

**Working Group on Radiological Aspects of Decommissioning Activities at
Nuclear Power Plants (WGDECOM)
3/06/2016**

**Chair: -HALE, James Mike (US)
Vice-Chair: -CALAVIA, Ignacio (Spain)**

Summary

- Decommissioning and WGDECOM Background
- Terms Of Reference
- WGDECOM activities in 2015
- Programme of Work 2016-2017
- Summary of April 2016 meeting in USA
 - Changes in participants
 - Zion NPP visit
 - Kewaunee NPP visit
- Upcoming meetings
- Issues

Decommissioning

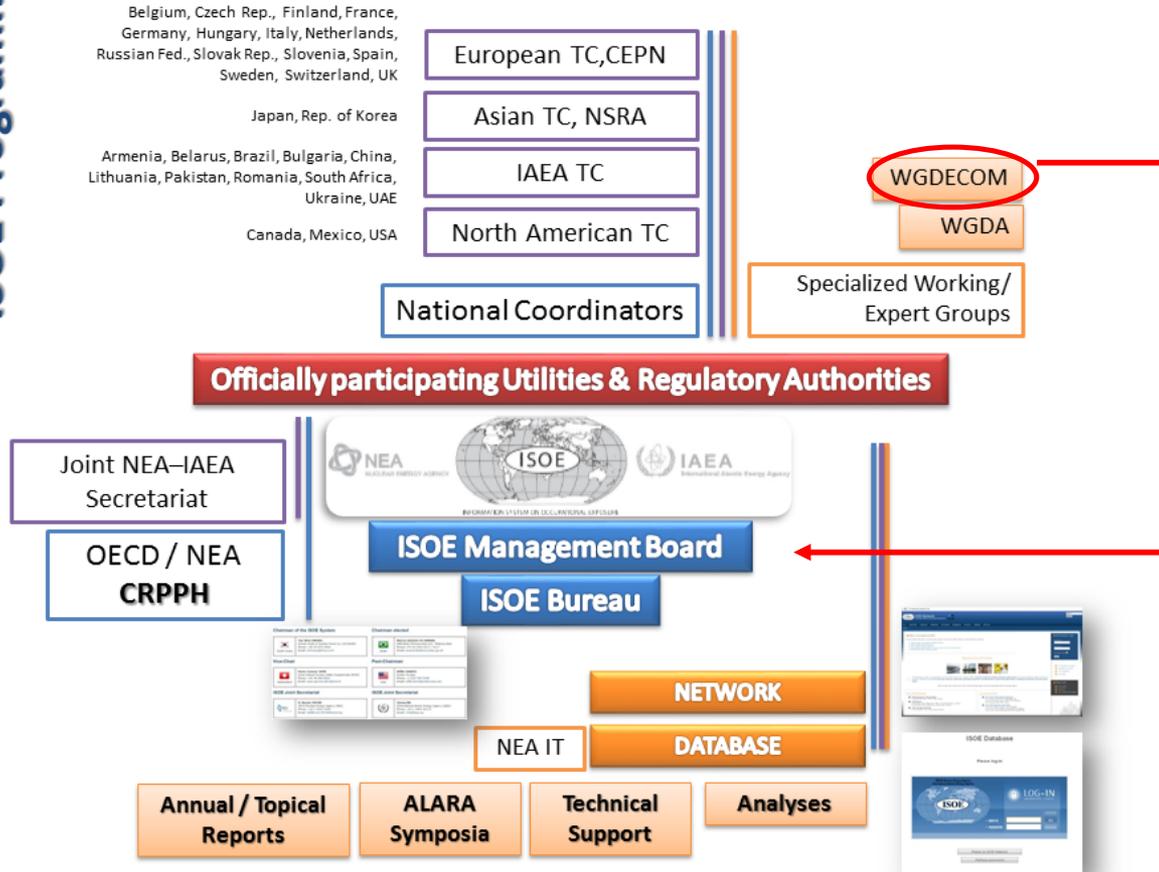
Definition from “General Safety Requirements Part 6 No. GSR Part 6, Decommissioning of facilities” (IAEA)

The term ‘decommissioning’ refers to the administrative and technical actions taken to allow the removal of some or all of the regulatory controls from a facility (except for the part of a disposal facility in which the radioactive waste is emplaced, for which the term ‘closure’ instead of ‘decommissioning’ is used). Aspects of decommissioning have to be considered throughout the other five major stages.

