



ISOE Program Highlights & Future Directions

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OECD Nuclear Energy Agency
Radiation Protection and
Radioactive Waste Management Division

2012 International ISOE ALARA Symposium
8 – 11 January 2012, Ft. Lauderdale - Florida

Success in 20 years

- ISOE Program
- Participation (utilities & regulatory authorities)
- Database
- Recent Work/Expert Group activities
- Collaboration with UNSCEAR and EDF MOU
- Network
- ISOE Products

17. As a conclusion of the Special Session, it was recognised that the presence of CSNI and RWMC representatives had been beneficial both as a way to exchange information on radiation protection concepts and as a channel to convey the specific problems and requirements of those groups towards ICRP. It was, therefore, agreed that this mutual interaction should continue in the future. Some first opportunities could be the initiatives suggested in paragraph 9 and the ad hoc meeting on the application of optimization of protection mentioned in paragraph 14. The Chairman closed the session stating that several important questions had been discussed, but still required further reflection as well as consideration of other subjects not touched during the session. Therefore, the Core Task Group should meet soon to review the results of the debate, further develop the various issues in the sense indicated at the Special Session, and prepare a draft document to be addressed to the ICRP after review by participants, by correspondence.

Item 5: Studies on Occupational Exposure [SAN/DOC(86)7]

Expert Group Report on the Implications of Nuclear Safety Requirements for Occupational Exposure

18. The final draft of the report was presented by Dr. Ilari. Mr. Fitoussi, Chairman of the Expert Group, stressed the fact that the report was the result of a joint effort of radiation protection and nuclear safety experts and represented the best compromise achievable at present between the different problems and requirements of these two disciplines.

Many Committee members expressed appreciation for this study and supported its publication. There was also general consensus on the need to continue work in this area. Several proposals were put forward in this respect, including the development of a task-related data base and the expansion of studies on the improvement of worker protection to cover all kinds of operations and plant features rather than limiting consideration to purely nuclear safety-related exposures.

The representative of IAEA, Mrs. Salo, expressed the strong interest of her organisation in this activity, and their will to cooperate with NEA in this field. Mr. Luykx, representative of the CEC, informed the Committee that the issue of task-related doses has been studied for several years by a CEC Working Group. A first analysis of data concerning nuclear power plants in the CEC and covering the period 1976-1984 will be soon published and made available to NEA.

However, in spite of the considerable interest for a follow up in this field, there were no precise proposals for action. It was, therefore, agreed that the Secretariat would publish the report after consideration of comments by the CSNI Principal Working Group 1, which is currently reviewing the draft on behalf of that Committee; at the same time, the Secretariat would have consultation during 1986 with CRPPH members, with the Expert Group and with the IAEA and CEC in order to develop a specific proposal for action, to be submitted to the CRPPH at its next meeting.

ISOE STEERING GROUP

CONVOCATION AND AGENDA FOR THE FIRST MEETING

Paris, 18th November 1991

1. The first meeting of the Steering Group of the Information System on Occupational Exposure (ISOE) will be held on 18th November 1991 at the OECD Headquarters, Château de la Muette, 2 rue André-Pascal, 75016 Paris, France, starting at 9.30 a.m. Notices identifying the meeting room will be posted at the entrance to the OECD buildings.

2. The following agenda is proposed:

1. Opening of the Meeting

2. Election of the Chairman

3. Approval of the Agenda

NEA/ISOE/DOC(91)4

4. Status of Membership

- . Participating utilities and authorities
- . Candidate Technical Centres

5. Programme of Work

NEA/ISOE/DOC(91)5

- . Organisation and criteria for data collection
- . Preparation of analyses and reports, criteria for distribution

6. Working Methods

- . Review of data collection formats
- . Procedure for data collection, quality assurance and retrieval
- . Creation of ad-hoc groups under the Steering Group
- . Technical meetings

NEA/ISOE/DOC(91)6

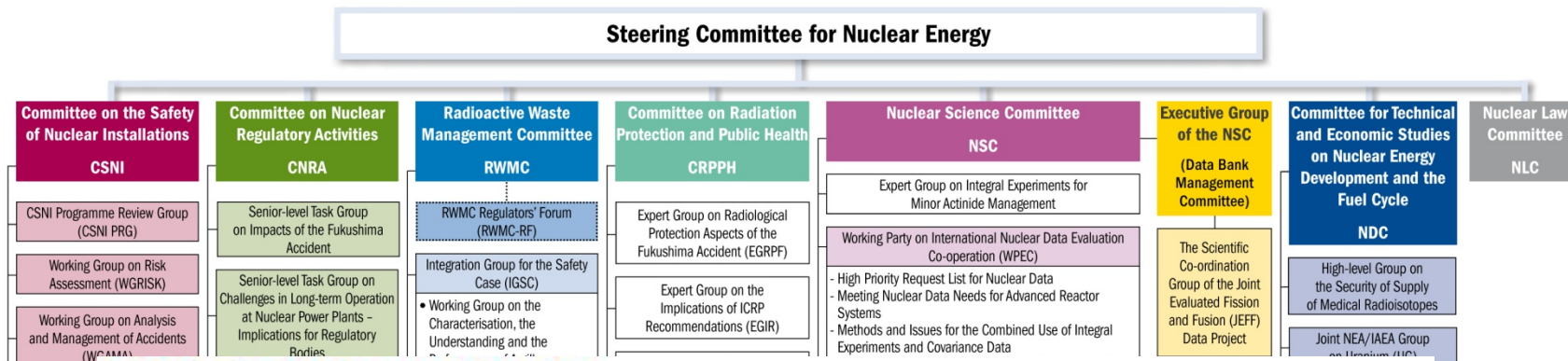
7. Financial Procedures

8. Any Other Business

9. Date of Next Meeting

III. Delegates participating are advised that the security arrangements in force at the OECD include the obligation to present an identity document bearing a photograph. This document will be requested at the time of issuing Delegates' cards for the meeting on first entry to the OECD. It should also be presented subsequently with the card every time OECD premises are entered.

Committee Structure of the OECD Nuclear Energy Agency (NEA)



NEA joint projects

Project	Participants	Budget
Information System on Occupational Exposure (ISOE) Contact: halilburcin.okyar@oecd.org Current mandate: 2008-2011	Armenia, Belgium, Brazil, Bulgaria, Canada, China, Czech Republic, Finland, France, Germany, Hungary, Italy, Japan, Lithuania, Mexico, Netherlands, Pakistan, Republic of Korea, Romania, Russian Federation, Slovak Republic, Slovenia, South Africa, Spain, Sweden, Switzerland, United Kingdom, United States.	≈€ 450 K /year

radiological protection

At present, 15 joint projects are being conducted in relation to nuclear safety, two in support of radioactive waste management, and one in the field of radiological protection. These projects complement the NEA programme of work and contribute to achieving excellence in each of the respective areas of research.

