NEA
NUCLEAR ENERGY AGENCY

2024 Japan's INROW on the Implementation of the Reactor Oversight Process in Japan

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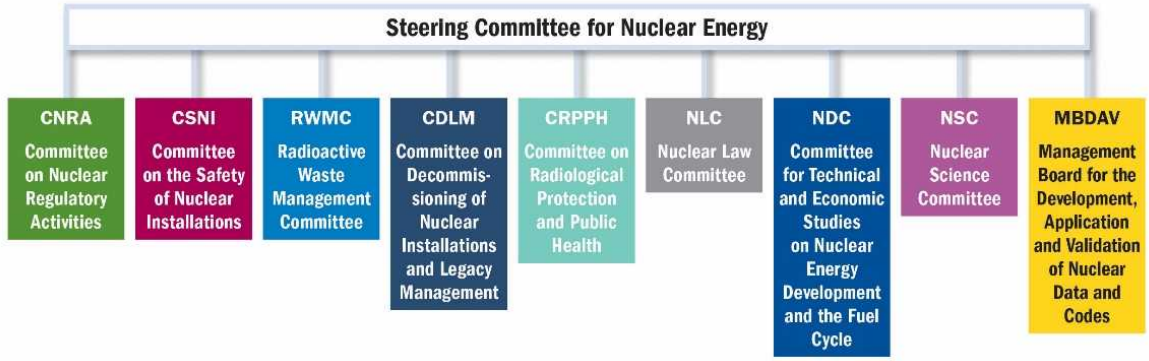
Outline

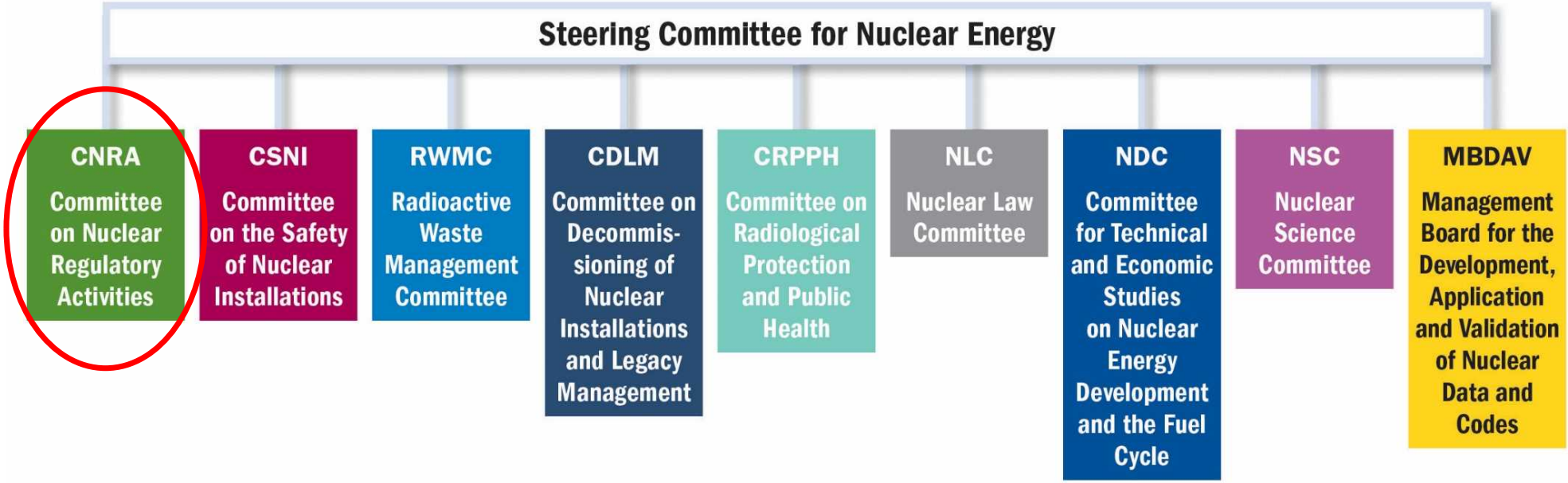
1. OECD
   - NEA (Nuclear Energy Agency)
   - CNRA (Committee on Nuclear Regulatory Activities)
   - WGRO (Working Group on Reactor Oversight)
2. 1st INROW (International Nuclear Reactor Oversight Workshop)
   - Session 1 (Day 1-3)
   - Session 2 (Day 4-5)

OECD Nuclear Energy Agency

- Founded in 1958
- 34 member countries
- 8 standing technical committees and 1 management board
- ≈ 74 working parties and expert groups
- ≈ 26 international joint projects



NEA Committees



Committee on Nuclear Regulatory Activities (CNRA)

Expert Group on Public Communication (EGPC)

Responsible for NEA activities concerning all regulatory activities that support nuclear safety, with an emphasis on current and future nuclear reactors. Focused on aspects such as policy, licensing, supply chain, new technologies, oversight (e.g., inspection, operating experience), as well as cross-cutting activities such as leadership, safety culture, and public communication.