WGDECOM Background

- Decommissioning of nuclear power plants is a subject of growing importance.
- Various projects and groups have been dealing with technical aspects of decommissioning.
- Many uncertainties remain, particularly in the realm of operational RP.
- In November 2014, a joint session between ISONE and CPD discussed a proposal to establish a joint working group on operational radiation protection.
- Later that month, the ISONE Management Board approved the creation of the WGDECOM.

ISOE Programme



WGDECOM main objective(Terms of Reference)

Provide a forum for experts to develop a process within the Information System on Occupational Exposure (ISOE) programme to better share operational RP data and experience for NPPs in some stage of decommissioning or in preparation for decommissioning.

WGDECOM Terms Of Reference

The Group will identify:

- the areas of operational RP for NPPs planning decommissioning or in the process of decommissioning that are most relevant for effective management of occupational exposure;
- the operational data that can be collected through the ISOE databases in order to suggest trends and aspects that can be studied and used for benchmarking as a starting point for more in-depth analyses;

WGDECOM Terms Of Reference

- a network of operational RP experts at NPPs who are planning decommissioning or who are in the process of decommissioning for the ISOE Management Board to see how they can be integrated into the ISOE programme to effectively exchange occupational exposure management experience;
- factors and aspects that play key roles in achieving good practices in decommissioning (knowledge and institutional memory, experience, technology, regulatory requirements and guidance, worker involvement, information exchange and networking, radioactive low and medium level waste management, etc.), and analysing and quantifying their possible impact on occupational doses.

WGDECOM activities in 2015

- Two meetings held at NEA Headquarters in Issy-Les-Moulineaux.
- 8-9 june 2015:
 - Preliminary meeting
 - Joint session with WPDD (<http://www.oecd-nea.org/rwm/wpdd>)
- 26-27 october 2015:
 - Modification of the Terms Of Reference
 - Development of Work Plan
 - Preparations for first plant visits (Zion, Kewaunee)
 - Liason with WPDD

