



ISOE NEWS

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for ISOE Members

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Prepared by ISOE Asian, European, North American and IAEA Technical Centres (TC)

ISOE NEWS IS A PILOT PROJECT OF JOINT NEA-IAEA SECRETARIAT

Evaluation of the ISOE System

Recommendations for the future based on an in-depth evaluation of the ISOE system were presented to the ISOE Steering Group in Vienna. An important outcome of the in-depth evaluation is that there is broad support from plant managers for the ISOE System and its ALARA practice exchange. This support was stated by plant managers in completed questionnaires, and in interviews held with managers of different nuclear utilities. In addition, the Steering Group has given priority to access the ISOE data through the web. This will include an improved, more user friendly search engine for ALARA practice (ISOE 3) reports. The National ISOE Co-ordinators will motivate utilities and assist them in using and collecting ALARA practice reports. The ISOE Bureau appreciated the help of Thommy Godås during the evaluation and wished to give special thanks to Philippe Colson (EDF) and to the plant managers Patric Ramberg (Oskarshamn) and Stane Rožman (Krško).

It's important to have the whole picture



All ALARA practice reports (ISOE3) are available in the ISOEDAT database the latest version of which can be downloaded from the ETC FTP server (A CD-ROM has been distributed in Spring 2003). ALARA planners and radiation protection managers (RPM) will find regular updates of the database on the web. RPM are invited to analyse operating ALARA experience at their plant, write ALARA practice reports, and provide them to the ISOE System via their respective National Co-ordinator or ISOE Technical Centre.

Launching "ISOE News" – a Pilot Project



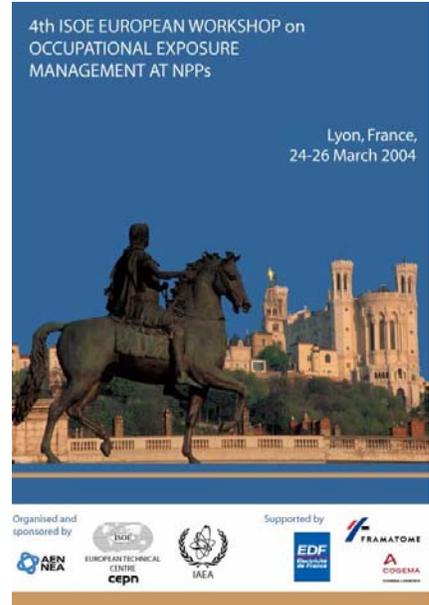
Following a proposal from utility members of the ISOE Steering Group, it was agreed to launch the publication of a newsletter called "ISOE News". The newsletter will include brief news, short articles, and current information from National Co-ordinators and Technical Centres. "ISOE News" should reach as target readers radiation protection professionals in the utilities and in regulatory authorities. ISOE News will be distributed by the ISOE Technical Centres via e-mail to ISOE members only.

International Workshop on Occupational Exposure Management at Nuclear Power Plants

The Fourth ISOE European Workshop will be held 24–26 March 2004 in Lyon, France. It is targeted at radiation protection professionals from NPPs, contractors and radiation protection representatives from the authorities. See program at the following address:
<http://isoe.cepn.asso.fr/Lyon2004/ProgramLyon.html>

North American ALARA Symposium

The North American ISOE ALARA Symposium organised by North American Technical Centre will take place 11-14 January 2004 in Florida, United States. DWMPHD@aol.com



Working Group on Operational Radiological Protection



The ISOE Working Group on Operational Radiological Protection (WGOR) held its 4th meeting, 11 November 2003, in Vienna. WGOR is developing experience based “cases” to illustrate how optimisation can be applied in practice in nuclear power plant. The Group which is chaired by Carl-Göran Lindvall will provide views on behalf of the ISOE Steering Group to the international radiation protection community, including the International Commission on Radiological Protection (ICRP).

France

ASN – Nuclear Safety Authority

In France, a limit on effective dose for exposed workers of 20 mSv for a consecutive twelve-month period has been set up. Nevertheless, during a two-year period starting from 2/4/2003 the effective dose must not exceed 35 mSv in a consecutive twelve-month period, subject to a maximum effective dose of 100 mSv in a five-year period.

The document where Directive 96/29 Euratom has been transposed as far as occupational radiation protection is concerned is the "Décret n° 2003-296 du 31 mars".