Working Group on New Technology (WGNT)

Focused on the regulatory approaches to ensure safety of new technologies deployed or being considered for deployment

Working Group on Leadership and Safety Culture (WGLSC)

Focused on leadership and safety culture related to regulatory activities, whilst appreciating the mutual impact of the operator and other stakeholders within the wider interconnected system

Working Group on Reactor Oversight (WGRO)

Expert Group on Operating Experience (EGOE)

Focused on identifying and sharing relevant good practices in reactor oversight that provide the necessary assurances of day-to-day safe operation on nuclear power plants, with special attention to inspection

Working Group on Supply Chain (WGSUP)

Focused on supply-chain-related issues of operating nuclear power reactors and those progressing towards nuclear license application or are under construction

Working Group on Policy and Licensing (WGPL)

Focused on issues related to policy and licensing for both operating nuclear reactors and proposed new reactors (including those under construction)

Working Group on Reactor Oversight (WGRO)

❑ Purpose of WGRO

- ✓ WGRO is focused on identifying and sharing relevant good practices in nuclear reactor oversight that provide the necessary assurances of day-to-day safe operation on nuclear power plants, with special attention to inspection approaches by regulatory bodies to meet member needs.
- ✓ https://www.oecd-nea.org/jcms/pl_87020/the-working-group-on-reactor-oversight-wgro

WGRO Organization and Meetings

Organization

Chair: Mr. Yves Guannel (ASN, France) since January 2023

Vice chair: Mr. Mahtab Khan (ONR, UK) since January 2023

Bureau: Mr. Kenneth Broman (SSM, Sweden) since January 2023

NEA Secretariat: Mr. Yuji Kumagai, Mr. John Nakoski
Ms. Chloe Torrance

WGRO Meetings

Last: 25-28 September 2024 (OECD/NEA)

3rd Meeting: 12-15 February (OECD/NEA)

1st INROW: 11-15 November 2024

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   - **Session 1 (Day 1-3)**
   - **Session 2 (Day 4-5)**

2024 Japan's INROW Background / Objectives

❑ Context:

- NEA WGRO (Working Group on Reactor Oversight) plans to conduct a International Nuclear Regulatory Oversight Workshop (INROW) in Japan in November 2024.
- The NEA held a ROP workshop in Japan in 2018. NRA has implemented their ROP since April 2020.
- As part of the WGRO INROW, an activity was proposed to do a small study of Japan's ROP activities to observe interactions between onsite inspectors and licensee/operator staff and management.
- Insight gained from these observations would part of a Workshop session that discusses the authority and responsibility of the regulator's inspectors; organizational and cultural barriers to communicating findings and observations during and after inspections and other oversight activities; and characteristics of a good inspector.

Organization / Venue&Date

- Organizing committee (OC) members for 2024 Japan's INROW Observed Inspection and Session 2:
  - Leads: Philip Mckenna (NRC), Mahtab Khan (ONR)
  - Members: Rodney Bos (ANVS), Kenneth Broman (SSM), Yves Guannel (ASN), Toshiyuki Koganeya (NRA), Tatsuki Watanabe (NRA),
  - NEA: John Nakoski, Anais Nouailles-Mayeur, Yuji Kumagai
- Date:
  - INROW Session 1 (Day 1-3): 11 – 13 November 2024
  - Plant visit (Day 4): 14 November 2024
  - INROW Observed Inspection (Day 4): 14 November 2024
  - INROW Session 2 (Day 4): 15 November 2024
- Venue: nearby Ohi NPP (Kansai Electric Power Company called KEPCO)

1st INROW Session 1 (Day 1-3)

- **Workshop will be held at a NPP in Japan in coordination with NRA and the NPP Operator from 11 to 15 November 2023**
- **Session 1 will be with WGRO Members and Invited Participants**
- **Three topics for the INROW session 1 portion of the expanded workshop:**
  1. Oversight Framework regarding Licensee's Cross Cutting Issues

     (Japan as Lead and France as co-lead) - Interactions with EGOE and WGHOF or WGLSC
  2. Inspection of Licensee's Readiness for External Events that could result in a station blackout

     (US as lead and Poland as co-lead) - Interactions with WGEV, EGOE
  3. Innovative Approaches to Regulatory Oversight

     (UK as lead and Canada as co-lead) - Interaction with several WG to be confirmed (EGOE and WGNT for instance)

1st INROW Session 1 (cont.)

Topic 1: Oversight Framework regarding Licensee's Cross Cutting Issues

The purpose of the WGRO task is to share experiences on regulatory activities involving cross cutting issues (safety culture, human performance, problem identification and resolution (PI&R), Management System, etc.) Which often underline the issues of performance degradation and to extract insights that contribute to the improvement of reactor oversight programs that are specific to each member country.