ISOE Program

“... the **exchange and analysis of information on collective radiation doses** to the personnel of nuclear installations and to the employees of contractors, as well as on **dose-reduction techniques**, is essential to implement effective dose-control programmes and to apply the ALARA principle...”

(ISOE Terms and Conditions, 2008-2011)

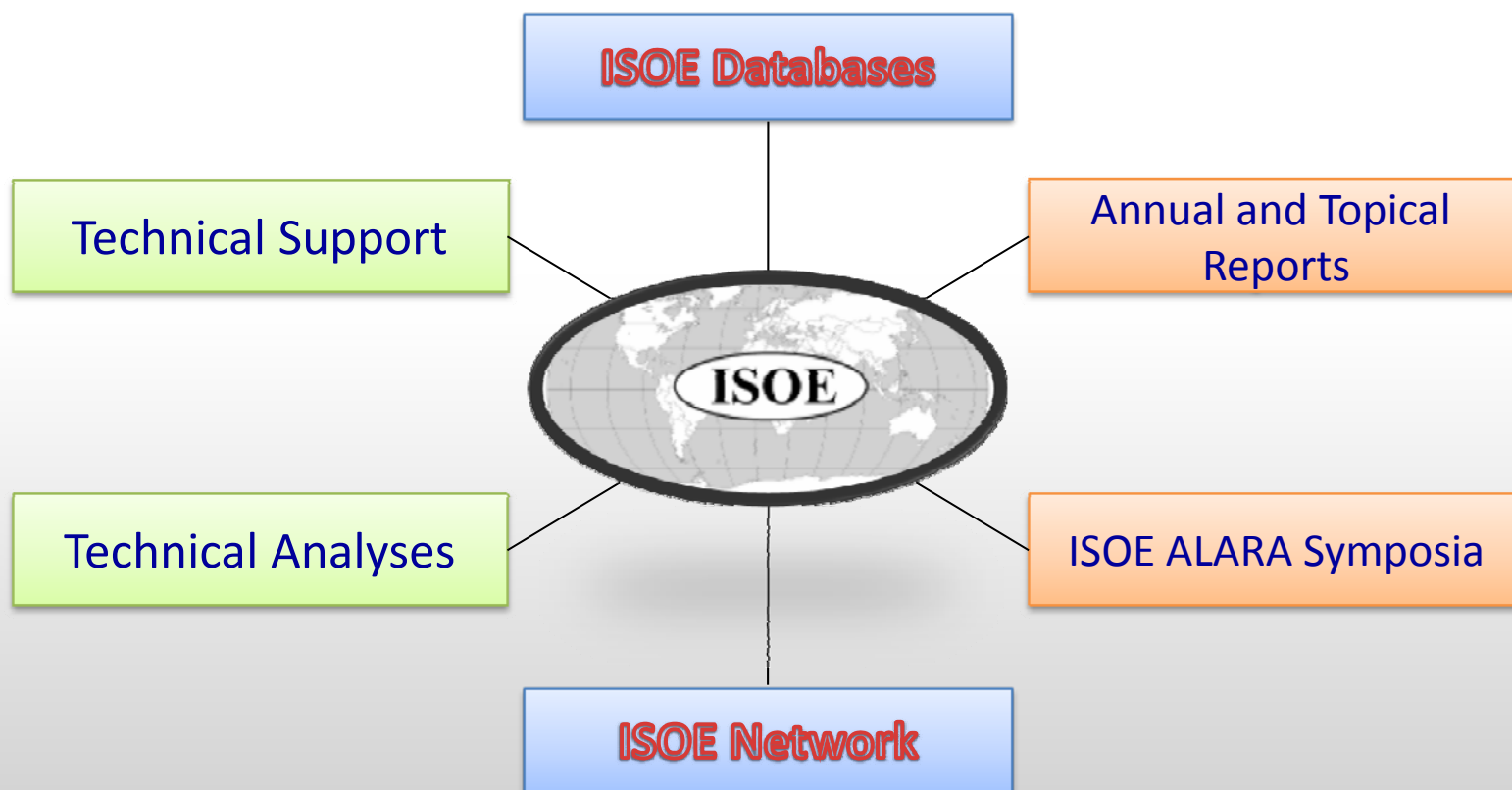
Reapproved by the ISOE Management Board Meeting in November 2011

- Created in 1991 by OECD/NEA as a forum for RP experts from **utilities** and **regulatory authorities** world-wide to share amongst participants dose reduction information & coordinate projects to improve optimisation of worker radiological protection at NPPs
 - *Promoted and sponsored by NEA and IAEA*

ISOE Programme

- ISOE facilitates occupational exposure management at NPPs through the operation of a system for **exchanging, storing, and analysing operational information and experience** on optimising occupational radiological protection in response to user needs:
 - World's largest occupational exposure database for commercial NPPs
 - An information exchange programme for sharing dose reduction information and experience
 - Four ISOE technical centres support local members (Asia, Europe, North America and IAEA)

ISOE Products



ISOE products support dose trend analyses, benchmarking, technique comparisons; application of ALARA and good work management in local RP programmes

Status of participation

As of December 2011

- 70 participating utilities from 29 countries
 - 323 operating reactors
 - 40 shutdown reactors
- Regulatory authorities from 24 countries (27 RAs)
- *ISOE Terms and Conditions- Reapproved by the ISOE MB*
- *Agreed to invite ISOE participants to confirm ongoing acceptance*
- **ISOE database:**
 - 394 operating reactors
 - 84 shutdown reactors
- *Annual collection of operational dose data from Participating Utilities at the site, unit, job and task level*

ISOE Database

- **ISOE 1:** Dosimetric information from commercial NPPs in operation, shut down or in some stage of decommissioning, including:
 - annual collective dose for normal operation
 - maintenance/refuelling outage
 - unplanned outage periods
 - annual collective dose for certain tasks and worker categories
- **ISOE 2:** Plant-specific information relevant to dose reduction, such as materials, water chemistry, start-up/shutdown procedures, etc.
- **ISOE 3:** Radiation protection related information for specific operations, jobs, procedures, equipment or tasks (radiological lessons learned):
 - effective dose reduction
 - effective decontamination
 - implementation of work management principles

ISOE Database management

Status of data collection (1/2)

- **ISOE 1 - 2010 data for operating reactors**
 - As end of October 2011:
 - Data entered directly on the web and validated: 23 countries
 - Data received using ACCESS: 3 countries
Armenia, Germany (except KKP), Russian Federation
 - Still some missing data for 2010 data, but improved after the November MB meeting

