

## EVT2304095: IAEA-FUKUI WORKSHOP ON THE INTEGRATED RISK INFORMED DECISION-MAKING FRAMEWORK AND CURRENT PRACTICES (IRIDM) FUKUI, JAPAN

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### Introduction

The IAEA-Fukui Workshop on the Integrated Risk-Informed Decision-Making (IRIDM) Framework and Current Practices was held from 19<sup>th</sup> to 23<sup>rd</sup> February 2024 at the Wakasa Wan Energy Research Center (WERC) in Fukui, Japan.

The workshop was attended by 16 participants representing ten countries: Algeria, China, Egypt, Kenya, Indonesia, Jordan, Malaysia, Nigeria, Thailand, and Vietnam. The sessions were led by four experts:

- Mr. Shahan Poghosyan, Nuclear Safety Officer, IAEA (Vienna)
- Mr. Andrea Maioli, Westinghouse (USA)
- Mr. Fernando Ferrante, EPRI (USA)
- Mr. Olivier Nusbaumer, Leibstadt NPP-KKL (Switzerland)

The workshop featured a blend of lectures, knowledge-sharing sessions, exercises, and a site visit, providing participants with valuable insights and hands-on experience in the IRIDM framework and its applications.



Malaysia representative delivered a country presentation titled "*Malaysian Experiences in Developing Probabilistic Safety Assessment (PSA)*."

### About IRIDM (pronounce as E-Ri-Dim)

Integrated Risk-Informed Decision-Making (IRIDM) is a systematic process designed to integrate key considerations influencing the safety of nuclear power plants. This process is also applicable to other types of nuclear installations. IRIDM enables decision-makers to make balanced and optimal decisions by adequately incorporating risk information derived from Probabilistic Safety Assessments (PSA) alongside a broad spectrum of other considerations, such as deterministic analyses, operating experience, human and organizational factors, and regulatory framework implications.

The development of PSA methodologies has led to more formalized approaches to the IRIDM process and the promotion of diverse PSA applications for nuclear power plants globally. Detailed guidance on these applications and the corresponding IRIDM process is provided in relevant IAEA publications, including:

- IAEA Safety Standards: SSG-3 and SSG-4 (development and application of PSA)
- IAEA TECDOC-1909: Considerations for performing IRIDM
- IAEA TECDOC-1983: Risk aggregation, risk communication, and decision-making

The event includes discussions on the experiences of various stakeholders—such as regulators, operators, and designers—regarding risk-informed applications. It also addresses recent developments, emerging trends, and challenges in this field.

### Site Visit

On the third day of the workshop, participants visited the Fukui Prefectural Environmental Radiation Research and Monitoring Offsite Center in Tsuruga City, Fukui Prefecture, Japan. The center's primary purpose is to monitor environmental radiation and ensure that the public dose from a nuclear power plant remains below the public dose limit of 1 mSv/year.



Participants received a safety briefing and were introduced to the center's activities, functions, and emergency response protocols during the visit.



Participants experienced a unique practice by the center where they distributing near-expiry food items to schools or university students before restocking with a new batch of food supplies and essential amenities.

### Outcomes

All participants successfully exchanged information on current national practices and experiences in PSA applications and the use of various inputs for IRIDM. Additionally, they gained new knowledge on practical approaches for applying risk insights to support various aspects of nuclear installations, including design, operation, licensing, and regulatory oversight. The discussions also addressed current challenges in utilizing PSA insights and IRIDM, with participants exploring potential solutions and identifying pathways for future improvements.



Closing ceremony and presentation of participant certificates.