EDF – Electricité de France

ISOE European Technical Centre (ETC) was asked by EDF to perform a benchmarking study with other PWRs of the same sister unit groups using the ISOE database.

That study will identify several good performers to be visited to exchange experience in radiation protection.

Japan

After announcing TEPCO's inappropriate practices to the public regarding BWRs core internals inspection reports, all 17 plants were shut down for inspection of cracks in recirculation piping, core shrouds, and of containment vessel leak rate. In the fiscal year 2002 major modification works were the replacement of recirculation piping (preliminary collective dose was 4.5 man-Sv for two units), reactor nozzle modification (2.1 man-Sv for 1 unit) and replacement of CRD pipe lines (1.7 man-Sv for one unit)

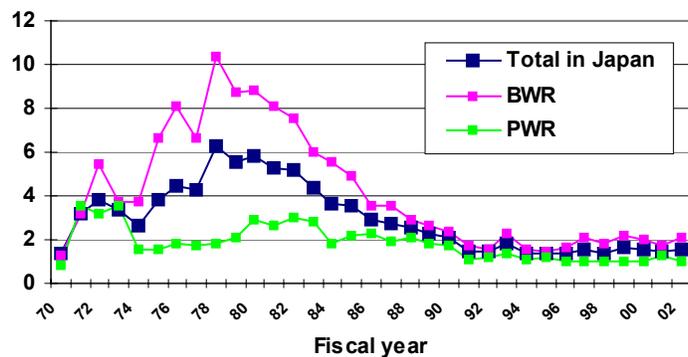
Kunio Miyamaru, General Manager (Radiation Safety), TEPCO, Tokyo:

“These works caused an increase of annual collective dose and rised the number of workers with doses between 15 and 20mSv from 627 (fiscal year 2001) to 955 in the year 2002. Under these circumstances, and even in an average year's conditions, it is difficult to keep workers dose under 20mSv in a year without extension of the operating period and reduction of maintenance items in Japan.



Therefore we are very much concerned about the new ICRP recommendations. Especially present workers dose limits 50 mSv in a year and 100 mSv in a five year period should remain in the new recommendations. If ICRP adopt workers dose limit of 20 mSv instead of the present limits, we will loose sufficient flexibility in our plant operation. Flexibility is important for performing good work. Our proposal is just to remain at the present limits, we don't intend to lose the limits. It is not our intention to disturb an adopted policy of 20 mSv in other countries. Finally, required flexibility in dose limits does not increase worker's risks of whole life, since there will be no change to whole life dose of 1 Sv.”

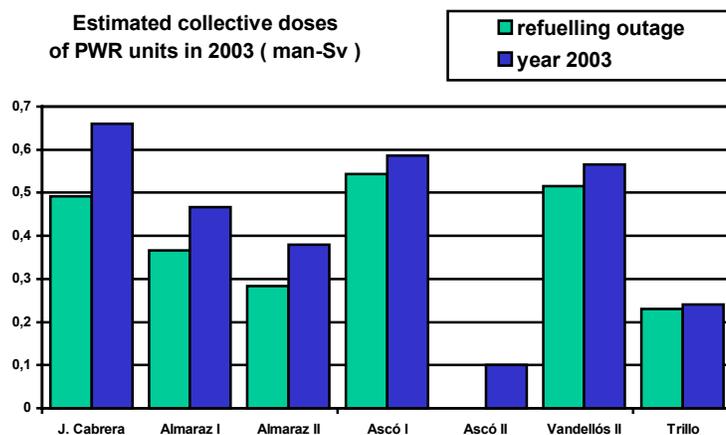
Average annual collective dose per unit (man-Sv)



ALARA News from Spain

The three year rolling average of collective dose for PWRs is estimated to be in the year 2003 between 0.4 to 0.5 man-Sv. The downward trend continues, with values in line with those of the previous years Relating the three year rolling average of collective dose for BWR is estimated to be about 1.45 man-Sv, which shows an increase compared to previous values. The outage times are recorded to be from 20 to 35 days. Regarding the estimation for the annual collective dose in PWRs, these values continue decreasing in all the plants.

Estimated collective doses of PWR units in 2003 (man-Sv)



At Confrentes an unexpected increase of dose rates in the drywell was observed during its 14th outage. Chemical decontamination is to be scheduled for the next outage and noble metal addition as well. An EPRI evaluation is underway. Utilities interested in details may contact RPM at Cofrentes Mr. Fragio (rjfragio@iberola.es).

