

**ISOE Expert Group Meeting on Work Management at Nuclear Plants:  
Preparation of the Third Edition of the Report from 2019 -2021  
Colin Pritchard, Bruce Power, Chairperson**

**Thursday, January 31, 2019 from 8:00 am to 5:00 pm  
Marriott Key West Beachside  
3841 North Roosevelt Boulevard  
Key West, Florida 33040 (phone: 305-296-8100)**

**To: ISOE Regulatory and Utility Members**

**From: Colin Pritchard, WMB Chairperson, ISOE, Bruce Power**

**Date: January 31, 2019**

**Re: Expert Group Meeting on Thursday, January 31, 2019  
Marriott Key West Beachside Agenda**

I am pleased to invite ISOE utility and regulatory members to attend the new ISOE Work Management Expert Group meeting on January 31, 2019 at the Marriott Key West Beachside in Salon A from 8:00 am to 5:00 pm.

The plan is to discuss the preparation of the third edition of the expert group report with the goal of asking volunteers to serve on various chapter preparation teams over the next two years. The initial meeting of the project was held on December 3, 2018 in Paris. Each team will elect a leader and discuss the new content of the Chapter assigned.

Email and business skype communications is planned to provide the on-going development of the report. Of particular interest is the addition of new case studies for each chapter. Also, the inclusion of new work management technology will be solicited from utilities and nuclear industry suppliers.

A code of conduct will be adopted at the meeting to assure protection of intellectual property and avoidance of conflicts of interests.

The preliminary agenda is provided below:

Thursday, January 31, 2019 - Salon A

8:00 am	Welcome and Introductions	Colin Pritchard
8:15 am	Approval of Agenda	All
8:30 am	Review of December 2, 2018 TWG minutes	
8:45 am	History of ISOE Work Management Books	David W. Miller

Preliminary Agenda (continued)

9:00 am Objectives & Goals of Meeting

9:30 am Discussion of Chapters

10:30 am Coffee Break

11:00 am Discussion of Chapters continued

12:00 pm Lunch

1:00 pm Discussion continued

2:00 pm Proposal for Benchmarking site visits to Finland, etc (Volunteers)

2:30 pm Coffee Break

3:00 pm Presentations on New Approaches to Work Management (TBD)

4:00 pm Cost Savings Aspects of Work Management Book Preparation Value to ISOE  
Utilities

4:45 pm Next Meeting, Plans, Schedule -- Adjournment

Attachment # 1

From December 3, 2018 Paris Meeting:

Discussing the WM Book volume all participants agreed that it should not be larger than the 2009 one and should be structured in chapters with the links to additional information in different sources. Case studies should be placed in the appendixes of the document.

The following time milestones were agreed upon after discussions by the meeting participants:

1. Strategic session in Key West (USA), January 31, 2019.
2. Work Shop on the occasion of the WGDA meeting in Paris, April 2019
3. Work Shop, on the occasion of the International Congress of RP (Brazil), November 4-5 2019 (Marcos Do Amaral will provide opportunity for that).
4. Work Shop on the occasion of the ISOE North-American Symposium in Fort Lauderdale (USA), January 2020.
5. Work Shop on the occasion of the ISOE European Symposium, June 2020. The consolidated draft document is to be ready by this time.
6. Submission of the final revision to the ISOE Management Board, fall 2020.
7. WebEx options will be available during above meetings.
8. WebEx meetings dedicated to chapters or group of chapters may be held once a month.

Participants agreed that this time schedule is a provisional one and may be adjusted when the work will start and progress.

**Agenda Item #6: Discussion on the revision of WMB**

The overall structure of the document and chapter by chapter review were executed by the meeting participants. The results of the review and the proposals are submitted in the table below:

Chapter	Proposals	Proposed Experts
1. Introduction	<ol style="list-style-type: none"> <li>1. General overview of the document contains chapter by chapter description.</li> <li>2. To consider 0.5 page of the Policy and Public Summary (Ted Lazo)</li> </ol>	<ol style="list-style-type: none"> <li>1. Leader - TBD</li> <li>2. TBD</li> </ol>
2. Regulatory aspects	<ol style="list-style-type: none"> <li>1. Structure of the subtitles remains the same.</li> <li>2. Engagement of the regulation to the WM and “ALARA” may be addressed at this chapter.</li> </ol>	<ol style="list-style-type: none"> <li>1. Leader – RB representative from Europe (Finland, Sweden, Germany), TBD</li> <li>2. Helen Anderson (NEI, USA)</li> <li>3. RB representative, TBD</li> </ol>
3. ALARA management policy	<ol style="list-style-type: none"> <li>1. No changes to the subtitles structure</li> <li>2. Additionally to consider in this chapter <ul style="list-style-type: none"> <li>• Economics opportunities</li> <li>• ALARA economics vs reasonableness</li> <li>• New builds and decommissioning</li> <li>• Outage duration</li> <li>• Life extension</li> </ul> </li> </ol>	<ol style="list-style-type: none"> <li>1. Leader – RPM or ALARA Manager, TBD</li> <li>2. TBD</li> <li>3 TBD</li> </ol>