WGDECOM activities in 2015

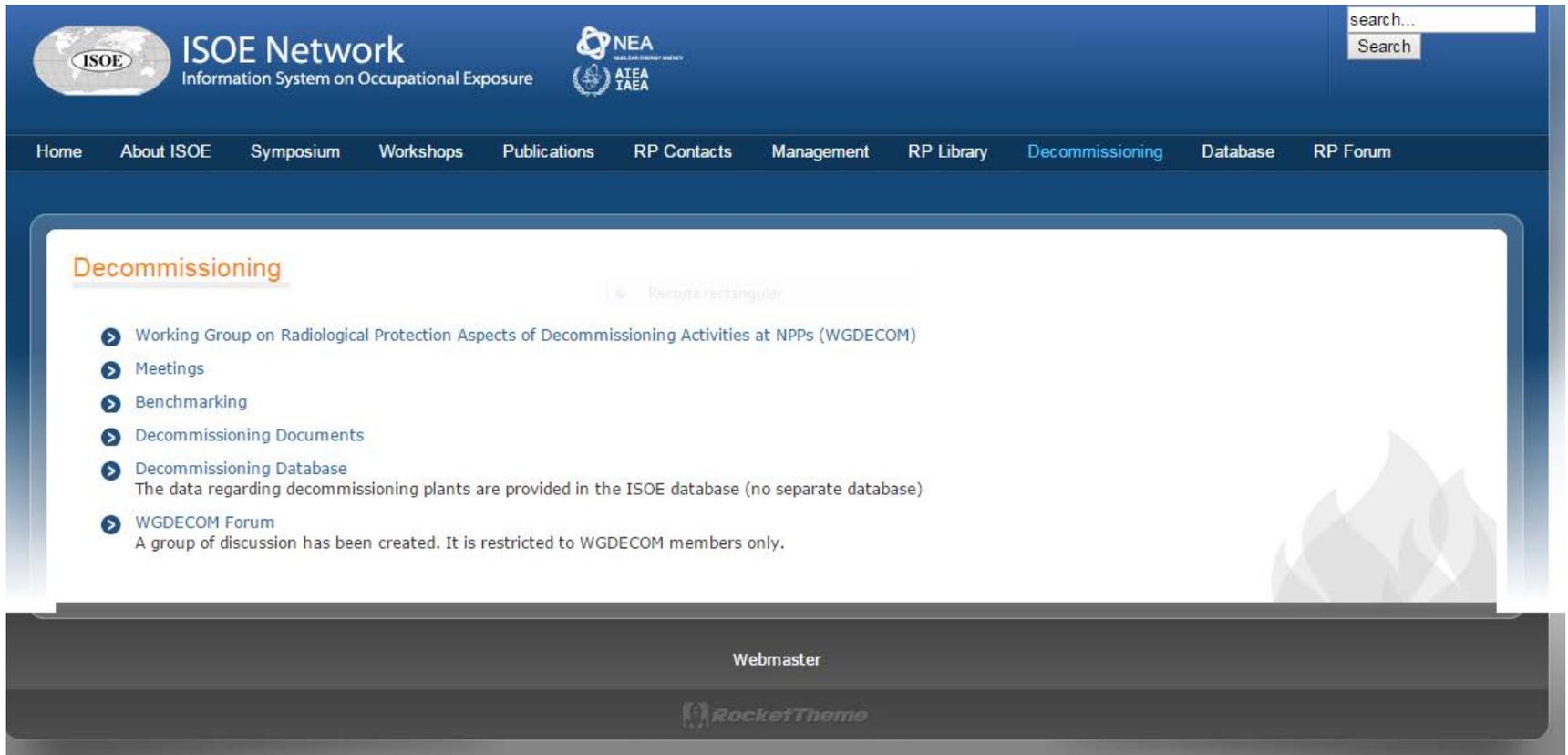
- During the October 2015 WGDECOM meeting, it was reaffirmed that WGDECOM and WPDD shall collaborate in future.
- To achieve this, Erwin Neukaeter will act as liaison officer of WGDECOM for any issues concerning the co-operation with WPDD.
- Erwin Neukaeter attended 16th meeting of the Working Party on Decommissioning and Dismantling (WPDD), held on 23-25 November 2015 at the NEA offices.
- Special sub-section was created for WGDECOM Forum on the ISOE website.

WGDECOM activities in 2015

- Draft Plan of Work
- Final text (Work Plan) presented to ISOE Bureau for approval
- Draft of Site Benchmarking template
- Review of ISOE D trial Data Collection Template Review of Dose data breakdown from José Cabrera NPP decommissioning project

