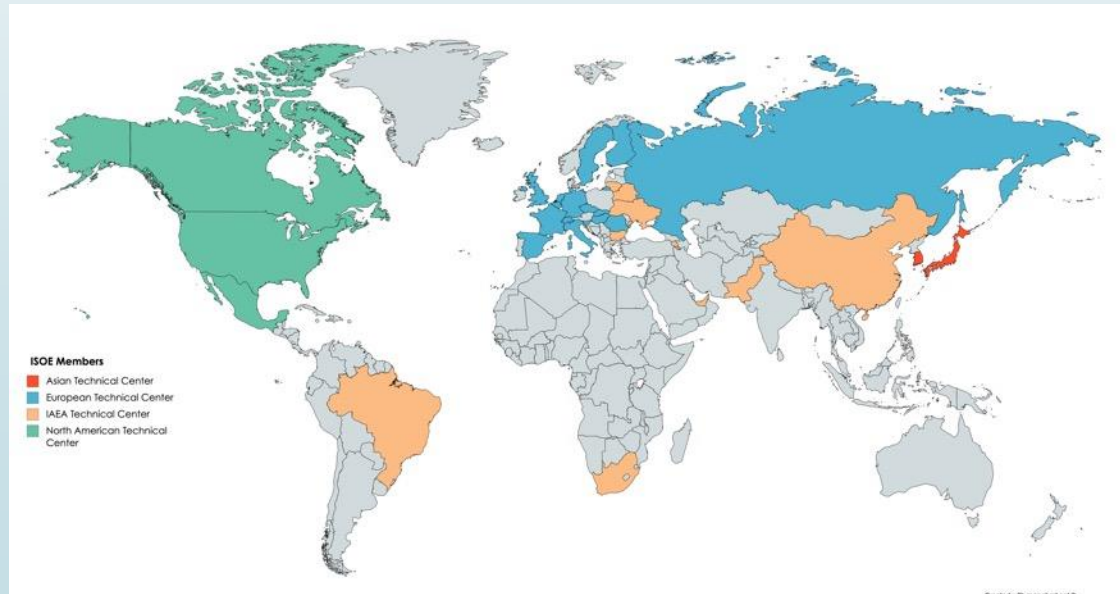


ISOE - Information System on Occupational Exposure

General Presentation and highlight of key activities



Caroline Schieber
ISOE International Symposium
Beijing, 22-24 October 2019

Presentation Layout

1. ISOE Objective and membership
2. ISOE Organisation
3. ISOE Products and benefits
4. ISOE Website
5. ISOE Database



ISOE: Objectives and membership

ISOE Objectives

ISOE Organisation

ISOE Products

ISOE Website

ISOE Database

- Created in 1992
- A **network** of RP professionals from nuclear licensees and national regulatory authorities worldwide
- Objective: **to improve the management of occupational exposure at nuclear power plants** by exchanging broad and regularly updated information, data and experience on methods to optimise occupational radiological protection
- As of December 2018, the ISOE programme included:
 - **78 Nuclear Licensees in 29 countries**
 - **28 Regulatory Authorities in 26 countries**
 - **Dose data from 347 operating units; 55 shutdown units; 7 units under construction and/or commissioning**
- The ISOE is jointly sponsored by the:
 - OECD Nuclear Energy Agency (NEA), and
 - International Atomic Energy Agency (IAEA).

ISOE Organisation

ISOE Objectives

ISOE Organisation

ISOE Products

ISOE Website

ISOE Database

- The ISOE operates in a decentralised manner.
 - **Management Board (MB)** composed of representatives from licensees and regulatory authorities from all participating countries takes decisions and provides overall direction (1 meeting /year)
 - **Bureau**, elected by the MB, guides ISOE and Secretariat work between MB meetings (2 meetings/year).
 - Both are supported by the joint **NEA/IAEA Secretariat**.
- **Four ISOE Technical centres** (Asia, Europe, IAEA and North America) serve the programme's day-to-day technical operations and are contact points for the transfer of information from and to participant countries.
- **A National co-ordinator** in each country provides a link between ISOE participants and the ISOE programme.
- **Specialised working groups**, mandated by the Management Board, are created on an as-needed basis to support the goals of the ISOE on specific topics.