Topic 2: Inspection of Licensee's Readiness for External Events that could result in a station blackout

The purpose of the WGRO task is to share information about methods, procedures and criteria used to perform regulatory oversight of how the plant prepares for external events to include severe weather, flooding, fire and seismic which could result in a station blackout.

1st INROW Session 1 (cont.)

Topic 3: Innovative Approaches to Regulatory Oversight

Objective: Identify, learn, and share good practice and innovative approaches/ideas focused on the following oversight areas.

Scope

- ✓Use of modern technology in preparing inspection/oversight plans such that oversight effort is better targeted and risk informed.
- ✓Use of guidance that delivers consistent outcomes – future proofing guidance.
- ✓Innovative inspection techniques for inspectors (AI, Augmented and virtual reality etc…)
- ✓Innovative approaches resulting from oversight/regulatory works on Small Modular Reactors (SMRs).

1st INROW Observed Inspection (Day 4)

❑ INROW Observed Inspection

Plant walk-down with international inspectors assigned by WGRO members countries, NRA's inspectors and licensees' site staffs for the input to the Session 2's case study of Japan's ROP. This should be considered as a peer-to-peer exchange of experiences, practices, and challenges encountered between the NRA and international Observing senior inspectors.

Additional Information and Background

- Best if 2 NRA inspectors participate (site inspectors)
- Observing inspectors will work with 1 NRA inspector
  - 2 Observing inspectors, a translator, and a facilitator will make up a team
- NRA inspectors should plan to conduct typical inspection activities
  - Inspection activities and related inspection procedures should be provided to NEA in advance for translation into English for use by Observing inspectors

1st INROW Observed Inspection (cont.)

❑ INROW Observed Inspection (tentative)

Additional Information and Background

- Observing and NRA inspectors should attend the entire workshop, spending as much time together as practical to get to know each other
- Observing inspectors should ask questions during the inspection at appropriate times to gather information or to understand what the NRA inspector is doing and why
- At the end of the Observed Inspection, the NRA and Observing inspectors should meet to discuss the observations and insights from the Observing inspectors
- Discussions between NRA and Observing inspectors should include for example:
  - How things could be done differently based on cultural, procedural, or practical matters
  - Experiences in identifying issues warranting regulatory actions or that are safety significant
  - Challenges the inspectors face with implement the program
  - Challenges in communicating issues to licensees and their own management

1st INROW Observed Inspection (cont.)

❑ INROW Observed Inspection (tentative)

Additional Information and Background

- From these discussions, the NRA and Observing inspectors should prepare a set of key messages that they will discuss during Session 2 of the INROW the following day
- After the INROW the NRA and Observing Inspectors will be requested to provide a 1 to 2 page report capturing their individual insights from their participation in the observed inspection.
- Desired outcomes from the Observed Inspection
  - Insights on commendable practices for interactions between inspectors and licensee staff
  - Insights on cultural, procedural, or practices that act as barriers or strengths that impede or support effective implementation of inspections
  - Insights on inspection approaches that help inspectors focus on safety significant activities conducted by the licensee
  - Insights on characteristics that make an effective inspector

1st INROW Session 2 (Day 5)

❑ INROW Session 2 (tentative)

- Opening: NEA / NRA
- Sub-Session 1:
  - WGRO Chair: WGRO activity and summary of 1st INROW Session 1-3
  - NRA: Overview of Japan's ROP
  - International Regulatory Bodies: Expectation of inspector
  - KEPCO: Observation inspection practice
- Sub-Session 2:
  - NEA: Objective for the Day-4 Observed Inspection
  - Plant walk-down participants: Case study of Japan's ROP with plant walk-down participants
- Panel:
  - International experts: Discussion to find common issues/interesting and future actions on regulatory inspections
- Closing:
  - KEPCO / Local government / NEA / NRA

Deliverables / Expected Future Collaborative

❑ Deliverables:

- Report summarizing conclusions and recommendations of the WS to support updating Japan's ROP programme as well as the international members regulatory inspection activities.

❑ Expected continue working collaborative:

- Encourage the regulators to send inspectors to other countries to observe how inspectors interact with licensee/operator staff and management, select activities to inspect, how to identify findings of safety or regulatory significance, and how the inspectors communicate with others within their organization and external stakeholders. (this can be done under WGRO).
- Develop a Green Booklet on characteristics of an effective inspector (WGHOF, WGLSC, and WGRO)
- Develop a Green Booklet on Inspectors authorities and responsibilities (WGRO, WGLSC, WGPL)

Schedule

❑ Schedule:

- Q4 2023 and Q1 2024: ~~Establish OC (Organizing Committee), decide WS venue and dates~~, prepare and disseminate the WS announcement, establish a tentative programme.
- Q4 2023 and Q1 2024: Advertise and solicit participation/contribution to the WS, invite key industries, regulators to contribute.
- Q2/Q3 2024: Consolidate and distribute the WS programme to widely industries, (local) governments?, academia?, etc.
- Q4 2024: INROW
- Q1/Q2 2025: Develop a summary report

Thank you for your attention!

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