WGDECOM activities in 2015

- Modifications in ISOE website

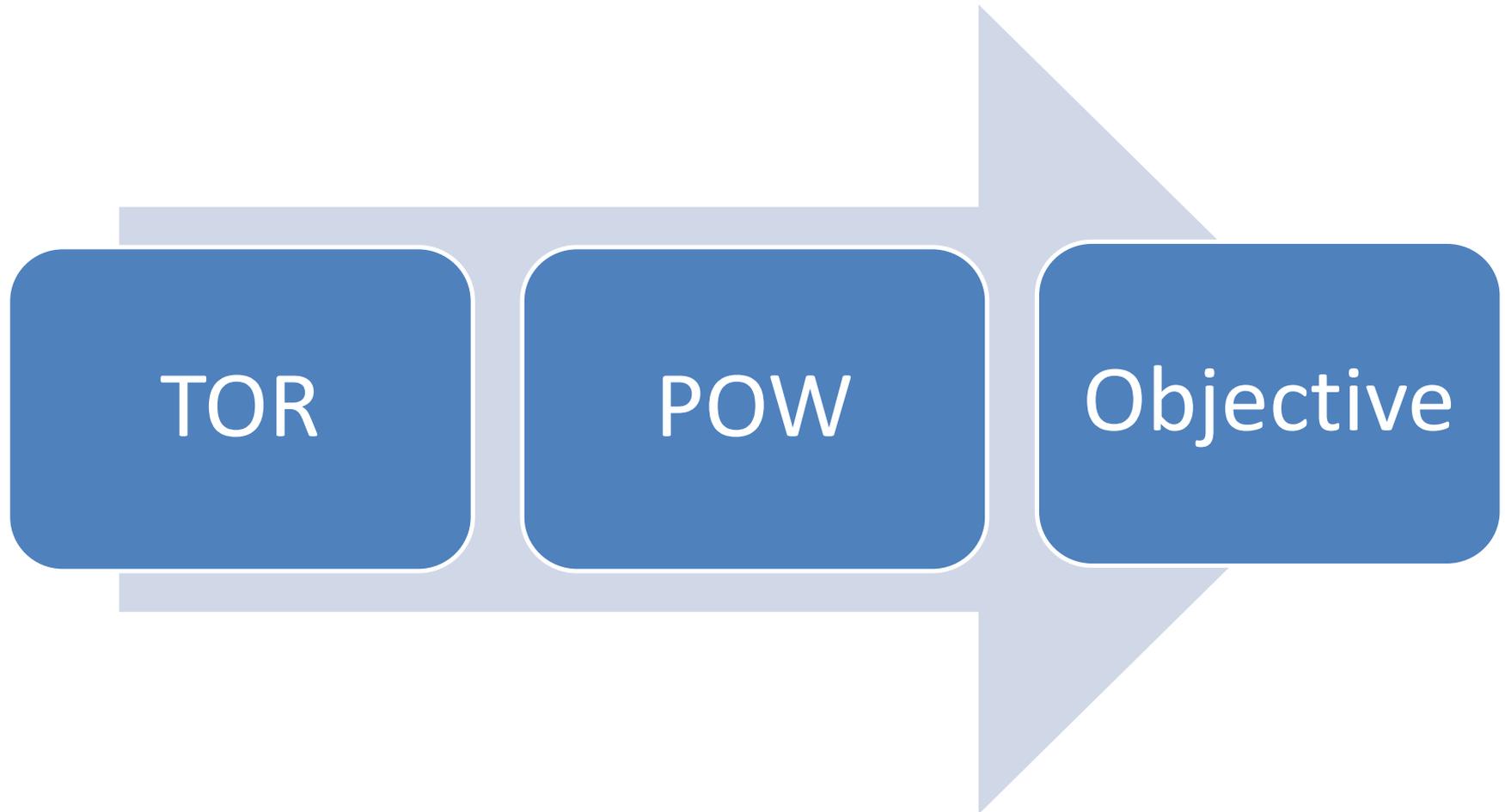


The screenshot shows the ISOE Network website interface. The header includes the ISOE logo and the text "ISOE Network Information System on Occupational Exposure". It also features logos for NEA, ATEA, and IAEA. A search bar is located in the top right corner. The main navigation menu includes: Home, About ISOE, Symposium, Workshops, Publications, RP Contacts, Management, RP Library, Decommissioning, Database, and RP Forum. The "Decommissioning" section is highlighted and contains a list of links:

- Working Group on Radiological Protection Aspects of Decommissioning Activities at NPPs (WGDECOM)
- Meetings
- Benchmarking
- Decommissioning Documents
- Decommissioning Database
The data regarding decommissioning plants are provided in the ISOE database (no separate database)
- WGDECOM Forum
A group of discussion has been created. It is restricted to WGDECOM members only.

At the bottom of the page, there is a "Webmaster" link and the "RocketTheme" logo.

WGDECOM Process Overview



WGDECOM Programme Of Work

- Needs to be approved by the ISOE Bureau.
- Break the main tasks of the group in manageable parts.
- Each and every part shall be traceable to one of the TOR bullets.
- Nominate a coordinator or responsible for each of the identified tasks.

PROPOSED WGDECOM PROGRAMME OF WORK (2016-2017)

Item	Description	TCD
1	<ul style="list-style-type: none"> • Identify a network of radiation protection experts associated with decommissioning on the ISOE website - Create template for recording contacts and expertise for experts - Populate template with radiation experts after obtaining their permission • Consider on an ongoing basis the membership of the group 	<p>Standing action item on agenda</p> <p>May 31, 2016 June 30, 2016</p> <p>Standing action item on agenda</p>
2	<ul style="list-style-type: none"> • Create FAQ section on decommissioning on ISOE web-page • Draft Frequently Asked Questions on RP in Decommissioning - Send draft FAQs and answers to BB • Populate FAQ section with pre-determined questions • Create a closed forum for WGDECOM and also an open forum for RP discussions 	<p>June 2016</p> <p>Oct 2016 Aug 31, 2016</p> <p>Nov 2016, then ongoing June 2016</p>