ISOE members by Countries and affiliated Technical Centers

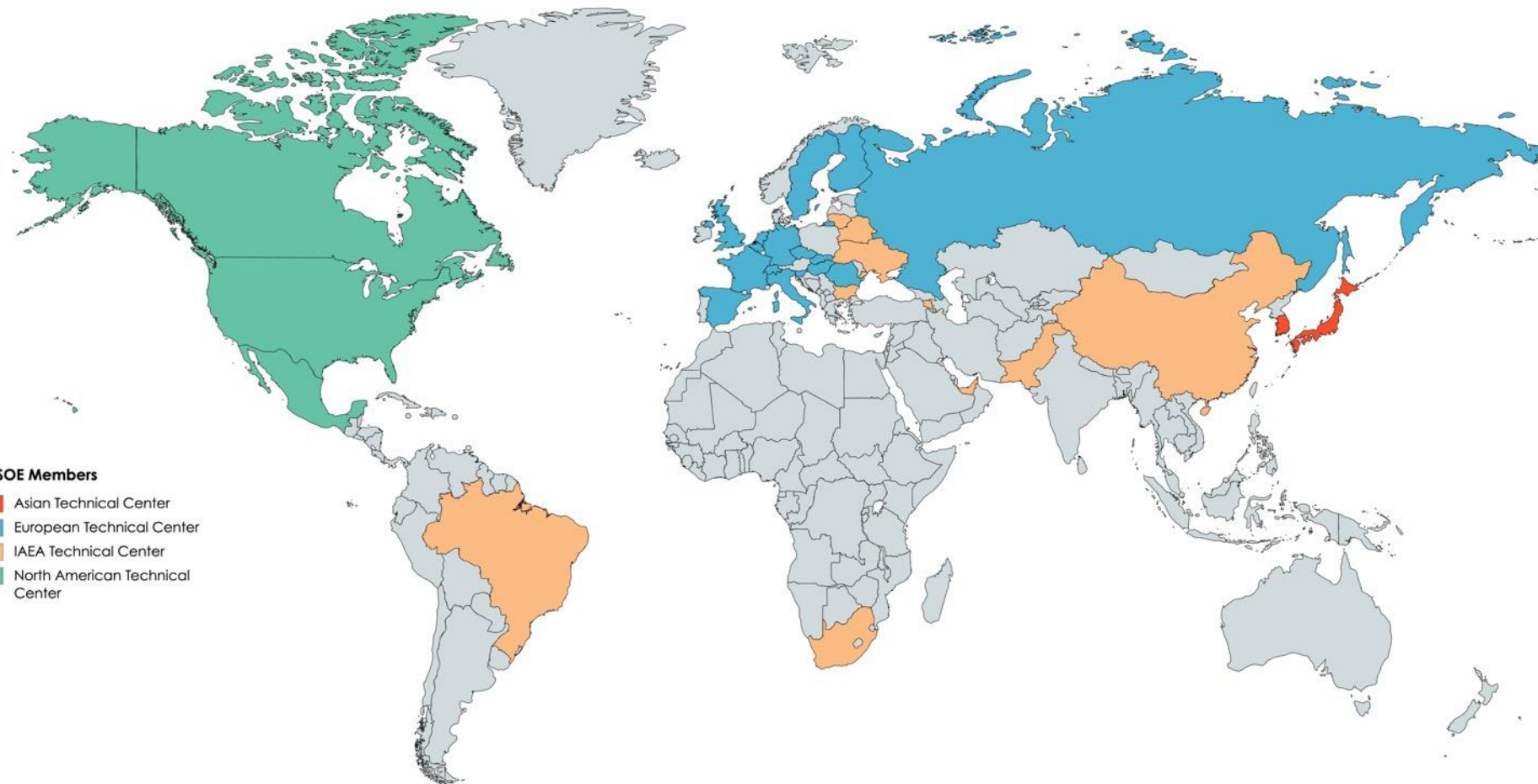
ISOE Objectives

ISOE Organisation

ISOE Products

ISOE Website

ISOE Database



ISOE Products and Benefits (1)

