annual meeting. Moreover, a presentation on the Task will be provided at the May 2008 PSAM9 conference which includes a session on Probabilistic safety criteria. Mr. Hessel was asked to provide a copy of the paper to the Secretariat.

7.2. Discussion and decisions

26. The WGRISK discussed the status of the Task on the Probabilistic Risk Criteria and safety Goals with the following highlights:

- The task is on track;
- There was a good participation and good discussion at the March 3-4, 2008 meeting;
- However, the countries which did not respond to the questionnaire are invited to respond to it;
- It would be useful to see what MDEP is doing in the field of Probabilistic Risk Criteria and Safety Goals;
- The paper to be presented to PSAM9 conference should be sent to the Secretariat.

Action WGRISK 9-4: *The Secretariat was requested to see what MDEP is doing in the frame of safety goals in connection with the present task and to inform the WGRISK for better coordination. Furthermore, the Secretariat will request feedback from the project outcome (e.g., how the report was actually used) 1-2 years after project completion.*

8. HUMAN RELIABILITY ANALYSIS DATA [TASK 2002-1]

8.1. Report on the status of the Task

27. Dr. Vinh Dang, Task Group Leader, recalled the objective of the Task and presented the status, plan and schedule for completion of the Task 2002-1: basic recommendations summarized and presented during the last WGRISK meeting; the completed draft report on "HRA Data and Recommended Actions to Support the Collection and Exchange of HRA Data and Information" to be submitted to the PRG for approval; the follow-up Workshop on Use of Simulators for HRA Purposes, and a possible subsequent OECD/NEA project which the organizational aspects of framework may be based on OECD/NEA data projects such as ICDE, FIRE, COMPSIS, OPDE.

28. It is expected to complete Task 2002-1 in 2008 and get approval for the proposed follow-up. As a first step, the draft report has to be revised by end of March 2008 and to be circulated in parallel to WGRISK and PRG for comments, then to finalise for CSNI approval. In a further step, CAPS for a Workshop to be hosted by VEIKI (Hungary) in 2009 has to be prepared for CSNI PRG approval.

29. The high-level conclusions of the draft report "HRA Data and Recommended Actions to Support the Collection and Exchange of HRA Data and Information" are:

- there is an agreement on main HRA data needs;
- we should initially focus on simulators as source of HRA data;

- there is an interest in collecting and exchanging data; however, we need to specify the data that will be collected and exchanged, the organisation of the collection and the exchange, the expected benefits and the dedicated resources;
- the report on "HRA Data and Recommended Actions to Support the Collection and Exchange of HRA Data and Information" addresses these issues through a set of findings and recommendations;

8.2. Discussion and decisions

30. Following Dr. Dang's presentation some questions were asked. These questions addressed mainly the representativeness of the stress by simulator data and the usefulness of the data for gas cooled reactors.

Action WGRISK 9-5: *Dr. Dang to revise the draft report by end of March 2008, taking into account HRA Task Group comments and Bureau comments and would circulate it in parallel to WGRISK and PRG early April, the target being to get PRG approval during its April 29-30 meeting. WGRISK members were requested to provide feedback on the report within 2 weeks of receipt.*

8.3. Presentation on the International HRA Empirical Study

31. Dr. Dang was invited by the WGRISK Chairman to provide a presentation on the International HRA Empirical Study dedicated to assess HRA methods using simulator data. A number of the organizations represented in WGRisk and the OECD Halden Reactor Project participate in this study. During his presentation, Dr. Dang addressed the motivation of the study, its overall aims and tasks, its methodology, the structure of the dedicated international team and the roles of each of its four groups. He then reviewed the results to date with a focus on the work performed in 2007 (phase 1) and the expected work to be performed in 2008-2009 for phases 2 and 3.
32. The Group discussed the presentation with the following insights:
    - Is it possible to quantify human actions probabilities in the different methods? Dr. Dang replied that the comparison of the HEPs produced by the different methods against the simulator data, i.e. the comparison on a quantitative level, was not in the scope of Phase 1 and is on-going work that will be reported in 2008/2009.
    - Is there a real progress in comparing the described methods on the basis of numerical estimations? According to Dr. Dang, some comparison of the numerical results across methods has been done; this first look shows that there has been success in reducing the variability across methods compared to some earlier benchmarking studies, in part through the efforts to maintain consistent assumptions among the HRA analysis teams. Before publishing these comparison results, the study team is waiting for the completion of the on-going phase, in order to ensure that the conclusions are based on a larger, more representative set of HFEs.

9. PSA OF OTHER OFF-SITE EXTERNAL EVENTS THAN EARTHQUAKE [TASK 2006-1]

9.1. Report on the Status of the Task

33. After a recall of the objective and the deliverable of the Task 2006-1, Mr. Sandberg reported about the results achieved so far by the Task group which met for the second time on March 3, 2008.

34. A questionnaire on External Events PSA (EE PSA) was distributed at the end of June 2007. It included 4 groups of questions (regulatory requirements and current status, definition of external events PSA, analysis methods and results and applications). The questionnaire which was distributed to regulatory bodies or TSOs received 12 answers by October 2007 from Belgium, Canada, Chinese Taipei, Finland, France, Germany, Japan, Korea, Mexico, Slovak Republic, Switzerland and USA. A couple of additional questions for clarification will be sent to those who responded to the questionnaire.

35. During the March 3, 2008, reporting was provided by the Chinese Taipei, Finland, France, Germany and USA. The preparation of the Task report started already and a discussion took place on its structure and content which was presented to the WGRISK. It is expected that a draft of task report would be submitted in September to WGRISK for comments, and then a final report will be submitted in October for PRG approval.