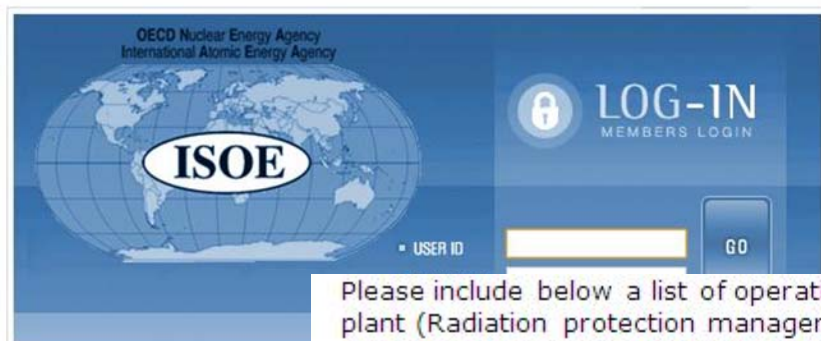
ISOE Database management

Status of data collection (2/2)

- **ISOE 2**
 - Whole database: **11 ISOE 2 static, 32 ISOE 2 dynamic**
Decided to be deleted due to limited data, to keep previous data in the database
- **ISOE 3 reports**
 - One new ISOE 3 report: Beznau 2 (Switzerland),
 - One ISOE 3 on RP events in 2010 under validation (USA)
 - Whole database: **233 reports available on the web**

ISOE Database

Please log-in

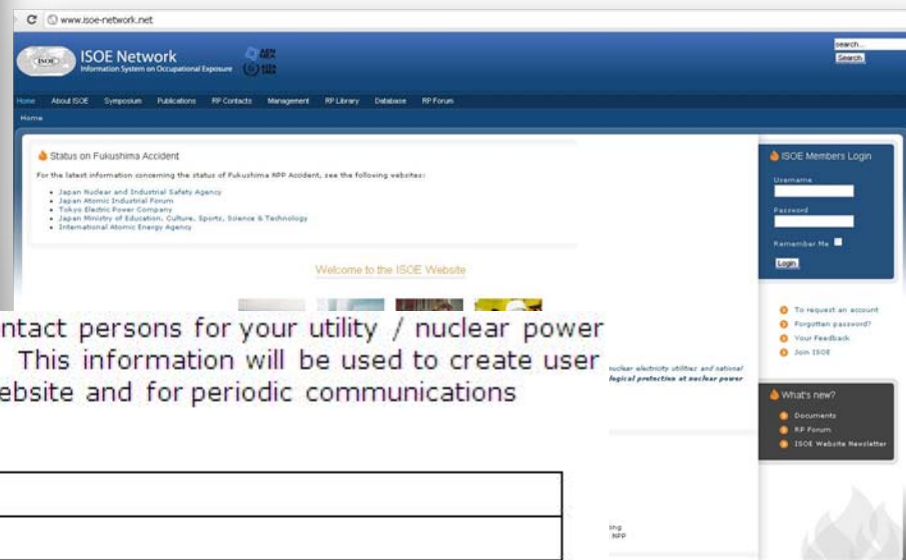


Please include below a list of operational contact persons for your utility / nuclear power plant (Radiation protection managers, etc). This information will be used to create user accounts for access to the ISOE Network website and for periodic communications concerning ISOE topics.

Title	
First Name *	
Family Name *	
Email address *	
Phone Number	
Function performed	
Utility *	
Nuclear Power Plant *	

* Mandatory information

(duplicate this table as needed)





















































<https://www.oecd-nea.org/iso>

rk.net/

ISOE 1 Questionnaires

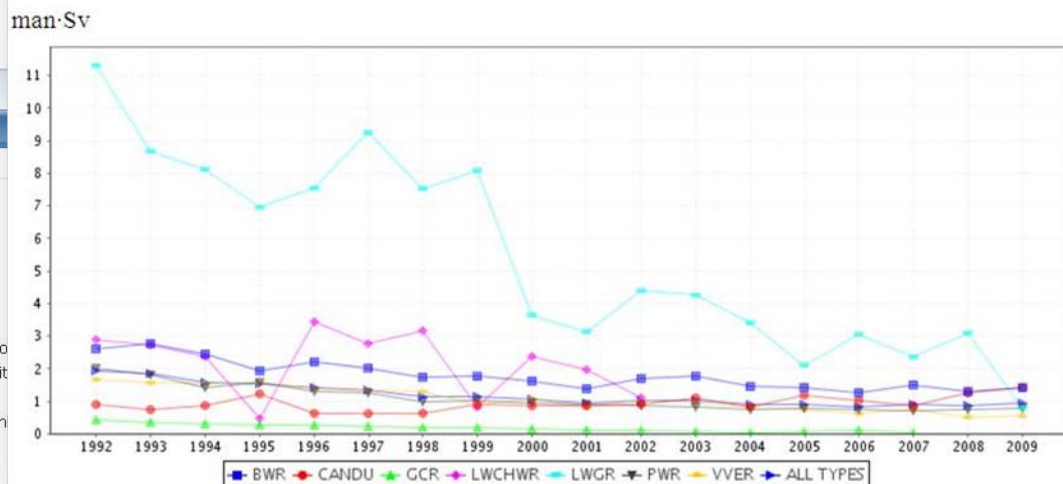
Country:
 Utility:
 Type:
 Plant unit:
 Year: -
 Reactor status:
[Clear](#)

[Prev.](#) [Next](#)
 Page: **[1]** 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 ...130