ISOE Objectives

- A global **Network of RP professionals** from nuclear licensees and national regulatory authorities

ISOE Organisation

- The world's largest **database on occupational exposure from nuclear power plants**. The NEA provides IT support to further develop and maintain an internet-based system for the ISOE

ISOE Products

- **ISOE Website:** Access to the ISOE database, products, resources and online user fora
- Detailed **studies and analyses** on current issues in operational RP and dose trends

ISOE Website

ISOE Database

ISOE Products and Benefits (2)

ISOE Objectives

ISOE Organisation

ISOE Products

ISOE Website

ISOE Database

➤ Reports:

- **Annual ISOE reports:** annual status of ISOE programme, occupational exposure trends, principal events in participating countries
- **Annual country reports:** annual dose information and principal events in participating countries
- **Topical reports:** working groups reports

➤ Symposia:

- **Regional and international ALARA symposia** organised yearly by Technical centres
- Radiological protection manager meetings
- Regulatory body representative meetings

- **Benchmarking visits** allow ISOE members to share their experience and good RP practices



ISOE Objectives

ISOE Organisation

ISOE Products

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The ISOE Website (www.isoe-network.net)



[HOME](#) ✓

[PUBLICATIONS](#) ✓

[ACTIVITIES](#) ✓

[RP CONTACTS](#) ✓

[DECOMMISSIONING](#) ✓

[ISOE DATABASE](#)

[RP FORUM](#)

[ABOUT ISOE](#) ✓



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Welcome to the ISOE Website

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

Examples of documents available on ISOE Website

ISOE Objectives

ISOE Organisation

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ISOE Database

- Proceedings:
 - Symposia classified by year or by theme
 - Workshops (Reactor cavity decon., EGSAM)
 - Topical sessions
- Annual country reports
- Information sheets
- Working groups reports
- Benchmarking reports (public or restricted)
- RP Experience reports (public or restricted)
- Plant information (SGR, RVHR, Zn injection) (restricted)
- OpEx reports (restricted)
- Thematic documents (Source Term management, Severe accident management, Reactor cavity decontamination) (restricted)

ISOE RP Forum (1)

ISOE Objectives

ISOE Organisation

ISOE Products

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ISOE Database



HOME PUBLICATIONS ACTIVITIES RP CONTACTS
DECOMMISSIONING ISOE DATABASE **RP FORUM**
ABOUT ISOE



ISOE Network forum

Forums

Mark forums read Search New posts

Board index

ISOE Members

All members
Topics: 16, Posts: 47

Re: Cleaning Radioactive Effl...
by mag →
13 Dec 2016 16:59

Utilities only
Topics: 104, Posts: 681

Re: Telemetry user experience
by trentini →
03 Oct 2018 09:26

Authorities only
Topics: 0, Posts: 0

No posts

WGDECOM
Topics: 4, Posts: 11

Re: Preparation for the Lyon M...
by millerdw →
28 Sep 2018 16:09

RP Issues in Decommissioning
Topics: 0, Posts: 0

No posts

RP Operating Experience shared with all ISOE Members
Topics: 0, Posts: 0

No posts

RP Operating Experience shared with Utilities only
Topics: 0, Posts: 0

No posts



Welcome to the

The Information System on Occupational
protection professionals from nucle
reduction information, operational
at nuclear power plants.

in order to
documents

ISOE Objectives

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ISOE Website

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- **General forums** to exchange about RP issues dedicated to:
 - All members
 - Utilities only
 - Authorities only
- **WGDECOM forum** restricted to WGDECOM members to exchange about WG issues
- **RP Issues in Decommissioning** for all ISOE members
- **Forums to exchange information about events** occurring on ISOE members installations:
 - RP Operating Experiences shared with all ISOE members
 - RP Operating Experiences shared with Utilities only



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[National Coordinators](#)[RP Managers](#)[Authorities](#)[Decom. Experts](#)



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ISOE is jointly sponsored by the [OECD Nuclear Energy Agency](#) and the [International Atomic Energy Agency](#).