36. The answers to the questionnaire have been also reviewed and preliminary conclusions have been drawn:

- There is a clear trend towards full scope PSA, including External Events in regulatory requirements;
- Only a few countries have developed PSAs with a wide spectrum of External Events;
- The definition of EE PSA itself can be different from country to country, though standards and guides are available (ANS, IAEA);
- The role of EE PSA varies: some countries have detailed deterministic requirements for External Events; other have only general deterministic requirements for External Events and EE PSA has a more important role in the regulatory process requirements;
- Only a few reported cases of severe problems identified with EE PSA; it is noted that climate change and variability may affect the assumptions of PSA (e.g., change of precipitation and storm intensity affect flood heights);
- As possible recommendations, the Task group noted that due to the wide spectrum of external hazards with local/regional character, there is no need for an immediate new project within the OECD/NEA. It is recommended in a first step to best handle the EE PSA by local experts/authorities, to follow research on climate change and to re-evaluate the situation in a few years taking into account operating events due to External Events.

9.2 Discussion and decisions

37. During the discussion, the WGRISK Chairman who participated to the Task group meeting on March 3, 2008 highlighted the good participation and the quality of the discussion. Dr. Lanore raised the question whether an improvement of the analysis methods and a better consideration of event correlation could lead to different conclusions, in terms of risk.

Action WGRISK 9-6: *Mr. Jorma Sandberg to send in September the draft report to the WGRISK for comments. The Secretariat to submit the final draft to the PRG for approval during its October 2008 meeting. No follow-up activity would be expected for this country specific task.*

10. LOW POWER AND SHUTDOWN INFORMATION BASE [TASK 2007-1]

10.1 Report on the Status of the Task

38. Mr. Monninger reported on the status of this recent task. He recalled the objective of this task dedicated to create an information base and to report the state of the art on important questions related to risk analysis methods for addressing Low Power and Shutdown (LPSD) states in nuclear power plants. He informed about the Planning meeting held in October 2007 which addressed the 3 sub-tasks:

    - sub-task 1: create an information base for LPSD initiating events, with the lead of the USA;
    - sub-task 2: prepare a report on analytical models and methods addressing the special needs of LPSD PSAs, with the lead of Germany;
    - sub-task 3: collect and share information on how PSAs deal with human-caused initiating events, with the lead of Czech Republic.

39. Mr. Monninger recalled the milestones and the expected deliverables. Then he provided the detailed status of each of the 3 sub-tasks and invited the member countries to respond to the questionnaires of sub-tasks 1, 2 and 3 by May 15th, with the possibility of a meeting in June 2008. It is expected that for sub-task 1 feedback will be incorporated into draft information base late May to be uploaded on the web; for sub-tasks 2 and 3, final reports should be submitted in September 2008 to WGRISK for approval.

10.2 Discussion and decisions

40. During the discussion, some concerns were pointed out. Dr. Lanore underlined that the sub-task 1 questionnaire leads to consider experience feedback LPSD initiating events and not, as it should be, to consider LPSD initiating events used in PSA development. Moreover, a possible overlap may occur in sub-tasks 2 and 3. Lastly, for different reasons, some member countries did not receive the questionnaires.

Action WGRISK 9-6: *The lead country (USA) for sub-task 1 and the Secretariat to incorporate feedback into draft information base and to upload it on the WGRISK web site section. The lead countries (Germany and Czech Republic) respectively for sub-task 2 and sub-task 3 to issue the relevant final reports in September 2008 for WGRISK approval.*

11. DIGITAL I&C RELIABILITY [TASK 2007-2]

11.1 Report on the Status of the Task

41. Mr. Monninger reported also on the status of the Task 2007-2 dedicated to the Digital I&C Reliability. He addressed the objectives, the scope and the milestones of the Task which should be completed by end of 2008, with possible follow-on tasks conditional upon the outcome of the present one.

42. As for the recent progress of the Task, Mr. Monninger recalled the October 2007 Planning Meeting and its outcomes. This meeting held in the US NRC Offices was dedicated to layout the framework and expectations for the Technical Meeting supposed to be held in New-York in April 2008. Participants from Belgium, Canada, France, Germany, Korea, United Kingdom and USA discussed probabilistic models of digital systems, identification of failure modes of the components of these systems, quantification of these models, application of the resulting risk information for decision making and identification of technical areas for further research and development.

43. As for the current status, Mr. Monninger recalled that the Planning meeting minutes have been distributed and uploaded in the web page established in January for Digital I&C activity. Moreover, an invitation to the April Technical meeting and additional information were provided to WGRISK members and uploaded in the web page in February 2008. However, it has to be pointed out that though the Task is felt interesting, there are so far a few commitments from the members countries to participate to this Technical meeting at the scheduled dates and place.

11.2 Discussion and decisions

44. Some member countries (notably Canada, Czech Republic, France, Germany confirmed that they are intending to send experts to the April Technical meeting. Other expressed their concern about the date and place of the meeting which make it difficult to find the relevant resources for an efficient participation.

45. The WGRISK then discussed the possibility to keep the April Technical meeting or to postpone it and to agree on another place to hold it. The US NRC, in charge of the organisation of the meeting, will check internally the side effects (hotel and meeting room cancellation) of cancelling the April meeting. In case of meeting postponement, an action has to be taken to apologize for the experts already committed to participate to that meeting.