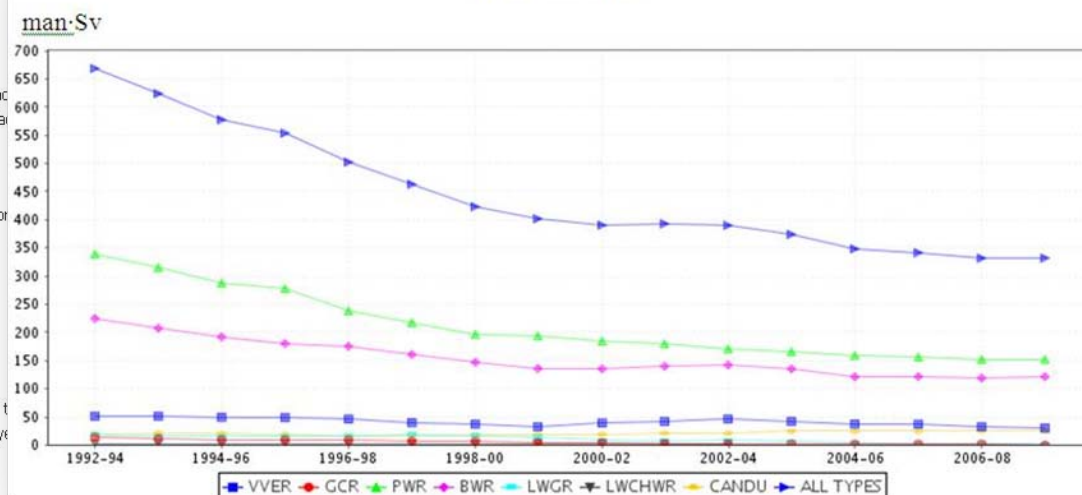
Country	Plant unit	Type:	Utility	Year	Status:	Validation	Actions
United States of America	Arkansas Nuclear One 1	PWR	ENTERGY	2004	Operational	Validated	 
United States of America	Arkansas Nuclear One 1	PWR	ENTERGY	2005	Operational	Validated	 
United States of America	Arkansas Nuclear One 1	PWR	ENTERGY	2006	Operational	Validated	 
United States of America	Arkansas Nuclear One 1	PWR	ENTERGY	2007	Operational	Validated	 
United States of America	Arkansas Nuclear One 1	PWR	ENTERGY	2008	Operational	Validated	 
United States of America	Arkansas Nuclear One 1	PWR	ENTERGY	1975	Operational	Validated	 
United States of America	Arkansas Nuclear One 1	PWR	ENTERGY	1976	Operational	Validated	 
United States of America	Arkansas Nuclear One 1	PWR	ENTERGY	1977	Operational	Validated	 
United States of America	Arkansas Nuclear One 1	PWR	ENTERGY	1978	Operational	Validated	 
United States of America	Arkansas Nuclear One 1	PWR	ENTERGY	1979	Operational	Validated	 
United States of America	Arkansas Nuclear One 1	PWR	ENTERGY	1980	Operational	Validated	 
United States of America	Arkansas Nuclear One 1	PWR	ENTERGY	1981	Operational	Validated	 
United States of America	Arkansas Nuclear One 1	PWR	ENTERGY	1982	Operational	Validated	 
United States of America	Arkansas Nuclear One 1	PWR	ENTERGY	1983	Operational	Validated	 
United States of America	Arkansas Nuclear One 1	PWR	ENTERGY	1984	Operational	Validated	 
United States of America	Arkansas Nuclear One 1	PWR	ENTERGY	1985	Operational	Validated	 
United States of America	Arkansas Nuclear One 1	PWR	ENTERGY	1986	Operational	Validated	 
United States of America	Arkansas Nuclear One 1	PWR	ENTERGY	1987	Operational	Validated	 
United States of America	Arkansas Nuclear One 1	PWR	ENTERGY	1988	Operational	Validated	 
United States of America	Arkansas Nuclear One 1	PWR	ENTERGY	1989	Operational	Validated	 
United States of America	Arkansas Nuclear One 1	PWR	ENTERGY	1990	Operational	Validated	 
United States of America	Arkansas Nuclear One 1	PWR	ENTERGY	1991	Operational	Validated	 
United States of America	Arkansas Nuclear One 1	PWR	ENTERGY	1992	Operational	Validated	 
United States of America	Arkansas Nuclear One 1	PWR	ENTERGY	1993	Operational	Validated	 
United States of America	Arkansas Nuclear One 1	PWR	ENTERGY	1994	Operational	Validated	 

MADRAS

Average collective dose per reactor for all operating reactors included in ISOE by reactor type, 1992-2009
(man-Sv/reactor)



3-year rolling average per reactor for all operating reactors included in ISOE by reactor type, 1992-2009
(man-Sv/reactor)



ISOE Database- New developments

MADRAS Analyses

- 21 new queries developed in 2011
 - 13 analyses on Dose rates
 - 9 analyses by utility
- Analyses to be developed in 2012
 - By Quartile,
 - By reactor age
 - Top 25 (3-year rolling average)

Other data analyses

- Impact of Zinc Injection on dose and dose rate
 - first document presented in May 2011
 - Under consideration by expert group (EGWC)
- Explore how to use the data on individual dose distribution
- Explore possibilities for new MADRAS analysis using job doses

Work Group Activities

- Driving force - **WGDA**
- US Pilot Project
- Task team on decommissioning
- EGWC
- EG-SAM

US Pilot Project: Electronic Reporting to ISOE

- Electronic Reporting Module for US Utilities
 - data entry and submission to ISOE program from US utilities
 - use existing US utility systems to collate ISOE data into a central data file
- Effective collaboration between between NEA, CEPN, ORAU, PTI Systems, Duke Energy, and US NRC
- Goals of US Pilot Project
 - Reduce manual entry and inefficiencies in current process
 - Increase US utility participation in ISOE program by decreasing burden to submit data
 - Increase use of database to highlight other ISOE products useful in the exchange of operational experience

US Pilot Project

- **Current**
 - Duke Energy's Catawba and Oconee sites to submit test files to ISOE in Nov. 2011
 - Duke Energy's McGuire, Catawba, and Oconee sites to submit actual data files to ISOE in December 2011
 - ORAU and PTI Systems to work with Pacific Gas & Electric's Diablo Canyon starting in January 2012
 - Expand US Pilot Project to Canberra's Health Physics Information System-20 ~ 25% of US fleet

Task Team on Decommissioning

- **Objective :** modify the ISOE D Questionnaire for job / task data collection
- **Historic:**
 - 1st Task team produced a proposal for a new questionnaire in 2010
 - Questionnaire refused by a lot of ISOE participants, because of its complexity
 - New task team launched
 - New proposal in September 2011 (Exposure Data, Influencing Parameter and Task Descriptions), better accepted.
 - Submitted to WGDA and MB in Nov. 2011

Task Team on Decommissioning

- **Proposals:**
 - Implement the new questionnaire, but need to explore the timetable for the IT development => Report to the next April 2012 WGDA meeting
 - Add a section on the ISOE website RP Library to collect (annual) RP reports from plants under decommissioning
 - Encourage plants to submit these reports (can be posted in any language)
- A timeline is under consideration for implementation

EG on Water Chemistry and Source-Term Management (EGWC)

- 10 members,
 - 7 from utilities, 1 from authority, 1 from EPRI, 1 from ETC
- Mandate
 - review and analysis of current knowledge, technology and experience on RP aspects of primary water chemistry and source-term management
 - To collect information and practical experience available in the nuclear industry on addressing operational aspects of primary water chemistry and source-term management
 - To identify factors and aspects which play key roles in achieving good practices
 - **Facilitate the dialogue between RP and Chemists**

EGWC

- Meetings in June and October 2011
 - Development of draft report “Radiation protection aspects of primary water chemistry and source term management”, October 2011.
 - Introduction of strategies and techniques
 - Radiation field measurement techniques
 - Measurement locations and indices
 - Remediation of contamination during outages
 - Radiation protection outcomes
- Next meeting: 14-15 February 2012
- Progress report to WGDA: 17-18 April 2012
- Approval of final report by ISOE Management Board: 14-15 November 2012

EG on ORP in Severe Accident Management and Post-Accident Recovery (EG-SAM)

– 35 members,

- 15 countries: 25 from utilities, 8 from authority, 2 from REAC/TS & RS Com- (nonISOE members)

– Mandate

- to develop a report on best radiation protection management procedures for proper radiation protection job coverage during severe accident initial response and recovery efforts to identify good radiation protection practices and to organise and communicate radiation protection lessons learned from previous reactor accidents.