Don't forget to login in order to access to restricted documents and resources

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Use of ISOE Contacts

ISOE Objectives

- **Organisation of benchmarking visits** – examples with reports available on ISOE website:

- EDF visit at Exelon corporate
- Comanche Peak visit at Doel NPP
- Japanese delegation visits to US plants (Fermi, Limerick, Susquehanna, Dresden, etc.)

ISOE Organisation

- **Sending of requests** directly to National coordinators, Authorities or RPMs:

- Example: Survey on the values and uses of the monetary value of the man.Sievert realised in 2017.
Results published in ISOE ETC Information Sheet No. 61

ISOE Products

ISOE Website

ISOE Database

Access to the ISOE Database

ISOE Objectives

ISOE Organisation

ISOE Products

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The screenshot shows the ISOE Database login interface. At the top, there is a navigation menu with links: HOME, PUBLICATIONS, ACTIVITIES, RP CONTACTS, DECOMMISSIONING, **ISOE DATABASE** (highlighted with a red box and arrow), and RP FORUM. Below the navigation menu, the text "ISOE Database" is displayed. A message "Please log-in" is shown. A large blue login box contains the text "OECD Nuclear Energy Agency International Atomic Energy Agency" and "LOG-IN MEMBERS LOGIN". It features a "GO" button and input fields for "USER ID" and "PASSWORD". To the right of the login box, there are links for "Forgot your password?" and "request an account". At the bottom, there are buttons for "Return to ISOE Network" and "Retrieve password".

ISOE Database

Please log-in

Don't forget to login in order to access to restricted documents and resources

Username

Password

Remember Me

Forgot your password?

request an account

Return to ISOE Network

Retrieve password

Content of the ISOE Database

ISOE Objectives

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ISOE Database

- **Occupational dosimetric information** from commercial NPPs in operation or in some stage of decommissioning, including:
 - annual collective dose for normal operation
 - maintenance/refueling outage dose
 - forced outage dose
 - annual collective dose for certain tasks and worker categories
 - dose rates

Database Analyses and Benchmarking

ISOE Objectives

- Data available in database provides a solid basis for analyses on issues in operational RP such as dose trends, doses related to certain jobs and tasks, identification of good performance, etc.

ISOE Organisation

- Several ways to use the database:

- MADRAS analysis package : **A set of pre-defined data queries** to facilitate analysis of main trends in occupational exposure, benchmarking between plants, sister units, etc.
- **Direct access to ISOE questionnaires**, including contact information and complementary data
- Direct access to all the data available using the **data extraction module**

ISOE Products

ISOE Website

ISOE Database

Using ISOE Database as a Benchmarking Tool

ISOE Objectives

➤ Analyses at **country or regional level**:

- Trends in Annual average collective dose per reactor /
- Annual total collective dose
- Between countries or regions: by country/region for a given reactor type, or all reactors, including rolling average over several years
- Within a country: Specific unit versus another unit or by type of reactor

ISOE Organisation

➤ Analyses at **utility level**:

- Specific utility versus other utilities
- Specific utility by reactor type

ISOE Products

➤ Analyses at **unit level**

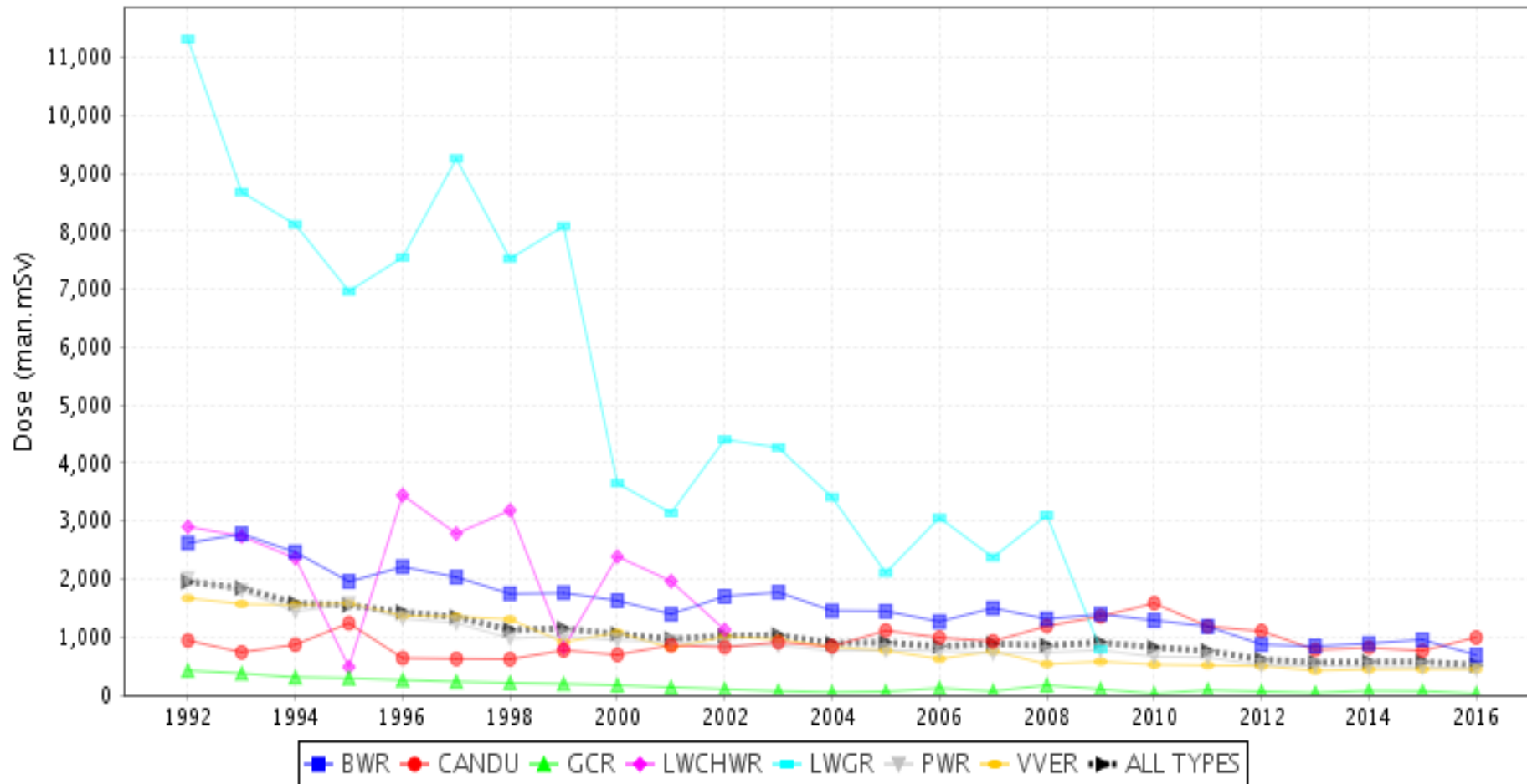
- Specific unit versus another unit / sister group / reactor type
- Benchmarking at the job and task level

