

THE INTERNATIONAL ISOE PROGRAMME ISOE IAEA Technical Centre Activities

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INTRODUCTION

The objective of the sub-programme on Occupational Radiation Protection in the International Atomic Energy Agency, IAEA, is to promote a harmonized approach to optimizing occupational radiation protection by developing guidelines for controlling radiation doses in the workplace and on current occupational radiation protection techniques. A significant part of this programme is the provision of assistance to developing Member States to bring their radiation safety infrastructure to an appropriate level for the usage of radiation in the State.

In consistence with these objectives the IAEA has been involved with the ISOE Programme from its inception and has contributed actively to its growth. In 1993 an arrangement was agreed between the IAEA and the Nuclear Energy Agency, NEA, by which the IAEA co-sponsors ISOE inviting those IAEA Member States which are not members of the NEA to participate cost-free in the programme.

ISOE MEMBERSHIP THROUGH IAEA

The first countries to join ISOE through the IAEA Technical Centre were China, Czech Republic, Hungary and Mexico. While Mexico is now a member of NEA, the utilities in Brazil, China, Czech Republic, Hungary, Slovenia and South Africa, representing seven power plants with a total of 15 nuclear power reactors are now participating through this co-sponsorship. In addition the regulatory authorities in China, Czech Republic and Slovenia take part. Since the value and usefulness of the system is very much dependent on its coverage of the world's nuclear power plants, those from several other Member States are being solicited to join, some of these have indicated their most probable acceptance of the ISOE terms and conditions.

The IAEA Technical Centre acts as representative of its ISOE Participants on the ISOE Steering Group and according to the recently revised arrangement between the NEA and IAEA the participants in ISOE through IAEA will also send an observer (rotating observers) to the Steering Group meetings. The IAEA ISOE Centre is also disseminating information on related topics and meetings among its members and an ISOE Information Sheet has been issued.

MEETING ON TRAINING AND INFORMATION EXCHANGE

In order to provide its members with information on the ISOE project and to enable guided practical exercises with the database software, the IAEA organized a one-week ISOE Meeting in France in December 1994. The practical arrangements were made by the ISOE European Technical Centre at CEPN, with the active participation from the NEA office. The objective of the meeting, which was attended by eight persons representing China, Czech Republic, Hungary and Mexico, was also to give the participants possibilities to exchange ideas and to gain experience on optimization and the implementation of the ALARA principle in French facilities.

The programme of the first three days included, for example: ALARA: Principle and programme implementation; Work management; ALARA and outage organization; ASPIC Presentation - NEA 1 and NEA 3 exercises; Software presentations.

The participants were also invited to the CETIC training centre and the CRUAS Nuclear Power Plant, where they had the opportunity to share feedback experience with their French colleagues.

The initiative to hold this meeting was very much appreciated by the participants and the general consensus was that it was most successful.

FUTURE PROGRAMME FOR THE IAEA ISOE CENTRE

The IAEA Member States participating in ISOE represent four continents, thus geographically more spread out and, culturally, significantly more diverse than participants affiliated to the other Technical

Centres. Special attention therefore has to be paid to the co-ordination of the activities and the communication between the members. The meeting in France in 1994 was one means of improving the contacts between the members.

In order to advise on the programme for the IAEA ISOE Technical Centre a consultants meeting was convened in October 1995. The consultants took into consideration how to improve the implementation of the optimization principle in the ISOE member plants and authorities, the need for quality assurance of the data input into the data base and the different possibilities the Agency has to support their ISOE members through workshops, training, co-ordinated research programmes and publications, also making use of available software programmes and other tools. The group based their recommendations on their knowledge on the present participants in ISOE through the Agency as well as presumptive future members, such as the Russian Federation and Ukraine.

It was concluded that, as far as ALARA culture and implementation are concerned, the situation is very different from one country to another. Some common needs exist, however, and the IAEA ISOE Centre was recommended to take these into account and adapt them to the individual national contexts.

To facilitate the exchange of feed back experience

A very efficient method of sharing past experience is to arrange seminars for those involved in similar activities. In the radiation protection field, in addition to the ISOE topical meetings and workshops, a number of such seminars are regularly organized, e.g. by CEC, Westinghouse, Candu Owners Groups as well as BWR and PWR Owners Groups. Other useful meetings are organized on a less frequent basis by, for example, Brookhaven National Laboratory (BNL), Electric Power Research Institute (EPRI) in the US, and National Radiation Protection Societies.

Before the break down of the former Soviet Union similar seminars were arranged regularly for radiation protection staff of the WWER reactors, but these meetings do not exist any more and the Agency was recommended to promote the exchange of experience between its member plants by initiating the formation of radiation protection groups for WWER and, later, RBMK reactors.

The Agency should also facilitate regular participation of radiation protection staff in such types of groups, and encourage participation in international meetings focused on other types of reactors.

The Consultants Group also recommended that specific working groups composed from users of the same type of reactor should be created to discuss the analysis of data and the usefulness of the ISOE network for that type of reactor as well as basic problems in the field of occupational exposure, evaluation methods, calibration procedures, recording systems, etc.

To ensure the dissemination of an ALARA culture in non-NEA Member States

The distribution of information on ALARA theory and practice is a key element in the worldwide dissemination of the ALARA culture. The lack of application of the ALARA principle in the legislation and practice in some countries, as well as language barriers and geographic isolation are the factors preventing general application of proved international practices. Existing literature and other sources of information are frequently not known for radiation protection staff working in nuclear power plants.

The Agency was advised to provide information on relevant publications and promote the dissemination of ALARA culture, for example by inviting managers to an "ALARA awareness day", organizing scientific visits for qualified experts with special emphasis on practical ALARA methods and tools and organizing ALARA courses at regional or national levels. To facilitate training in different native languages and provide participants with radiation protection optimization training tools, the Agency should also organize training courses for ALARA trainers in English.

To ensure the practical implementation of the optimization principle through the use of ALARA tools.

It was recommended that the Agency collects information about existing ALARA tools and organizes a working group in order to evaluate them. Those tools considered as cost effective by the working group should be provided by the Agency to their ISOE participants.

CONCLUSION

By its co-sponsorship of ISOE the Agency enables non- NEA Member States to obtain access to the database on occupational exposure and to exchange feed back experience with radiation protection staff from nuclear power plants all over the world. The distance, both geographically and culturally, between the IAEA Member States participating in ISOE calls for special efforts in the co-ordination of the activities and the communication between the members. There is no doubt, however, that the Agency can, by disseminating information on internationally accepted radiation protection principles, contribute to a significant improvement in the implementation of the ALARA principle in these nuclear power plants.