EG-SAM

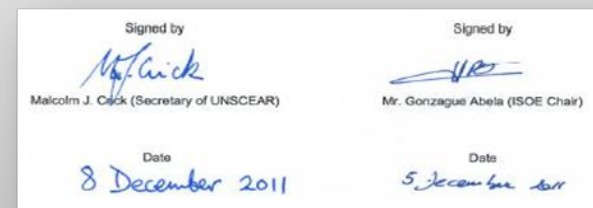
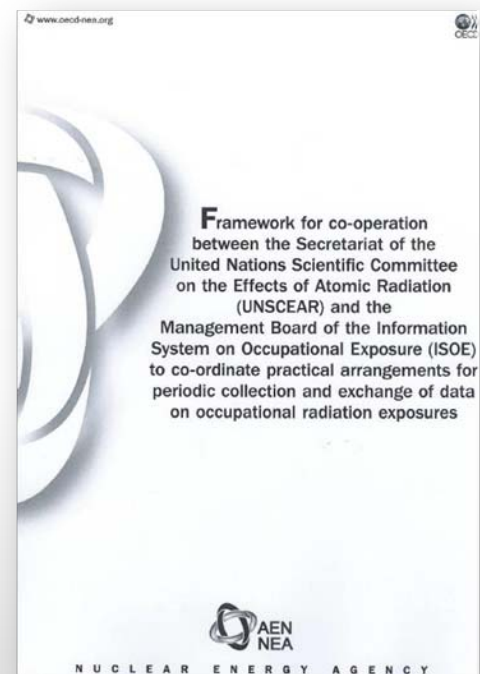
- Discussion topics
 - RP Management on an highly contaminated / irradiated area
 - RP equipment needed on site
 - Emergency procedures
 - Remote tooling
 - Sites stress tests dosimetric impact
 - Crew stress management
 - Searching and stopping of releases and contamination carry off
 - Means to fix and eliminate contamination and access procedures to the site,
 - Monitoring of high dose rate areas, pinpoint hot spots
 - Shielding and blocking of high dose rate areas
 - Declaration of new controlled areas and zoning
 - Selection of persons to act in emergency organizations and be exposed above normal annual dose limit (e.g. genetic tests)
- identifying factors and aspects which play key roles in achieving good practices on occupational radiation protection in severe accident management (knowledge, experience, technology, regulatory requirements and guidance, worker involvement, information exchange, training aspects, etc) and analysing and quantifying their impact on worker doses,
- submitting a report, including possible recommendations for further work, to the ISOE MB for approval, and to the CRPPH.

EG-SAM Timeline

- 8 February 2012 Kick-off meeting of the ETC sub-group in Prague
- 18-19 April 2012 (Paris, France): First meeting of the EG-SAM to identify topics of interest, and develop methodologies for completing its work.
- Regular reporting to the WGDA and ISOE Management Board
- November 2014 final report, Management Board approval



UNSCEAR Collaboration

- Framework for cooperation between the secretariat of the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR) and the Management Board of the Information System on Occupational Exposure (ISOE) to coordinate practical arrangements for periodic collection and exchange of data on occupational radiation exposures
- Agreed by the ISOE MB (November meeting) and signed in December 2011
- These specific data include:
 - Average collective dose over the period (total, average/reactor, average/energy generated);
 - Average number of reactors over the period;
 - Average energy generated over the period; and
 - Totals for each reactor type, based on reported data.



EDF MOU

- Sharing information, operating experience, and data to advance the understanding of the impact on NPP materials aging on corrosion product generation, transport and deposition on ex-core piping and components
- Approval of the MB during the 20th annual meeting
- Signed in April 2011
 - EDF, transfer results for CZT measurements
 - ISOE TCs agree to facilitate the transfer of NPP CZT Measurement data and posting on the ISOE-Network (restricted to participating utilities only)
 - EDF, provide information to facilitate the accuracy of CZT measurements
 - EDF and ISOE, sponsor technical subject matter experts to meet at least once per year

Electricité de France	ISOE
	
By _____	By _____
Gérard Cordier,	Gonzague ABELA,
Délégué à la radioprotection EDF	ISOE Chair (on behalf of the
	ISOE Management Board)
Date: <u>April 11th, 2011</u>	Date: <u>April 4th, 2011</u>

ISOE Network Website



ISOE Network

Information System on Occupational Exposure



[Home](#)
[About ISOE](#)
[Symposium](#)
[Publications](#)
[RP Contacts](#)
[Management](#)
[RP Library](#)
[Database](#)
[RP Forum](#)

Home

Welcome to the ISOE Website






*The Information System on Occupational Exposure (ISOE) System was established in 1992 to **provide a forum for radiation protection professionals** from electricity utilities and national regulatory authorities worldwide to **exchange information, operational experience and information** and **the optimisation of radiological protection at nuclear power plants**.*

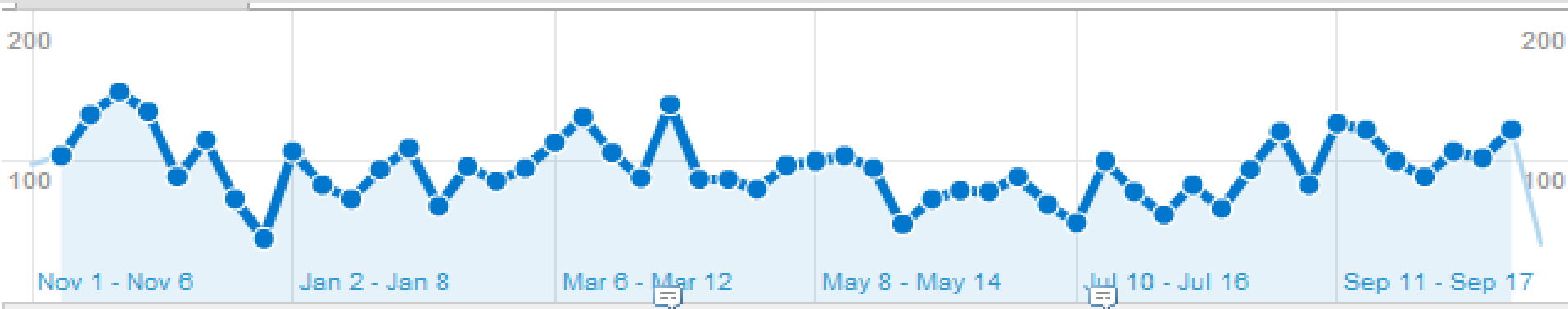
ISOE is jointly sponsored by the OECD Nuclear Energy Agency and the International Atomic Energy Agency