ISOE Website

ISOE Database

Collective Dose Trends by Reactor Type

Average annual collective dose per reactor by reactor type

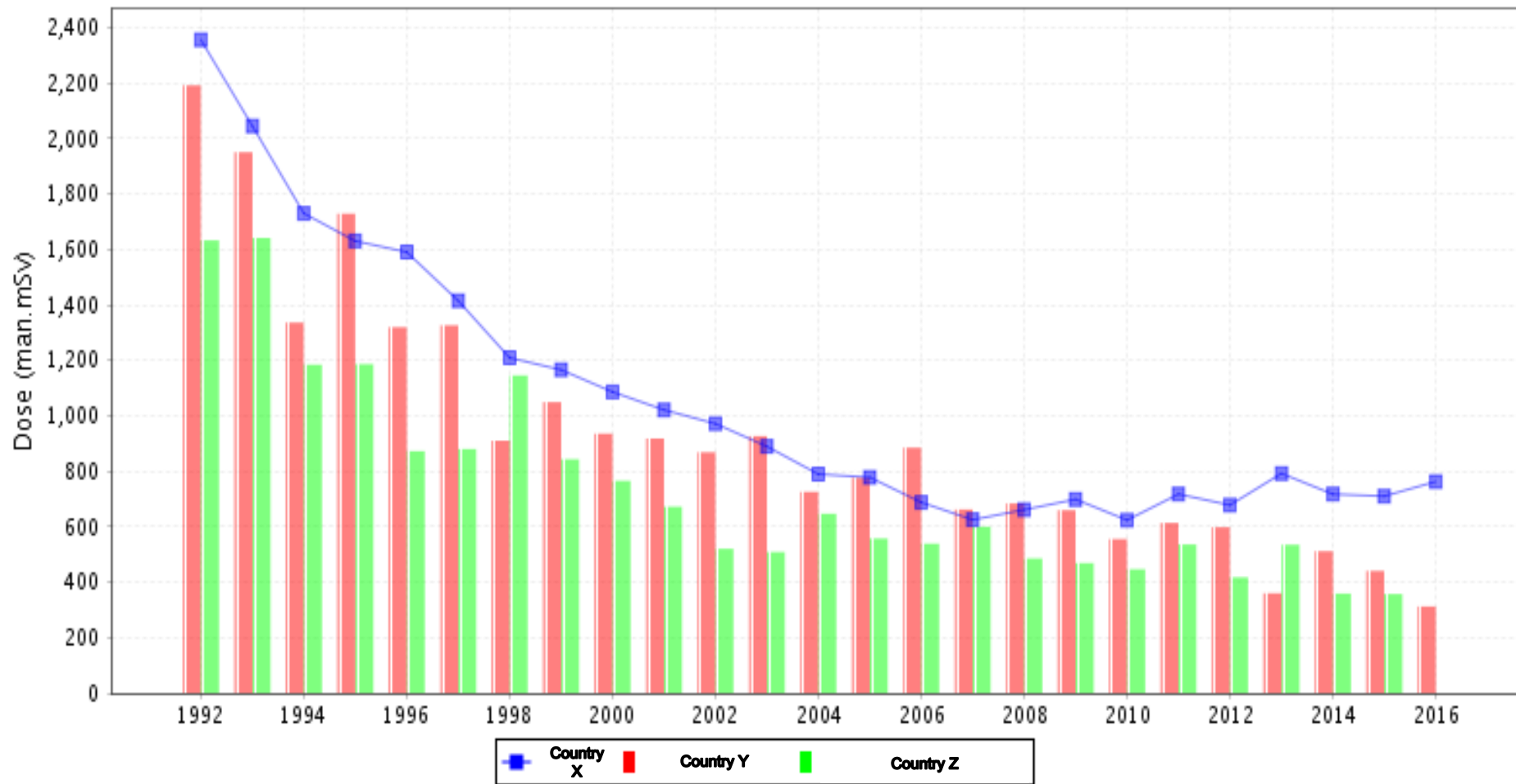


#6-f2

Source: ISOE

Country Dose Trends by Reactor Type

Average annual collective dose per reactor for Country X compared with other countries for PWR