Action WGRISK 9-7: *The Secretariat to send apology to the registered persons in case the April Digital I&C Reliability Technical meeting has to be postponed. The WGRISK members to reaffirm their commitment to the Digital I&C Reliability task and to identify experts to be core members for the Technical meeting.*

FOLLOW-UP TASKS AND SIMILAR WGRISK ACTIVITIES

12. TASK ON THE USE OF OECD DATA BANKS FOR PSA

12.1 Situation with the projects

46. Mr. Gauvain provided a clear overview of the projects relevant to the WGRISK activities, namely Fire Incident Records Exchange Project (FIRE), International Common Cause Data Exchange Project (ICDE), Piping Failure Data Exchange Project (OPDE) and Computer Based Systems Database (COMPSIS).

47. For each project, he informed about the member countries, the objectives and main results with examples of data and the reports and publications issued so far. He pointed out the fact that the results are only available for the countries which paid for. However, there are related CSNI reports but the included data is not sufficiently detailed for quantification. For the special case of FIRE, Mr. Gauvain provided a demonstration on how to use the data.

12.2 Discussion and decisions

48. The WGRISK Chairman opened the presentation for discussion. Several questions were asked to Mr. Gauvain on the possibility to get data. The main concern was how the data could be used by the WGRISK. Dr. Lanore underlined that it is really possible to use ICDE work for quantification purposes but asked which team (ICDE or WGRISK) would perform the work?

49. There were suggestions to report to CSNI on this issue. Others recommended to first discuss it with the Projects Chairmen. Dr. Siu asked for volunteers to develop a proposal aimed at enhancing the interactions with the Projects relevant to WGRISK activities; volunteers from Canada, France, Germany, United Kingdom and USA agreed to participate to this task.

Action WGRISK 9-8: *The WGRISK Chairman, the Secretariat and members from Canada, France, Germany, United Kingdom and USA will develop a proposal for increasing/improving interactions with the Projects (COMPSIS, FIRE, ICDE, OPDE).*

13. PSA BASED EVENT ANALYSIS

50. An update was given by Dr. De Gelder about the recent and planned PSAEA activities by AVN. PSAEA meetings are organised annually by AVN since 1998, and many organisations from WGRISK member countries are actively taking part. The last meeting was organized on 8-9 November 8-9, 2007 in Brussels. The next meeting will be organised on November 5-7, 2008.

51. National case studies are always presented during the PSAEA meetings, but there also is always a specific methodology issue. During the November 8-9, 2007 meeting, the idea was to engage the CNRA WGOE to support a specific topic of deterministic (causal study) and probabilistic event analysis. Precursor analysis is a potential linking topic between the groups. Dr. Pieter De Gelder will send the slides indicating ideas for a collaboration between WGRISK and WGOE in the area of PSAEA.

14. PSA STANDARDS

52. Here, member countries were asked if they had anything new to present apart from what they had reported under item 4.2 of the agenda. Country PSA standards are developing and the WGRISK could have a view about technical questions related to standards.

53. Mr. Monninger informed that a revised ASME standard which includes fire is under comments and would be completed by December 2008. Moreover, ASME and ANS expressed the wish to develop a standard on new reactors and advanced reactors. Concerning PSA, ANS issued a standard which is under trial by some utilities. In addition, NRC is working with ASME and ANS to develop training courses on standards.

54. Mr. Raimond mentioned the EC project ASAMPSA2 (www.asampsa2.eu) that aimed at developing guidelines for PSA level 2. This project involves 21 organisations from 13 countries. Two workshops will be organised: one in October 2008, the other one at the end of the project.

15. PSAM 9 AND ANS PSA 08

55. Dr. Siu informed the Group about PSAM9 to take place in Hong Kong in May 18-23, 2008. Several full papers have been submitted: "WGRISK and PSA: Past, Present, and Future" prepared by Dr. Siu and to be presented by Dr. Lanore; "Criteria for Assessment of Results from Level 2 PSA" prepared by Dr. Holmberg et al., "Safety Goals – Results from the COOPRA project", and "WGRISK Task on Safety Criteria" submitted by Mr. Hessel.

56. The International Topical Meeting on Probabilistic Safety Assessment and Analysis will take place September 7 - 11, 2008, Knoxville, TN, USA. Some WGRISK persons are expected to participate to this meeting and to present WGRisk activities.

16. OTHER INTERNATIONAL MEETINGS/ACTIVITIES RELEVANT TO WGRISK

57. During its October 2007 meeting, the WGRISK Bureau invited WGRISK members to send to the NEA Secretariat information about various international bodies dealing with the WGRISK activities based on format to be prepared by Dr. Lanore. Dr. Lanore prepared that format and made a call which was distributed to the WGRISK members on February 20th. At the date of the 9th WGRISK annual meeting, only two replies were received from IRSN and from the Spanish CSN.

58. IRSN sent an information sheet which describes its participation as Coordinator to the Project ASAMPSA2 (Advanced Safety Assessment Methodologies: Level 2 PSA) within Euratom Seventh Framework Programme. The sheet provides the list of the 21 partners and the schedule, as well as a short summary of the Project. The objective of this coordinated action is to develop best practice guidelines for the performance of Level-2 PSA methodologies with a view to harmonization at European Union level and allowing a meaningful and practical uncertainty evaluation in level 2 PSA. The web site of the project (www.asampsa2.eu) was also provided.

59. The information sheet sent by CSN describes its participation to the SARNET Working Package 5 on Level 2 PSA and advanced tools, to SMAP (Safety Margin Action Plan) and SM2A, to Open-PSA which is an open initiative for Next Generation of Probabilistic Safety Assessments, and to the International technical meeting on risk-based precursor analysis (see Paragraph 50). For each group, the name of the group, the participation, the objectives and scope, the schedule and status, and references are given.

60. The WGRISK Chairman encouraged the other members to send the relevant information to the Secretariat; this information which will be uploaded in the related WGRISK web site section will help for better coordination and visibility of the Group.