[ISOE Members Login](#)

	Registered
Authority	110
Utility	661
EC	1
Technical Centres	16
Secretariat	3
TOTAL	791

ISOE Network Website Statistics as of October 2011

- On an average, 150 visits per week
- 3300 different users
- Most visited pages (TOP 4)
 1. ISOE database
 2. Upcoming ALARA symposium
 3. Proceedings of the symposium
 4. RP Contacts



RP Library menu

- RP Experience Reports
- RP Management
- Plant information doc.

Radiation Protection Experience Reports

- Refueling Outage Reports
- Specific Maintenance Job Reports
- Radiation Monitoring
- Good Practices

Radiation Protection Management

- Guidance Reports
- Dose Reduction Programs
- RP Information Booklet
- ALARA Procedures / Organisations
- ALARA Tools

Plant Information related documents

- List of Reactors injecting Zinc
- Steam Generator Replacements performed in the world
- Reactor Vessel Head Replacements

Modifications of RP Library menu

- RP Forum Syntheses

RP Forum Syntheses Documents



This section provides you with the syntheses of the requests posted on the ISOE RP Forum grouped by topics and taking into account their restrictions: ISOE Members or Utilities Only.

Only requests with more than 5 answers are provided.


Categories

Files

	Radiation Monitoring	7
	Radioactive releases	2
	RP Management	6
	RP Practices / Procedures	12
	Training and Education	1

Modifications of RP Library menu

- Severe Accident Management:** documents posted



The synthesis of the answers to this survey which has been passed to our Japanese Colleagues can be downloaded here:  [Consolidated Answers Rev.5.](#)

Other Information

In addition, it has been decided to make available:

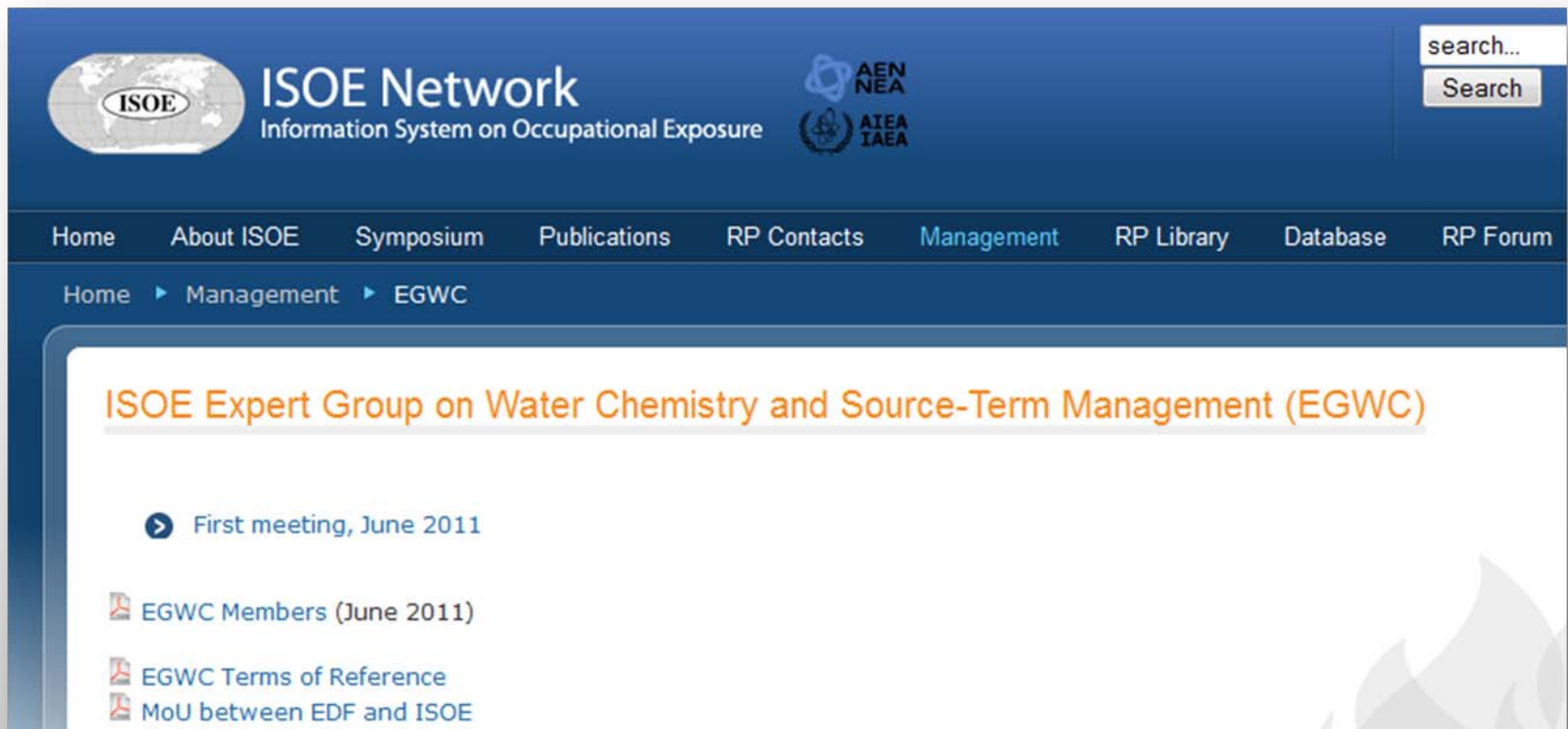
- | | |
|---|--|
| <ul style="list-style-type: none"> ➤ the experience and information from the Chernobyl and TMI accidents in terms of how emergency worker doses were legally and practically managed | TMI 2 Information
Chernobyl Information |
| <ul style="list-style-type: none"> ➤ the types of personal protective suits and other equipment (e.g. air bottles, respirators, air-hoods or suits, etc.) as well as high-radiation area worker dosimetry use (e.g. type, number and placement of dosimetry) for different types of emergency and high-radiation work situations | Personal Protective Suits and Dosimeters |
| <ul style="list-style-type: none"> ➤ Procedure for dose management during emergencies | Procedures |