PROPOSED WGDECOM PROGRAMME OF WORK (2016-2017)

Item	Description	TCD
3	<ul style="list-style-type: none"> • Determine if present search tool is adequate • Create/Modify search tool which provides radiation protection information (dose, practices, source term, contacts, reports, relevant regulatory requirements, waste management information, national constraints, incidents and challenges) which can be used by Radiation Protection experts to support RP in decommissioning - Prepare a proposal to search RP information using categories and decommissioning task list - Provide feedback on proposal to MM • Identify if previous proposal for ISOE Database for Decommissioning is applicable • Design method of collection, recording • Collect data from previous/current projects • Promote use of tool 	<p>Complete</p> <p>October 2016</p> <p>June 30, 2016</p> <p>Aug 31, 2016</p> <p>30 June, 2016</p> <p>Oct 2016</p>

PROPOSED WGDECOM PROGRAMME OF WORK (2016-2017)

Item	Description	TCD
4	<ul style="list-style-type: none"> • Prior to each benchmarking visit, prepare questions asked by members of the decommissioning site and also gather questions from the site requiring input - Update the benchmarking template based on experience from first visit - Provide comments on updated template to JG - Send template in advance of 2nd visit • 1st visit to US - Prepare a report summarizing the main findings of the benchmarking visit • 2nd visit to Sweden • 3rd visit to Spain • 4th visit to Switzerland • Present results of benchmarking visit to the board 	<p>Standing agenda item</p> <p>June 30, 2016</p> <p>July 31, 2016 Aug 31, 2016 Complete</p> <p>June 3, 2016</p> <p>Oct 3-7, 2016</p> <p>Q1, 2017</p> <p>Q4, 2017 Annually</p>

PROPOSED WGDECOM PROGRAMME OF WORK (2016-2017)

Item	Description	TCD
5	<ul style="list-style-type: none"> • Work with the WPDD • Review the work of the sub-group on characterization and identify if the initial characterization strategies are adequate to provide information required for radiation protection <ul style="list-style-type: none"> - Provide input to the characterization sub-group • Work with other subgroups as necessary to integrate radiation protection into decommissioning strategies <ul style="list-style-type: none"> - Contact the head of nuclear site restoration sub-group - Review site restoration document and identify if applicable to WGDECOM - Contact sub group on optimization of waste management to arrange a meeting to see how to collaborate 	<p>Ongoing</p> <p>October 2016</p> <p>May 31, 2016</p> <p>July 31, 2016</p> <p>May 31st, 2016</p>

18 - 22 April 2016 Meeting Summary

- Site selected Kewaunee Power Station (USA)
- Zion benchmarking visit
- Invited the other U.S. RPM's to join us at KPS (7 attended)
- Schedule :
 - Monday meeting in Chicago with NRC attendees
 - Tuesday visit to Zion NPP, benchmarking
 - Wednesday meeting at Kewaunee NPP
 - Review of NRC discussion and Zion Visit
 - Meet with U.S. RPM's.
 - Thursday Kewaunee NPP benchmarking/plant tour, observe Dry Cask campaign
 - Friday review, lessons learned, confirmed next meeting date/location

Changes in WGDECOM Participants

- Moved one member to corresponding
 - Mr Kim Byeong Soo (Republic of Korea)
- Added two corresponding members
 - Mr Christopher Messier (BHI)
 - Mr Donald E. Williams (Zion Solutions)
- Added a member
 - Mr William Harris (Exelon Nuclear)

Chicago meeting presentations (1)

- NRC
 - Dry Cask Campaigns
 - Reactor Decommissioning Regulatory Process
- Humboldt Bay
 - Spent Fuel Pool and Water Cut Off Wall
- La Salle
 - Plant operations to minimize dose during decommissioning

Chicago meeting presentations (2)