17. WGRISK TECHNICAL DISCUSSION 2007 – RISK INFORMED IN-SERVICE INSPECTIONS

17.1. Introduction of the Technical discussion

61. Due to the unavailability of Mr. Holló who could not attend the 9th WGRISK annual meeting, Mr. Huerta introduced the technical discussion since he coordinated for some time the participation of the contributors to this discussion. He recalled the WGRISK Bureau decision during its October 8-9, 2007 meeting to consider Risk Informed In-Service Inspections (RI-ISI) as the topic for the 2008 WGRISK Technical discussion. The focus is to highlight difficulties and experience with risk informed methods and the methodological side in the light of RISMET. He welcomed Mrs. Kaisa Simola, from VTT and Chairperson of RISMET, Mr. Patrick O'Regan from EPRI and Mrs. Dominique Vasseur from EDF who were invited to provide presentations on Risk Informed In-Service Inspections to be the basis for the Technical discussion.

17.2. Presentations

62. Mrs. Simola provided an overview on RI –ISI methodologies and applications. She recalled that RI-ISI aims at rational in-service inspection management by taking into account the results of plant specific risk analyses through identification of high-risk locations where the inspection efforts should be concentrated. Then she addressed the status of the RI-ISI applications in

different countries, with a focus on the USA, and mentioned some RI-ISI pilot studies and activities going in less extent in other countries such as France, Czech Republic, Ukraine, Switzerland, Sweden, Lithuania, Japan and Chinese Taipei. Then , Mrs Simola illustrated differences in RI-ISI applications and methodologies through the EPRI methodology, the Westinghouse PWROG methodology, the Code Case N 716, the EDF OMF Structures methodology, the Swedish SKIFS 1994:1 methodology (which does not use PSA), and the DNV/NURBIT pilot study used in Sweden and Lithuania. Mrs Simola completed her presentation with information on International RI-ISI activities, NEA/JRC coordinated Benchmark Study on RI-ISI Methodologies (RISMET) and on the European Network for Inspection and Qualification (ENIQ).

63. Mr. O'Regan provided a presentation entitled "Risk Informed ISI- Practical Considerations". He started by recalling the EPRI RI-ISI mission, that is to develop a RI-ISI Expert Process, technically robust which can be consistently applied and capable to minimize impact on plant resources. Then he gave statistics on USA plants concerned by RI-ISI methodology in which EPRI methodology is used in about 80% of the USA nuclear power plants. The RI-ISI Process and the associated Risk Evaluation Matrix (Consequence evaluation/ Failure potential assessment) were commented in detail by Mr. O'Regan who then went through the practical considerations in using EPRI methodology: he detailed the parameters and input considerations to make consequence evaluation and the degradation mechanism and criteria as for failure potential evaluation. The presentation was then completed by considerations about Risk ranking and inspection population, and regulatory review and approval.

64. Mrs. Vasseur presentation was entitled "OMF-Structures: A Maintenance Optimization Procedure for Structural Components in Nuclear Power Plants". The OMF-Structures method is aimed at optimizing preventive maintenance for pipes and supports with regard to the safety and the availability of the plant, and maintenance costs. She then provided an overview of the method which includes 3 parts: first part is the evaluation of stakes where the consequence evaluation (severe or very severe failure modes) is made on the basis of PSA or Operation analysis. The second part is dedicated to Performance evaluation with reliability indicators as output. The outputs of the first and the second parts are used as inputs at component level to perform criticality analysis in order to define critical failure modes and to select Preventive maintenance programmes, Corrective maintenance or Modifications. Then, Mrs Vasseur explained in detail the methods used for identification of safety severe and very safety severe failure modes, analysis of degradation mechanisms, and pipe segment element safety criteria assessment. She illustrated the OMF-Structures by a pilot study on 900 MWe feed water system. She concluded by giving other OMF-Structures based Preventive Maintenance Programmes and perspectives for 900 MWe and 1300 MWe Nuclear Power Plants.

17.3. Discussion

65. The Group discussed the presentations with focus on the following topics and insights:

- Influence of the quality of the PSA on the RI-ISI applications?
- The question on this influence cannot be answer now since the results are still under analysis;
- Influence of the NRC Guide 1178 on the EPRI method as for the development and justifications?
- There is obviously an impact of the NRC Guide 1178 on the EPRI method development and justifications;

- Use of the Risk evaluation matrix for segment, including or not welds, and for welds;
- The Workshop on Risk Informed Piping Integrity Management which will take place in Madrid, June 2-4, 2008.

66. Dr. Siu thanked very much Mrs. Simola, Mr. O'Regan and Mrs. Vasseur for their presentations and for the exchange with the WGRISK members and closed this technical discussion.

WGRISK PROGRAMME OF WORK IN 2008 AND AFTER

18. WGRISK PLANNING

67. Dr. Siu reviewed the current WGRISK programme of work and the long term framework given by the CSNI and CNRA Operating Plans. He went through the revised version of the CSNI Safety Issues and Topics (SITs) and provided insights on how to use the SITs, how to see if the activities of the WGRISK fit with them and how to extract from the SITs actions for WGRISK .

Action WGRISK 9-9: *The Secretariat to prepare by end of April a template, based on the CSNI Operating Plan, for submission of proposals to the CSNI.*

68. Concerning the WGRISK Integrated Plan, Dr. Siu recalled that it is a Working Group level document which does not require CSNI approval. However, the Integrated Plan should contain the information necessary for the PRG to monitor the working group activity status and progress. Currently, the WGRISK Integrated Plan is still considered as a draft which might require some corrections.