Related Reports and Pictures

- [Pictures](#)
- NRC Report on  [Recommendations for Enhancing Reactor Safety in the 21th Century](#) (5.81 MB)
- EPA Report (selected pages) on  [Manual of Protective Action Guides and Protective Actions for Nuclear Incidents](#) (2.22 MB)

Modifications of RP Library menu

- New sub-menu: **EGWC**



ISOE Network Website: TC Input

- **Symposium**
 - Proceedings of the 2010 ISOE International Symposium (Cambridge, UK)
 - Proceedings of the 2010 ISOE Asian Symposium (Gyeongju, South Korea)
 - Proceedings of the 2011 ISOE North-American Symposium (Fort Lauderdale, USA)
 - Programme and registration form of the 2012 ISOE International Symposium (Fort Lauderdale, USA)
 - Call for Papers of the 2012 European Symposium (Prague, Czech Republic)
- **Synthesis of 2010 requests** have been posted on the web in a new submenu of the RP Library

ISOE Network Website: TC Input

• Publications

- ISOE News No. 16, 17 and 18
- ETC Information sheet - European Dosimetric Results for 2009
- NATC Information sheet - Analysis of Teledosimetry Data from Multiple PWR Unit Outage CRUD Bursts
- NEW : ISOE Website Newsletters No. 1 and No. 2



OECD Nuclear Energy Agency
International Atomic Energy Agency

INFORMATION SYSTEM ON OCCUPATIONAL EXPOSURE

ISOE NEWS

Electronic edition

www.isoe-network.net

ISOE News No.18, December 2011
ISOE Asian, European, North American and IAEA Technical Centres
 ISOE NEWS is a project of the ISOE Joint Secretariat (OECD/NEA/IAEA)

ISOE Management Board Meeting

The 21st annual meeting of the ISOE Management Board held on 9-10 November 2011 in Paris (France) was attended by participants from nuclear electricity utilities and national regulatory authorities from thirteen countries. The meeting was chaired by Mr. G. Abela (ISOE Chair) from EDF (France).

The Management Board reviewed the current ISOE programme. Key outcomes included approvals to:

- renewal of ISOE Terms and Conditions for the new term (participating utilities and authorities will be asked to confirm ongoing acceptance);
- establishment of ad-hoc new Expert Group on Occupational Radiation Protection in Severe Accident Management and Post-Accident Recovery (EG-SAM);
- approval of WGOA Terms and References;
- approval of "Framework for cooperation between the secretariat of the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR) and the Management Board of the Information System on Occupational Exposure (ISOE) to coordinate practical arrangements for periodic collection and exchange of data on occupational radiation exposures"





Cooperation with UNSCEAR

"Framework for cooperation between the secretariat of the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR) and the Management Board of the Information System on Occupational Exposure (ISOE) to coordinate practical arrangements for periodic collection and exchange of data on occupational radiation exposures" was signed by the ISOE Chairman Mr. G. Abela and the Secretary of UNSCEAR Mr. M. Crik in December 2011. The purpose of the framework for cooperation is to facilitate systematic and regular provision by ISOE to UNSCEAR of data and information on occupational radiation exposures at nuclear facilities with a view to increasing awareness and deepening understanding among



OECD Nuclear Energy Agency
International Atomic Energy Agency

INFORMATION SYSTEM ON OCCUPATIONAL EXPOSURE

ISOE WEBSITE NEWSLETTER No. 02

April - June 2011

"Dear ISOE Members, this newsletter has been created to inform you about the last information posted on the ISOE Website and available to the ISOE community. If you wish to publish some documents on the Website, please feel free to send them to ETC using the following address: isoe@isoe-network.net"

PLANT INFORMATION DOCUMENTS

The Plant Information section of the RP Library provides you with the following documents:

- List of reactors operating in 2010
- For ENR: listing by country and plant with the year, power, reactor type, site location, type of fuel, and other relevant information
- For PWR: listing by country and plant with the year, reactor type, site location, type of fuel, and other relevant information
- Open Document Requirements (ODR) performed in RP LIB
- Listing by plant, country, year of RP and selected data results
- Reactor Vessel Head Measurements (RVHM) performed in the world
- Listing by plant, country, year of RVHM and selected data results

RP LIBRARY WITH DOCUMENTS IN YOUR OWN LANGUAGE

You have now the possibility to publish documents in your own language with a short description of its content in English.

The following documents have already been posted:

ALARA Procedures/Committees

- Framework NPP - 2011 ALARA program (in Swedish)
- ALARA Committee guidelines at Koko NPP - Slovenia (in Slovenian)

RP Information Booklet

- Brochure Booklet (in Dutch)

Good Practices

- EOP Qualities Report on RP activities follow-up (in French)
- EOP Qualities Report on RP activities follow-up (in French)
- EOP Qualities Report on RP activities follow-up (in French)

Last documents posted on the ISOE Website

RP Library Publications

- Severe Accident Management
- RP French Language Documents
- RP Management 2011 ALARA program (in Swedish)
- ALARA Committee guidelines at Koko NPP - Slovenia (in Slovenian)
- ALARA Committee guidelines at Koko NPP - Slovenia (in Slovenian)

Management documents

- Working Group on Data Analysis (WGDA) meeting 26-28 May 2011, St. Germain, France
- ISOE Review Meeting 23 May 2011, St. Germain, France
- ISOE Expert Group on Water Chemistry (EGWC)