Zion NPP visit and presentations

1. Overview of the Zion decommissioning from a radiological perspective (with respect to organizational structure, RP program development and changes during the D&D process and where the site currently is in decommissioning and how it will get to the end)
2. Reactor internals and vessel segmentation; D&D lessons learned
3. Air sampling/air quality control issues with respect to alpha and radon/thoron daughters and local HEPA versus plant installed HEPA ventilation. Telecommunication issues. PCEs. MARSAME...
4. Site tour of outer areas: ISFSI, rad vault storage array for Class B/C waste, Heavy Lift Rail System

Zion NPP visit



Kewaunee NPP visit and presentations (1)

- LaCrosse Internal Dosimetry – Alpha Dosimetry during Decommissioning
- SONGS Decommissioning SONGS
- Kewaunee Site Managers Perspective on Decommissioning
RP Decommissioning activities at the Kewaunee Power Station
- Exelon Decommissioning Planning at Exelon Nuclear

Kewaunee NPP visit and presentations (2)

- Germany Decommissioning database
- RSCS, Inc Maximizing the Power of Lessons Learned in Decommissioning
- Swiss Swiss Decommissioning of KKM from a radiological perspective
- Crystal River #3 Crystal River Nuclear Plant Decommissioning

Kewaunee NPP visit and presentations (3)



Attendance at 3rd WGDECOM meeting

List of Participants

- **MEMBERS**

- **CANADA** ELLASCHUK, Bernard GAGNON, Jean-Yves
- **FRANCE** ARIES NASSER, Marie-Eve, VAILLANT, Ludovic
- **GERMANY** BRENDEBACH, Boris
- **SPAIN** CALAVIA, Ignacio (Vice-Chair)
- **SWEDEN** ELLMARK, Christoffer, HANSSON, Petra
- **SWITZERLAND** NEUKAETER, Erwin
- **USA** ANDERSON, Ellen, HALE, J. Mike (Chair),
MILLER, David W.
- **ISOE JOINT SECRETARIAT** RAKHUBA, Aleksandr

Attendance at 3rd WGDECOM meeting

- Corresponding Members
- **CANADA** MCQUEEN, Maureen
- **USA** MESSIER, Christopher
ROBERTS, Sarah
TARZIA, James
- **KOREA, REPUBLIC OF** KIM, Byeong-Soo

Attendance at 3rd WGDECOM meeting

- U.S. PRESENTERS
- **Exelon**
 - Harris, Willie
 - Moser, John
- **Duke, Crystal River**
 - Akins, Bryant
- **PG&E, Humboldt Bay**
 - Barley, William
- **Dairyland, LaCrosse**
 - Olson, Cheryl
- **SCE, SONGS**
 - CAREY, Jeff
- **Dominion, Kewaunee**
 - Yuen, Stewart
 - SHANNON, Dan
 - STECKLER, Bart
- **NRC, Region III Decommissioning**
 - Lin, Bill
 - Learn, Matt
- **Energy Solutions, Zion**
 - Keene, Chris

Attendance at 3rd WGDECOM meeting

- **APOLOGIES**
- **BELGIUM** VANHEMELRYCK, Fery
- **FRANCE** BONNET, Jean-Luc
- **KOREA (REPUBLIC OF)** SOHN, Wook
KIM, Byeong Soo
- **SPAIN** CAMPOS, José
- **JOINT SECRETARIAT** MA, Jizeng
GUZMÁN LÓPEZ-OCÓN, Olvido

Attendance at 3rd WGDECOM meeting

UNABLE TO CONTACT

- **BRAZIL** DE OLIVEIRA SEGABINAZE, Roberto
LIMA DA SILVA, Tatiana
- **FRANCE** ABELA, Gonzague, DIDELOT, Nicolas
- **ITALY** MANCINI, Francesco
- **ROMANIA** SIMIONOV, Vasile
- **RUSSIAN FEDERATION** VOLKOV, Victor

WGDECOM Upcomming Meetings

- Sweden Week of October 3rd
- Spain Spring 2017 hosted by Enresa (corresponding member under TCA)
- Switzerland + France Fall 2017

Issues

- Attendance at WGDECOM meetings (ideally more RPMs should be appointed)
- Use of corresponding members that are not ISOE members (Bear in mind that most of the decommissioning work is not performed by ISOE members, utilities and regulators)
- Access to WGDECOM site for corresponding members

Thank You!
QUESTIONS?