Action WGRISK 9-10: *The Secretariat to check the corrections and to discuss if the current draft should be taken at a final document.*

19. WGRISK NEW ACTIVITIES

69. Here, the WGRISK members were invited to propose new activities relevant to WGRISK and consistent with the CSNI SITs.

19.1. CAPS of the Workshop on Implementation of Severe Accident Management (SAM) Measures

70. The proposal was presented by Mr. Monninger. The related CAPS is aimed at updating the common understanding of severe accident management measures and their treatment in risk assessments, the previous Workshop on the topic having been held 7 years ago. Though the CAPS has been prepared under "WGAMA activity", WGRISK is concerned since the Workshop is meant to provide a focus on Severe Accident Management measures in the context of PSA. The deliverable will be the publication of the proceedings of the Workshop which is proposed to take place in September 2009.

71. The WGRISK discussed the proposal with the following insights:

- The proposal makes reference to the measures implemented following September 11, 2009;
- United Kingdom, Canada, Switzerland, France, Hungary, Spain and Korea expressed their interest to participate in this new activity; however, some of the representatives have to check at home and to confirm;
- Japan is also interested and suggested to include a session dedicated to the reliability of equipment during Severe Accidents; this addition will be possible when the agenda of the Workshop will be prepared;
- Dr. Amri advised to submit the CAPS under a common WGAMA and WGRISK activity;
- The WGRISK Chairman underlined the necessity to designate a Lead organisation; otherwise, the CAPS may not be endorsed by PRG;
- WGRISK endorsed the activity and decided to work with WGAMA to fulfil the task.

Action WGRISK 9-11: *The Secretariat to send as soon as possible the CAPS of the Workshop on Implementation of Severe Accident management Measures (endorsed by WGRISK) to WGAMA Chair for review and comments.*

19.2. CAPS of PSA for Advanced Non-Light Water Reactors

72. The proposal on PSA for Advanced Non-Light Water Reactors was also presented by Mr. Monninger. The objectives of the proposed activity are to characterize the ability of current PSA technology to address key issues regarding the development, acceptance and licensing of advanced non-light water reactors, to characterize the potential value of advanced PSA methods and tools and to develop recommendations to CSNI for any needed developments. This proposal would also provide a suitable framework for exchanging information among member countries as well as non-OECD countries with relevant experience (e.g., South Africa), mainly during the planned Workshop. Moreover, CNRA has formed a Working Group on the Regulation of New Reactors (WGRNR); the WGRISK effort through this activity would support WGRNR in addressing its mandate. The expected deliverables are a State-of-the-Art Report, the Workshop proceedings and a Technical Opinion Paper.

73. WGRISK member discussed the proposal with the following insights:

- To check possible duplication with the WGRNR activities;
- There is a need for a Lead organisation commitment;
- The member countries expressed some interest in participating to this activity but they asked to check for confirmation at their organisation/country;
- CEA will check if it could be interested to be the Lead organisation.

Action WGRISK 9-12: *The Secretariat to check that there is no duplication with possible WGRNR activities; the WGRISK members to check their country interest in participating in the activity and to answer within 2 weeks of receipt of the list of actions;*

19.3. CAPS of Risk Informed Approach on Decommissioning and Waste Storage Nuclear Facilities

74. Mr. Bassanelli presented the proposal related to the Risk Informed Approach on Decommissioning and Waste Storage Nuclear Facilities. This proposal is meant to extend application of Risk Informed Approach also to a low risk but highly public and stakeholders sensitive activities where any failure involving consequences to population could have a dramatic public relation impact on licensee. A common methodology to be applied for Decommissioning and construction and operation of Waste Storage Nuclear Facilities will be implemented in conjunction or as alternative to a deterministic approach. The expected deliverables are a State-of-the-Art Report (SOAR) on risk and/or deterministic approaches applied for decommissioning and waste storage activities, Workshop proceedings to analyse the outcomes of the SOAR and a Technical Opinion Paper including recommendations. The Workshop could be organised 18 months after PRG CSNI approval of the CAPS.

75. The WGRISK discussed the proposed CAPS with the following insights:

- Japan is performing PSA for various nuclear facilities; this project can be beneficial for other installations than NPPs;
- Dr. Lanore recalled that a Workshop was organised by OECD/NEA on PSA for Non-Reactor Facilities on October 4-5, 2004;
- USA delegates expressed their support to the proposal but needed to check for confirmation at home; this was also the case with the United Kingdom delegate;
- Germany expressed some interest for decommissioning but human resources have to be checked at home;
- The WGRISK Chairman stated that there would be a home work to be done in order to provide commitments within 2-3 weeks;
- The possibility to have a joint activity with the Working Group on Fuel Cycle Safety (WGFCS) should be checked.

Action WGRISK 9-13: *The WGRISK members to check their country interest in participating in the activity proposed in the CAPS on Risk Informed Approach for Decommissioning and waste storage nuclear facilities and to answer within 2-3 weeks; the Secretariat to check if this activity can be a joint activity with the Working Group on Fuel Cycle Safety.*

19.4. Coming-up proposal on a Workshop on the use of simulators for Human Reliability Analysis purposes

76. Dr. Dang recalled the proposal included in the task report on "HRA Data and Recommended Actions to Support the Collection and Exchange of HRA Data and Information". The organisation in 2009 of a Workshop on Use of Simulators for Human Reliability Analysis Purposes will be proposed to the PRG for its October 2008 meeting for consideration.

