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ISOE INFORMATION SHEET

**CONCLUSIONS AND RECOMMENDATIONS
FROM THE ESSEN ISOE INTERNATIONAL
SYMPOSIUM ORGANIZED IN EUROPE
ON OCCUPATIONAL EXPOSURE MANAGEMENT
AT NUCLEAR POWER PLANTS**

ISOE European Technical Centre - Information Sheet No. 43

This information sheet summarizes the main conclusions and recommendations from the 5th ISOE International Symposium organized in Europe on Occupational Exposure Management at Nuclear Power Plants, held in Essen, Germany, 15-17 March 2006.

Introduction

The European ISOE Technical Centre co-organised with the VGB, the Fifth ISOE International Symposium on Occupational Exposure at Nuclear Power Plants in March 2006, at Essen, Germany. The International ISOE symposium in Essen gave the opportunity to 150 participants from 23 European, American and Asian countries to meet. They were the same number as in the previous symposia in Malmö and Tarragona; more than in Portoroz and less than in Lyon where the French nuclear industry was predominantly represented. The workshop allowed 32 oral presentations and 16 posters presentations to be provided. A very informative exhibition was held by vendors and allowed participants to know more about their products during the coffee-breaks.

For the first time, there was a general agreement concerning a specific atmosphere during the symposium: the participants felt as belonging to a professional community facing the same problems. Therefore the ISOE Symposium has become an expected “rendez-vous” for all representatives of both NPPs and regulatory bodies.

The proceedings of the symposium (papers and PowerPoint presentations) are available on-line on the new ISOE website "www.isoe-network.net" within the ALARA library (some presentations, depending on the agreement of the author, are not available on the public part of the Website and are password protected).

Conclusions and recommendations from the Workshop

General conclusions on radiological protection

1. The recent epidemiological studies concerning workers cohorts (IARC studies) do not call into question the ICRP model and hypothesis; ICRP itself does not intend to modify its "system of radiological protection" (LE Holm presentation). This comforts the foundations of operational programs for exposure reduction and therefore the role of ISOE.
2. Networking appears to be a growing force, which is recognised by international organisations (IAEA and EC presentations) ; this reinforce also the role of ISOE and other networks.
3. There is a slow evolution towards a single personal active dosimetry system instead of two previously (active and passive). This was a recommendation from all previous European ISOE symposia. At Malmö, it has just been presented as a potentiality in test in the UK for the NPPs using the Siemens last EPD generation. The positive conclusions of the test were presented at Tarragona and Portoroz, and the unique dosimetry system has become official in the UK. At Essen, German representatives have explained at their turn that they are in a test phase. However, it now concerns all sectors (including the medical sector). We may consider that we are facing an irreversible evolution, which will last several decades in Europe: the problem is not any more to know "if" but "when" each country will adopt a unique system.

Main maintenance works and ALARA Programmes

Several major maintenance or modification works performed for the first time were presented or evoked at Essen (like the first pressurizer replacement in the US and some works in Japan). This, as well as the quality of all the presentations, has led to point out again the importance of feedback experience exchanges at all levels (local, regional and international).

The lessons learned from some studies (particularly from in depth analysis or from ergonomics studies on insulation works or non destructive testing works) have clearly shown once again that actions to reducing doses cannot be restricted to technical actions: work management, human resources and stakeholders involvement are also of major concern.

The integrated remote monitoring systems in radiological protection appear to be very promising for the future; they are already partially working in some NPPs (particularly in the US; France has set-up an ambitious research program on that subject).

Recommendations from the work in small groups

Participants have had the opportunity to work twice in small groups (10 groups) on topics pre-selected by the Program Committee, according to preoccupations of plant health physicists. The main conclusions and recommendations are the following:

1. Dose constraints must remain a tool for operational management of occupational exposures, devoted to local stakeholders.
2. The Participants sharply feel that there is a need for harmonising exemption levels.
3. In order to motivate workers for improving radiological protection, it is better to “modify their state of mind” than “to punish them”. Some important keywords are: training- example of the hierarchy – involvement of all concerned individuals at all stages of the job including its planning and preparation – communication.
4. It is important to take great care of the use of outside workers, or reduce and avoid - the use of interim workers, - the selection of a contractor on the lowest cost criterion more than on the best proposal.
5. Sub-contracting radiological protection is not a problem in itself, if the responsibility remains that of the utility. However, a common feeling is that it should not be worthwhile to reduce too much the size of the health physics team within the utility: “one should not break the radiological protection family”
6. There is a strong wish for having an harmonised radiological protection passport with a minimum common set of data concerning training, doses, and medical fitness.
7. A European accreditation for the contractor firms should be welcomed.
8. There is a need to favour exchange on self-assessment experiences and quantitative performance indicators; one session devoted to that topic should be welcomed during one of the next symposium.
9. The problem of exposure of pregnant women has to be taken into account as a priority, particularly in case of internal exposure.
10. The ISOE should also deal with internal contamination incidents and let circulate examples through information sheets.
11. The risk of loss of competencies in radiological protection is universal; it is suggested to reinforce the links between utilities, contractors and universities (particularly through grants and other financial supports). International organisations should be active stakeholders to favour solving that problem.

Conclusions from the three ad-hoc days that took place just before the Symposium

For the second time (it was already done in Lyon) the symposium was preceded by parallel one day meeting devoted to specific audience (plant radiological protection managers, senior representatives from the regulatory bodies, research reactors representatives). Each of these three days has been considered as particularly interesting and to be renewed.

The regulatory bodies day has been introduced by a very informative and interesting survey from the CSN (Spanish regulatory body) on the organisation and practices of each national regulatory body, particularly concerning operational radiation protection inspections in NPPs. A compiling document with all the results information from 18 countries will be soon available on the ISOE network website. The CSN and the ISOE European Technical Centre will publish an information sheet, providing the main results of that survey.

The radiological protection managers have considered that the feedback exchange system works quite well inside experts groups in each world region or sub region, but that exchanges between regions are still expected to be improved drastically.

The research reactors group has envisaged to setting up an informal exchange system on the incidents within the group. There is also a request from that group to merge research reactors and power reactors when discussing of dismantling.

Distinguished papers

Three technical presentations were distinguished and invited to make their presentation in 2007 at the Orlando ISOE International Symposium in the United States of America:

“Operational Experience with Zinc Injection at Angra 2”

by B. Stellwag, Framatome ANP, Germany / M. Rübenich, M. de Oliveira, M. Menezes, Angra NPP, Brazil / V. Schneider, Framatome ANP, Germany / U. Staudt, VGB PowerTech, Germany.

“Discussion of the Planning Process and Practical Results from ALARA Point of View for Modifications of the Pressurizer System”

by B. Bitterli, Gösgen NPP, Switzerland.

“Radiological Protection issues associated with core barrel lifts at Sizewell B NPP”

by G. Renn, Sizewell B NPP, United Kingdom.

Conclusion

The success of this Workshop is largely due to the important organisational support from the VGB. Gratitudes are expressed to Mr. Kapteinat and Mrs Langen for their help.

The Proceedings of the Symposium are available on the ISOE Website: <http://www.isoe-network.net/>
Click on "ALARA Library" menu and select "ISOE International Symposia" – "European Symposia".