#6-fx

Source: ISOE

Dose trends by sister units

ISOE Objectives

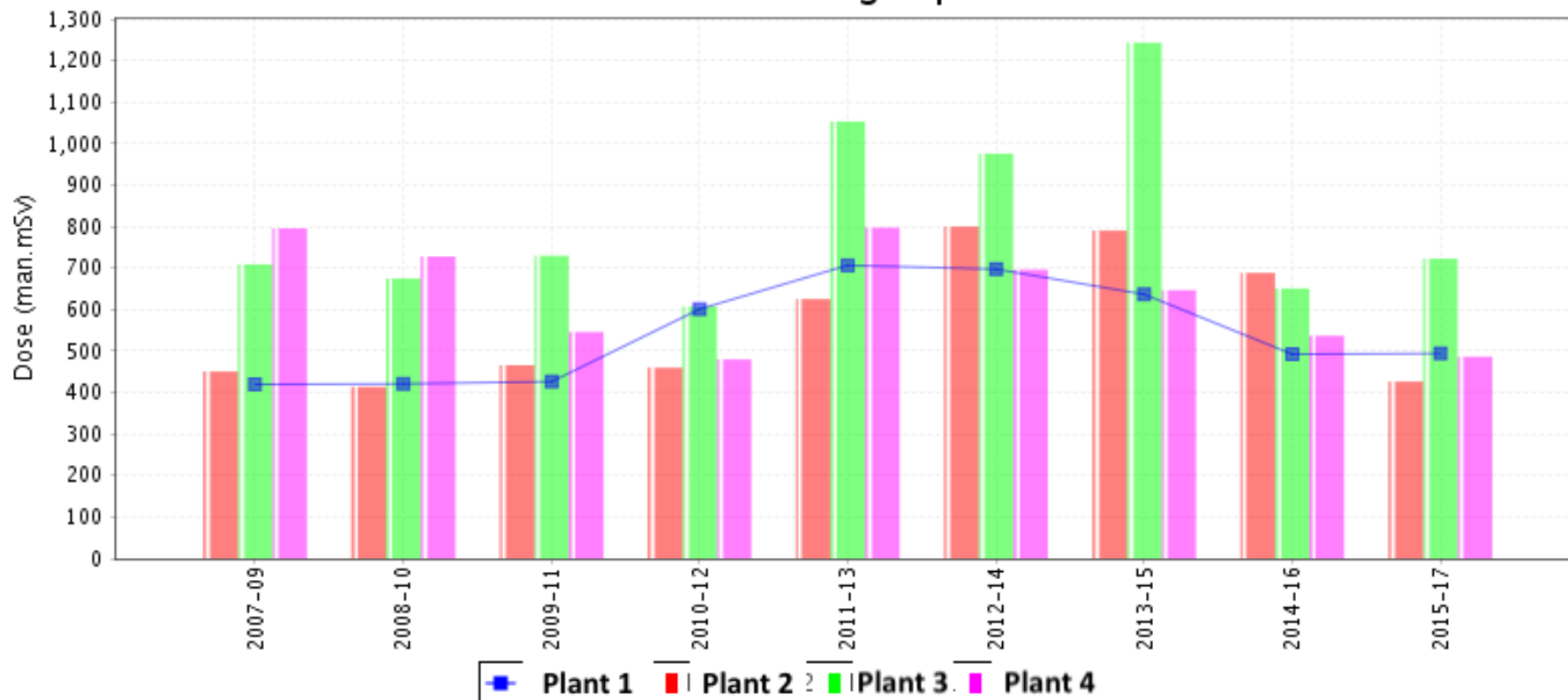
ISOE Organisation

ISOE WG

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3-Year rolling average collective dose per reactor for Plant 1 compared with other units in its sister unit group



#U-23

Source: ISOE

How to Join ISOE

- ISOE is open to Nuclear Licensees and National Regulatory Authorities
- In order to participate to the ISOE Programme, eligible parties must notify the ISOE Secretariat of their **acceptance of the ISOE Terms and Conditions**, available on the ISOE Network Website: www.isoe-network.net
- A specific form to join the System is available on the ISOE Network Website
- Members are affiliated to a Technical Center, according to their countries

Thank you for your attention!



For more information:
www.isoe-network.net

ISOE Secretariat:
isoe.secretariat@oecd-neo.org