77. USA expressed its interest in this foreseen activity; the United Kingdom too but the delegate has to check confirmation at home;

78. Mr. Huerta, Acting Secretary of WGHOF, proposed to inform the latter group about this proposal.

20. WGRISK SUCCESSION PLANNING

79. Mr. Versteeg, entrusted by the WGRISK Bureau to lead the discussion about the WGRISK succession planning, made a brief presentation on his view regarding succession inside WGRISK; he pointed out that the Group has a leading role in CSNI activities and therefore needs strong leadership. Moreover, he emphasised the gap of distribution in the delegates age and thus the necessity to invite young potentials to join the Group, including from industry.

80. The Group discussed the topic with the following insights:

- Dr. Lanore agreed about the fact to feed the WGRISK with young resources; however, the Group should include enough senior members to ensure the continuity of the activities. Moreover, she pointed out that young experts with sufficient knowledge are overloaded everywhere and we should make a difference between the wishes of the WGRISK and what is feasible in reality;
- Dr. Siu recalled that the WGRISK is in the phase to update the list of its members; shall we send a questionnaire in order to ask the knowledge and the background of the members and the experts?
- Mr. Monninger insisted on the importance of the relation between the activities performed in the frame of WGRISK and the activities going on in the delegates organisation;
- Dr. De Gelder emphasised that a better representation of the industry in WGRISK could bring new blood. As a way to attract industry interest, he suggested to adapt the agenda of the WGRISK to industry concerns. He also recommended not to restrict the publication of the Group papers to the conferences, workshops dealing only with PSA, but to present also WGRISK papers in Conferences with a wider scope;
- Dr. Siu proposed to report on this issue to CSNI for its June meeting; he called for ideas to feed this reporting;
- Dr. Siu asked for a volunteer to coordinate this activity; S. Collier from the OECD Halden Reactor Project was designated to ensure this coordination.

Action WGRISK 9-14: *The WGRISK members to think to enlarge the participation of their countries to the industry. Mr. Collier to coordinate the activity on WGRISK planning***.**

CLOSING SESSION

21. WGRISK WORKING METHODS

21.1 WGRISK task success factors

81. Dr. Lanore proposed a draft which was distributed by the Secretariat on February 20th to all WGRISK members.

82. Dr. Lanore commented her draft with a focus on the success indicators and some examples of success conditions derived from her experience within the Group.

83. As success indicators still to be defined, she mentioned:
    - to issue in time reports and TOP without too much iterations;
    - to have sufficient audience and good exchanges during workshops;
    - to receive some positive feedback from outside (e.g., request for copies of reports or proceedings).
84. In terms of success conditions, she mentioned the following examples:
    - the topic should be interesting for several member countries and should correspond to some activity already in progress (within the country organisations) which could be shared;
    - the scope should not be too wide and should be clearly defined in order to avoid misunderstanding and inappropriate participation and also to limit risk of overlap with other international activities;
    - the Task group members and especially the Task group leader should be sufficiently motivated; it is the case if the topic fits with their own needs or if they intend or are already working on this topic;
    - the Task group members should have a sufficient and wide enough competence, though they can ask for specific supports during the course of the task;
    - appropriate resources should exist for work, meetings and travel;
    - there is a sufficient number of volunteers corresponding to the above conditions;
    - the task should be limited in time in order to avoid changes and discontinuities in participation.
85. Due to the lack of time for a detailed discussion, the WGRISK Chairman invited the Group members to think again about the WGRISK success factors; he mentioned as additional success indicators the use of the documents produced by the WGRISK in each member organisation and other organisations.

Action WGRISK 9-15: *The WGRISK members to think to think more about the Group task success factors. The Bureau to discuss this topic at the next Bureau meeting.*

21.2 Request for volunteers to develop and lead efforts to obtain feedback on WGRISK products

86. The WGRISK Chairman reminded the call for volunteers distributed by the Secretariat on February 11th to the WGRISK members. This call reflects the WGRISK Bureau wish to "identify, develop, test, and implement appropriate feedback mechanisms" in order to strengthen the working group activities and products. Though this activity would require significant and sustained effort from the volunteers, Dr. Siu encouraged again volunteers from WGRISk membership to develop and lead effort to obtain feedback on WGRISK products.

Action WGRISK 9-16: *The Secretariat to send within 3 weeks a reminder to the WGRISK members to invite them again to think about this request for volunteers to develop and lead efforts to obtain feedback on WGRISK products.*

22. NEXT MEETINGS

87. The WGRISK decided that the next annual meeting will be organised in Paris, on March 25-27, 2009.
88. The WGRISK Bureau decided to meet in October. The exact date will be fixed by e-mails exchange and will depend on the date of the PRG October meeting. On the same occasion, there is a possibility for Task groups to meet if feasible.
89. The Task group on Low Power and Shutdown PSA Information Base will met in June 2008 in Germany. The exact date will be defined and communicated to the Task group members.
90. The Task group on Probabilistic Risk Criteria and Safety Goals is expected to meet in November 2008.

23. OTHER MATTERS

23.1 Technical Issue Discussion for 2009

91. The WGRISK discussed several proposals for the 2009 technical discussion. It was decided to organise a technical discussion on the Use of PSA for Cost/Benefit Analysis.
92. Canada accepted to lead the Technical discussion on the Use of PSA for Cost/Benefit Analysis.
93. The Secretariat will invite organisations/countries (e.g., EDF) to provide presentations about this topic.