	<ul style="list-style-type: none"> <li>• Risk management: optimization vs minimization, high dose vs low dose</li> <li>• Balancing: worker doses vs the public dose</li> </ul>	
4. Worker involvement and performance	<p>Additionally to consider in this chapter:</p> <ul style="list-style-type: none"> <li>• RP and non RP worker fundamentals</li> <li>• HU tools (briefings, communications, situation awareness, etc.)</li> <li>• Cultural aspects</li> <li>• ALARA training</li> <li>• Training needs analysis</li> <li>• Standardisation of the training programs</li> </ul>	<ol style="list-style-type: none"> <li>1. Leader – person with training or HP/Training background</li> <li>2. Oleg Saraev (NEA)</li> <li>3. TBD</li> </ol>
<b>NEW CHAPTER</b> Hazard awareness	<p>Chapter will include:</p> <ul style="list-style-type: none"> <li>• Source term characterization</li> <li>• Operating shutdown chemistry regimes</li> <li>• Failed fuel history</li> <li>• Failed fuel detection and removal</li> <li>• Routine survey program</li> </ul>	<ol style="list-style-type: none"> <li>1. Leader, TBD</li> <li>2. Laure-Anne Beltrame</li> <li>3. EPRI, TBD</li> </ol>
5. Work planning and scheduling	<p>Additionally to consider in this chapter:</p> <ul style="list-style-type: none"> <li>• Normal/routine operations</li> <li>• Decommissioning vs safe storage</li> <li>• On line routine against “first kind” activity</li> <li>• On line vs outage</li> <li>• Emergency work process</li> <li>• RWP/REP creation</li> </ul>	<ol style="list-style-type: none"> <li>1. Leader – Plant ALARA Manager</li> <li>2. Outage planner</li> <li>3. RP assessor</li> </ol>
6. Work preparation	<p>Additionally to consider in this chapter:</p> <ul style="list-style-type: none"> <li>• Job coordination</li> <li>• RP and non RP worker fundamentals</li> <li>• Time, distance, shielding</li> <li>• JIT OPEX</li> <li>• Waste management</li> <li>• Remote monitoring</li> <li>• Augmented reality</li> <li>• Use of robotics and drones</li> </ul>	<ol style="list-style-type: none"> <li>1. Leader – Plant ALARA Manager, TBD</li> <li>2. Laure-Anne Beltrame</li> <li>3. TBD</li> </ol>
7. Work implementation	<ol style="list-style-type: none"> <li>1. To change title onto “Work execution”</li> <li>2. Additionally to consider in this chapter: <ul style="list-style-type: none"> <li>• Roles and responsibilities</li> <li>• Stop work authority</li> <li>• Work quality control</li> <li>• Shift turnover of the maintenance crews</li> <li>• Contingency planning</li> <li>• Low dose areas</li> <li>• Job site setup – shielding</li> <li>• Procedure use and adherence</li> <li>• Work documentation</li> <li>• Communications systems</li> <li>• Rework monitoring survey</li> <li>• Waste management and segregation</li> </ul> </li> </ol>	<ol style="list-style-type: none"> <li>1. Leader – operational RPM, TBD</li> <li>2. RP field supervisor, TBD</li> <li>3. Technician, TBD</li> </ol>
8. Work	<ol style="list-style-type: none"> <li>1. To change title onto “Post job assessment”</li> </ol>	<ol style="list-style-type: none"> <li>1. Leader – ALARA</li> </ol>

assessment and feedback	<p>2. Additionally to consider in this chapter:</p> <ul style="list-style-type: none"> <li>• Post job review check list</li> <li>• Post job review meetings for all stakeholders including contractors</li> <li>• Documentation of OPEX (positive and negative OE)</li> <li>• Performance versus plan aspects,</li> <li>• Summarization of the observation, coaching and oversight</li> <li>• Feedback for work reports</li> </ul>	<p>Manager, TBD</p> <p>2. First line supervisor, TBD</p> <p>3. Technician, TBD</p>
9. Ensuring continuous improvement	<p>1. To change title onto “ALARA innovations”</p> <p>2. Additionally to consider in this chapter:</p> <ul style="list-style-type: none"> <li>• Nuclear promise initiatives</li> <li>• NRC web site, section “Radiation protection”</li> <li>• Good practices database</li> <li>• Contingency</li> </ul>	<p>1. Leader – TBD</p> <p>2. TBD</p> <p>3. TBD</p>
<b>NEW CHAPTER</b> WM for decommissioning		<p>1. Leader – TBD</p> <p>2. TBD</p> <p>3. TBD</p>

During the discussion of the new revision of the WM book, the proposal to invite IRPA to join this group was made by the ISOE Chair. NEA was asked to send a letter to IRPO inviting their representative to the TGWM (Work Management Task Group).

It was suggested to use OSART expertise in the new Book revision. Marcos Amaral will undertake the efforts to bring OSART and IAEA experience to the TG.

#### **Agenda Item #7: Plan of Work and Nomination of persons in charge of drafting each chapter**

The plan of work was agreed as it was discussed in the terms of reference:

1. Strategic session in Key West (USA), January 31, 2019.
2. Work Shop on the occasion of the WGDA meeting in Vienna, March 2019.
3. Work Shop, on the occasion of the International Congress of RP (Brazil), November 4-5 2019 (Marcos Do Amaral will provide opportunity for that).
4. Work Shop on the occasion of the ISOE International Symposium in Fort Lauderdale (USA), January 2020.

Work Shop on the occasion of the ISOE European Symposium, June 2020. The consolidated draft document is to be ready.