Last reports posted on the ISOE RP Forum

For ISOE Members

- Selection of storage rate between primary and secondary loop

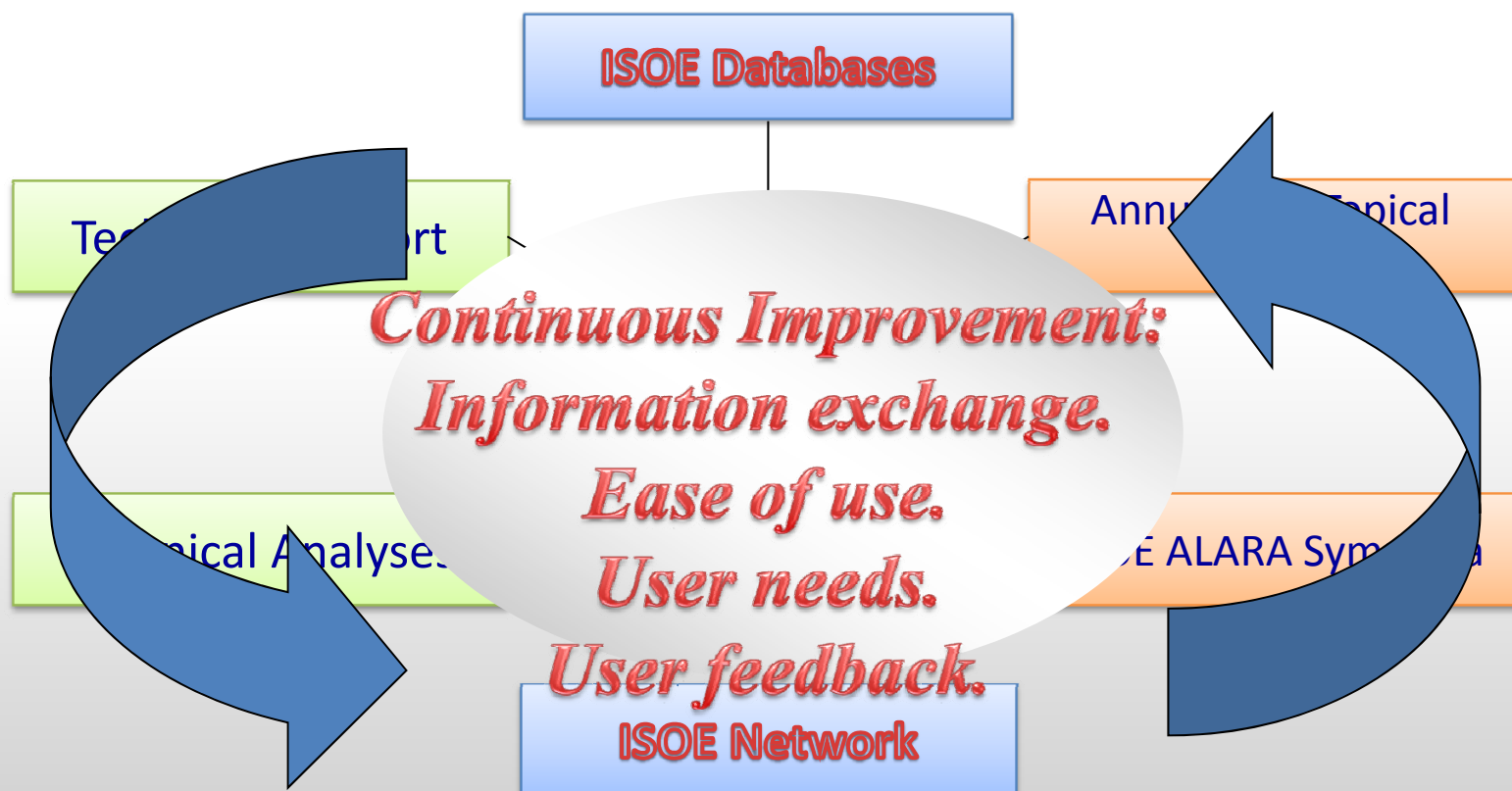
For Visitors only

- Setting an accurate annual collective dose objective
- Dosemetry associated with spent fuel removal

Reports

- **19th Annual report (for year 2009)**
 - Accessible via NEA and ISOE-Network web sites
- **20th Annual report (for year 2010)**
 - No new analysis for this report
 - Still in progress for completion
- **20th ISOE Anniversary Report**
 - TASK group was created
 - January 2012, first draft by NATC
 - February 2012, comments from TCs
 - May 2012, final review (consultation with WGDA- April)

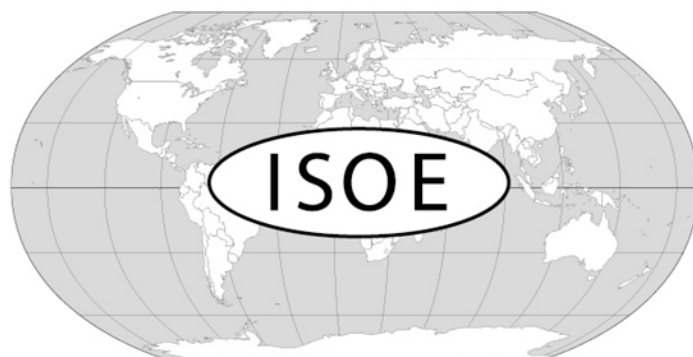
ISOE Products



ISOE products support dose trend analyses, benchmarking, technique comparisons; application of ALARA and good work management in local RP programmes

Conclusion

- **Value:** an important combination of global occupational dose data, dose reduction experience and information exchange among participating utilities, authorities to facilitate practical optimisation of worker radiological protection
- **Success:** ISOE has proved successful in helping radiation protection experts to better manage occupational exposures at nuclear power plants
- **Future:** ISOE will continue to facilitate the sharing of experience, and the building of linkages between ISOE members worldwide to develop a global approach to ALARA work management (and ORP in severe accident management)



INFORMATION SYSTEM ON OCCUPATIONAL EXPOSURE

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<http://www.oecd-neo.org/jointproj/isoe.html>

<http://www.isoe-network.net>

EGOE

Policy and strategic areas of ORP with a focus on the nuclear power sector

Case Study No.1: ORP principles and criteria for
designing new NPPs - **published**

Case Study No.2: Dose Constraints in Occupational
Radiation Protection – **published**

Case Study No.3: Policy and Practical Issues in ORP
in NPPs – **under preparation**

Radiological Protection
NEA/CRPPH/R(2011)1
2011



Dose Constraints in Optimisation of Occupational Radiological Protection

Implementation of the Dose
Constraint Concept into
Radiological Protection
Regulations and its use
in Operators' Practices



NUCLEAR ENERGY AGENCY

ISOE-organised benchmarking visits

- **ETC:** one benchmarking visit for EDF were organised by CEPN using ISOE contacts
 - TMI 1 NPP (USA): 31 October - 4 November 2011
 - Main topics:
 - Radiation Protection Management at the Corporate Level
 - ALARA
 - On-site work follow-up
 - Training of RP Technicians
 - Classification and management of the various radiation areas
- **NATC:**
 - March, 4 - 5 2011: Benchmarking visit to Gravelines NPP (France) (NATC + Exelon)
 - Main Topic: EDF CZT piping measurements for PWRs

ISOE-organised benchmarking visits

- **ATC:** US benchmarking visit to Dresden NPP and Comanche Peak NPP was conducted by JNES to evaluate outage and ALARA performance and programs.
 - Dresden (BWR): 7 - 8 March 2011
 - Comanche Peak (PWR): 9 - 10 March 2011
 - Main topics:
 - Outage Management
 - Shutdown Chemistry
 - Cobalt Reduction
 - Other ALARA Related Information