Action WGRISK 9-16: *The WGRISK Bureau to work with the Canadian representatives to identify the lead for next Annual Meeting technical discussion on the Use of PSA for Cost/Benefit Analysis.*

23.2 Follow-up discussion on international co-ordination

94. This topic was partly addressed in Section 5.

24 CLOSURE OF MEETING

95. Dr. Siu, WGRISK Chairman, closed the meeting at 14:00.

APPEND-IX

LIST OF PARTICIPANTS

BELGIUM

DE GELDER, Pieter
Department Head, Nuclear Safety &
Radiation Protection Assessment
Association Vinçotte Nuclear (AVN)
148, rue Walcourt
1070 Bruxelles

Tel: +32 (2) 528 02 60
Fax: +32 (2) 528 01 02
Eml: pdg@avn.be

HENDRICKX, Isabelle
Groupe Manager "Safety Assessment"
TRACTEBEL Engineering
Division de SUEZ-TRACTEBEL S.A.
Avenue Ariane 7
1200 Bruxelles

Tel: +32 2 773 76 64
Fax: +32 2 773 89 00
Eml: isabelle.hendrickx@tractebel.com

CANADA

GHEORGHE, Raducu
Canadian Nuclear Safety Commission
Directorate of Assessment and Analysis
280 Slater Street, Station B
Ottawa, Ontario K1P5S9

Tel: +1 613 947 0517
Fax: +1 613 995 5086
Eml: raducu.gheorghe@cnsc-ccsn.gc.ca

HESSEL, Philippe
CNSC (Canadian Nuclear Safety Commission)
280 Slater Street
P.O. Box 1046, Station B
Ottawa, Ontario K1P 5S9

Tel: +1 (613) 947 2369
Fax: +1 (613) 995 5086
Eml: philippe.hessel@cnsc-ccsn.gc.ca

CZECH REPUBLIC

PATRIK, Milan
Head, Risk & Reliability
Assessment Department
Nuclear Research Institute Rez, plc
250 68 Rez

Tel: +420 2 6617 3560
Fax: +420 2 6617 3561
Eml: pat@ujv.cz

FINLAND

HOLMBERG, Jan-Erik
Senior Research Scientist
VTT Technical Research Centre
P.O. Box 1000
FIN-02044 VTT
Tel: +358 20 722 6450
Fax: +358 20 722 6752
Eml: jan-erik.holmberg@vtt.fi

SANDBERG, Jorma
Radiation and Nuclear Safety Authority
STUK
P.O. Box 14,
FIN-00881 Helsinki
Tel: +358 9 7598 8363
Fax: +358 9 7598 8382
Eml: jorma.sandberg@stuk.fi

SIMOLA, Kaisa
Senior Research Scientist
VTT Technical Research Centre
P.O. Box 1000
FI-02044 VTT
Tel: 20 722 6725
Fax: +358 20 722 6027
E-mail: kaisa.simola@vtt.fi

FRANCE

GEORGESCU, Gabriel
Reliability and Safety Engineer
IRSN/RSD
Systems and Risk Protection
Assessment Department
B.P. N°17
92262 Fontenay-aux-Roses Cedex
Tel: +33 1 58358108
Fax: +33 1 58359171
E-mail: gabriel.georgescu@irsn.fr

LANORE, Jeanne-Marie
Scientific Advisor - IRSN/DSR
B.P. N°17
92262 Fontenay-aux-Roses Cedex
Tel: +33 (0) 1 58 35 76 48
Fax: +33 (0) 1 42 53 91 54
Eml: jeanne-marie.lanore@irsn.fr

PRIMET, Jean
EDF R&D
1 avenue du Général de Gaulle
92141 Clamart Cedex
Tel: +33 (0)1 4765 57 97
Fax: +33 (0)1 4765 58 55
Eml: jean.primet@edf.fr

RAIMOND, Emmanuel
Level 2 PSA Project Manager
IRSN/DSR/SAGR/BEPAG
B.P. No. 17
92262 Fontenay-aux-Roses Cedex
Tel: +33 01 58 35 78 70
Fax: +33 01 58 35 85 59
E-mail: emmanuel.raimond@irsn.fr

VASSEUR, Dominique
EDF R&D
1 avenue du Général de Gaulle
92141 Clamart Cedex
Tel: +33 (0)1 47 65 41 91
Fax: +33 (0)1 47 65 51 73
Eml: dominique.vasseur@edf.fr

GERMANY

ROEWEKAMP, Marina
Head, External & Internal Hazards Dept.
PSA Coordinator
Gesellschaft fur Anlagen-und
Reaktorsicherheit GRS mbH
Schwertnergasse 1
D-50667 Köln

Tel: +49-(0)-221-2068-898
Fax: +49-(0)-221-2068-10898
Eml: marina.roewekamp@grs.de

ITALY

BASSANELLI, Alvio
Safety Manager
SOGIN Spa
Via Torino, 6
00184 Rome

Tel: +39-06-83040-242
Fax: +39-06-83040-911
Eml: bassanelli@sogin.it

BURGAZZI, Luciano
FIS-NUC
ENEA
Via Martiri di Monte Sole, 4
40129 Bologna

Tel: +39 051 609 8556
Fax: +39 051 609 8279
Eml: burgazzi@bologna.enea.it

JAPAN

FUKUDA, Mamoru
Japan Nuclear Energy Safety Organization
Fujita Kanko Toranomon Bldg., 7F
17-1, 3-chome Toranomon,
Minato-ku
Tokyo 105-000

Tel: +81-3-4511-1550
Fax: + 81-3-4511-1598
Eml: fukuda-mamoru@jnes.go.jp

MURAMATSU, Ken
Chief senior scientist
Nuclear Safety Research Center
Japan Atomic Energy Agency
2-4 Shirakata Tokai Naka-gun Ibaraki, 319

Tel: +81(29)282 5815
Fax: +81(29)282 6147
Eml: muramatsu.ken@jaea.go.jp

KOREA (REPUBLIC OF)

YANG, Joon-Eon
Director, Integrated Safety
Assessment Division
Korea Atomic Energy Research Institute (KAERI)
1045 Daedeokdaero, Yuseong-Gu
Daejon, 305-353

Tel: +82 42 868 8640
Fax: +82 42 868 8256
Eml: jeyang@kaeri.re.kr

MEXICO

LOPEZ MORONES, Ramon
Com. Nacional de Seguridad Nuclear
Y Salvaguardias
Dr. Barragan No. 779, 4° Piso
Col. Narvarte
03020 Mexico, D.F.