Authority – CSN main activities: Technical instructions were issued on “Qualification of RP experts” (IS-03, Nov 2002); “Transference between licencees of RP documents previous decommissioning” (IS-04, Feb 2003); “Exemption values” (IS-05, Feb 2003); “Training program in RP” (IS-06, April 2003). There are programs in place to follow-up the source term reduction plans in Vandellos II and Cofrentes. The CSN controls final period and preparation for the decommissioning of J.Cabrera NPP.

Country Report from the Netherlands

The Borssele plant, 450 MWe operated by NV EPZ, is a base load unit. Up to this year it has enjoyed 30 years of commercial operation. Major backfittings were completed in the plant in 1997. The unit capability factor in 2002 was 93.7 % The annual outage in September 2003 lasted 10.5 days. The outage dose was 195 man-mSv. The highest individual dose was 4 mSv for 5 workers of contractors.



Borssele nuclear plant and coal fired plant

The Dodewaard BWR, 57 MWe, was shut down in 1997. Transports of fuel to the BNFL reprocessing plant were completed in April 2003. The plant is in the process of modification into a 40-year ‘safe enclosure’ status, before full decommissioning and return to green field conditions.

Nuclear Waste Facility

The government-owned organisation COVRA charged with the management of all Dutch waste, is located in Vlissingen near the Borssele NPP. An intermediate storage facility for high radioactive waste has been built and has formally been inaugurated on 30 September 2003. This new HABOG facility will contain irradiated fuel from research reactors and residues from reprocessing of the Dodewaard and Borssele fuel in Sellafield and La Hague. The nuclear waste policy of the Dutch government is based on the concept of 100-year storage above ground at the COVRA site and investigation of the options for retrievable final geological storage.

ISOE Benchmarking Analysis

Using the ISOE software, ISOE participants are able to generate pre-defined benchmarking tables and graphs. They can create their own comparisons with other units, with the relevant sister unit group and/or other sister unit groups. The benchmarking analysis is available at various levels, such as annual collective dose and dose per job. See also “ISOE-Information System on Occupational Exposure, Ten Years of Experience” (www.nea.fr).

For a more detailed understanding of the results, participants can contact their responsible counterparts in other nuclear power plants directly by using the contact information available within the ISOE database.

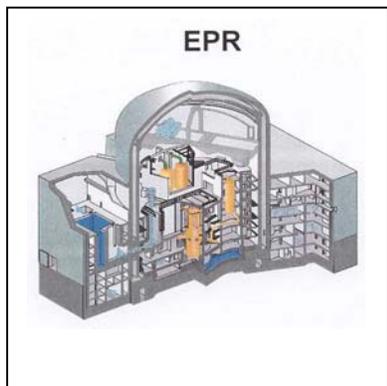
Palo Verde Outage Update from Arizona, USA

North American TC reports following the information from James P. Bungard, Radiological Services Section Leader, that Palo Verde's SGR dose trends continue and they are on track to better Arkansas Nuclear One Unit-2's 0.806 man-Sv performance: The lowest dose SGR in the U.S.

End-of-outage SGR dose is projected to finish at approximately 0.59 man-Sv: Approximately 20 man-mSv higher than the ALARA stretch goal. At Palo Verde, they may set a new SGR low dose record worldwide. The lowest two loop SGR outage according to available data was set at Beznau 2 Switzerland at 0.64 man-Sv.



TVO selected Olkiluoto-site for the new nuclear power plant unit in Finland



TVO has informed the companies participating in the bidding competition for the new nuclear power plant unit that it will continue the negotiations with the preferred bidder, the consortium Framatome ANP - Siemens AG, based on their offer on a pressurised water reactor plant with electric output of about 1600 MW. TVO has, however, not yet excluded the others.

TVO has also completed the evaluation concerning the plant location sites. Olkiluoto has been selected as the location for the new plant unit to be built in Finland.

TVO has announced that after the bid evaluation and contract negotiations TVO will continue with the consortium Framatome ANP - Siemens AG, based on the offer of a pressurised water reactor with an electric output of

about 1600 MW. TVO has also completed the evaluation regarding the plant location for the new reactor in Finland, and Olkiluoto has been selected.

The intention is to submit the construction licence application to the Finnish Government as soon as possible after the investment decision has been made. The new unit is scheduled to start commercial operation in 2009.

The Finnish Government made in January 2002 a Decision in Principle (DiP), which concludes that constructing of a new nuclear power plant unit in Finland is in line with the overall good of the society. The Finnish Parliament ratified the decision in May 2002.

FIN5 Project at STUK: After the DiP, the STUK established a project group to co-ordinate the license application process of the fifth Finnish NPP unit at STUK. The project is divided into 10 subprojects. One subproject is radiation and environmental safety and emergency preparedness, which includes for example an approval of siting issues, radiation safety principles of the plant and



Olkiluoto New Location

related analyses, radiation instrumentation and emergency preparedness arrangements. In the new guide, accident situations including severe accidents and aspects of decommissioning of the plant will be taken into account in more detail. In addition, a new design criterion for an annual personnel collective dose target of 0.5 manSv per 1 GW of net electric power based on the statistics of the new generation nuclear power plants will be considered.

What will be different ? At present, there are four nuclear power reactors in operation in Finland, two BWR units in Olkiluoto and two PWR units in Loviisa. Statistics of the new generation nuclear power plants would indicate that the collective dose in the fifth Finnish NPP would be low. This is due to the fact that ALARA aspects will be taken into account properly in the design. In a new nuclear power plant, on-site habitability during accident situations has to be taken into account. The revised regulatory guide requires analyses of the magnitude and location of the possible radiation sources and estimates of doses received in different accident management and emergency preparedness measures. In the design process, these doses are not allowed to exceed the normal dose limits of a radiation worker. An assessment of the on-site habitability during severe accidents at the existing Finnish nuclear power plants has been recently prepared at STUK.

Conclusions: TVO continues preparations for the construction of a new nuclear power plant unit in Finland. The up-dated regulatory guide concerning the radiation safety aspects in the design of NPPs will set a new lower design criterion for an annual personnel collective dose. In addition, accident situations and aspects of decommissioning of the plant have to be taken into account. The fact that ALARA aspects are properly taken into account already in the design stage of the new generation NPPs ensures that the collective dose in the fifth NPP would be considerably lower than in the existing Finnish NPPs.

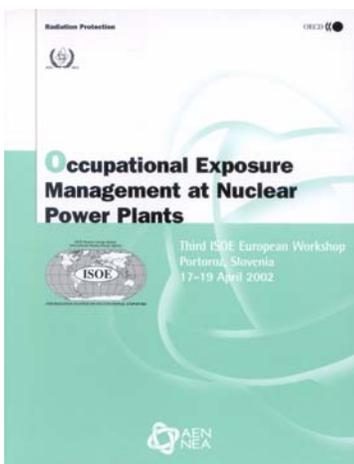
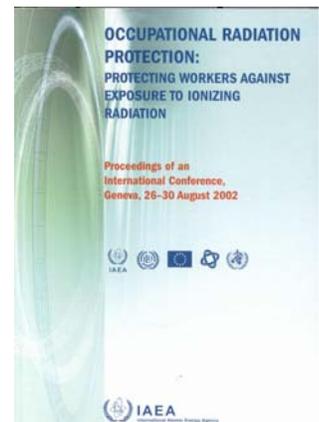
IAEA

The first **International Conference on Occupational Radiation Protection** was organized in August 2002 by the IAEA, which convened it jointly with the International Labour Organization, ILO. It was hosted by the Government of Switzerland and held in co-operation with a number of international organizations, among them the European Commission and the OECD/NEA. The Findings and recommendations of the conference formed the basis for an Action Plan for Occupational Radiation Protection, prepared by the IAEA in co-operation with ILO, and approved by the IAEA Board of Governors on 8 September 2003. These two documents are downloadable from the web site

<http://www-rasernet.iaea.org/programme/rmps/occ-rad-prot.htm>

The proceedings of the conference were published by the IAEA in 2003, and can be downloaded from

http://www-pub.iaea.org/MTCD/publications/PDF/Pub1145_web.pdf



NEA-OECD

In year 2003, the Nuclear Energy Agency (NEA-OECD) has published two publications of interest for the ISOE members – “Occupational Exposure Management at Nuclear Power Plants”, the proceedings of “Third ISOE European Workshop, April 2002”; and “Effluent Release Options from Nuclear Installations, Technical Background and Regulatory Aspects” Both documents are available on www.nea.fr.