Tel: +52 55 509 53245
Fax: +52 55 509 53295
Eml: rlopezm@cnsns.gob.mx

NETHERLANDS

VERSTEEG, Magiel F.
VROM - Inspectorate
Ministry of VROM
Nuclear Regulatory Body KFD (IPC 560)
P.O. Box 30945
2500 BD, The Hague

Tel: +31 (0)70 3392488
Fax: +31 (0)70 3391887
Eml: magiel.versteeg@minvrom.nl

SLOVAK REPUBLIC

HUSARCEK, Jan
Director
Safety Analysis and Technical Support Department
Nuclear Regulatory Authority of
the Slovak Republic
Bajkalska 27, P.O. Box 24
820 07 Bratislava 27

Tel: +421-(0)2-58221-153
Fax: +421-(0)2-58221-166
Eml: jan.husarcek@ujd.gov.sk

SPAIN

LANTARON, Alfredo
Head, Division of PSA and Human Factors
Consejo de Seguridad Nuclear
Justo Dorado 11
28040 Madrid

Tel: +34 913460259
Fax: +34 913460496
Eml: alg@csn.es

SWITZERLAND

DANG, Vinh
Nuclear Energy and Safety Research Department
Paul Scherrer Institut
CH-5232 Villigen PSI

Tel: +41 56 310 29 67
Fax: +41 56 310 2199
Eml: vinh.dang@psi.ch

SCHOEN, Gerhard
Head of PSA & AM Section
HSK, Swiss Federal Nuclear
Safety Inspectorate
CH-5232 Villigen-HSK

Tel: +41 56 310 38 69
Fax: +41 56 310 49 85
Eml: Gerhard.Schoen@hsk.ch

UNITED KINGDOM

GOMEZ-COBO, Ana
NII-HSE
Redgrave Court
Merton Road, Bootle
L20 7HS

Tel: +44 151 951 4047
Fax: +44 151 951 4163
Eml: Ana.Gomez-Cobo@hse.gsi.gov.uk

UNITED STATES OF AMERICA

MONNINGER, John D.
Deputy Director, Risk Analysis Division
Office of Nuclear Regulatory Research
US Nuclear Regulatory Commission
Mail Stop T-10E50
Washington, DC 20555

Tel: +1 (301) 415-6290
Fax: +1 (301) 415-5160
Eml: john.monninger@nrc.gov

O'REGAN, Patrick
Electric Power Research Institute (EPRI)
4 Alexander Road
Hopkinton, MA 01748

Tel: +1 (508) 497 5045
Fax: +1 (810) 816 7052
E-mail: poregan@epri.com

SIU, Nathan (Chairman)
Senior Technical Advisor for PRA Analysis
Division of Risk Assessment & Special Pro jects
Office of Nuclear Regulatory Research
U.S. Nuclear Regulatory Commission
Mail Stop T-10 E-50

Tel: +1-301-415-6925
Fax: +1-301-415-5062
Eml: nathan.siu@nrc.gov

OBSERVERS

CHINESE TAIPEI

LO, Chung-Kung
Institute of Nuclear Energy Research
P.O. Box 3-3,
Lung Tan, Tao Yuan,
Taiwan 325

Tel:
Fax:
Eml: cklo@iner.gov.tw

CHAO, Chun-Chang (Observer)
Institute of Nuclear Energy Research
P.O. Box 3-3,
Lung Tan, Tao Yuan,
Taiwan 325

Tel: +886-3-471-1400 ext 6008
Fax: +886-3-471-1404
Eml: chuncchao@iner.gov.tw

SLOVENIA

VOJNOVIC, Djordje
Slovenian Nuclear Safety Administration
Zelezna cesta 16
P.O. Box 5759
SI-1001 Ljubljana

Tel: +386 1 472 11 47
Fax: +386 1 472 11 99
Eml: djordje.vojnovic@gov.si

INTERNATIONAL ORGANISATIONS

OECD Halden Reactor Project, Halden, Norway

COLLIER, **Steven**
Senior Research Scientist
Institut for Energiteknikk
Postboks 173
N-1751 Halden

Tel: +47 69 21 22 00
Fax: +47 69 21 24 60
E-mail: steve.collier@hrp.no

OECD Nuclear Energy Agency, Issy-les-Moulineaux, France

AMRI, Abdallah
OECD-NEA / Nuclear Safety Division
Le Seine St-Germain
12 bd des Iles
F-92130 Issy-les-Moulineaux

Tel: +33 01 45 24 10 54
Fax: +33 01 45 24 11 29
Eml: abdallah.amri@oecd.org

GAUVAIN, Jean (Part time)
OECD-NEA / Nuclear Safety Division
Le Seine St-Germain
12 bd des Iles
F-92130 Issy-les-Moulineaux

Tel: +33 01 45 24 10 52
Fax: +33 01 45 24 11 29
Eml: jean.gauvain@oecd.org

HUERTA, Alejandro (Part time)
OECD-NEA / Nuclear Safety Division
Le Seine St-Germain
12 bd des Iles
F-92130 Issy-les-Moulineaux

Tel: +33 01 45 24 10 57
Fax: +33 01 45 24 11 29
Eml: alejandro.huerta@oecd.org