The Role of NRRC and Collaboration with Activities of Academic Societies

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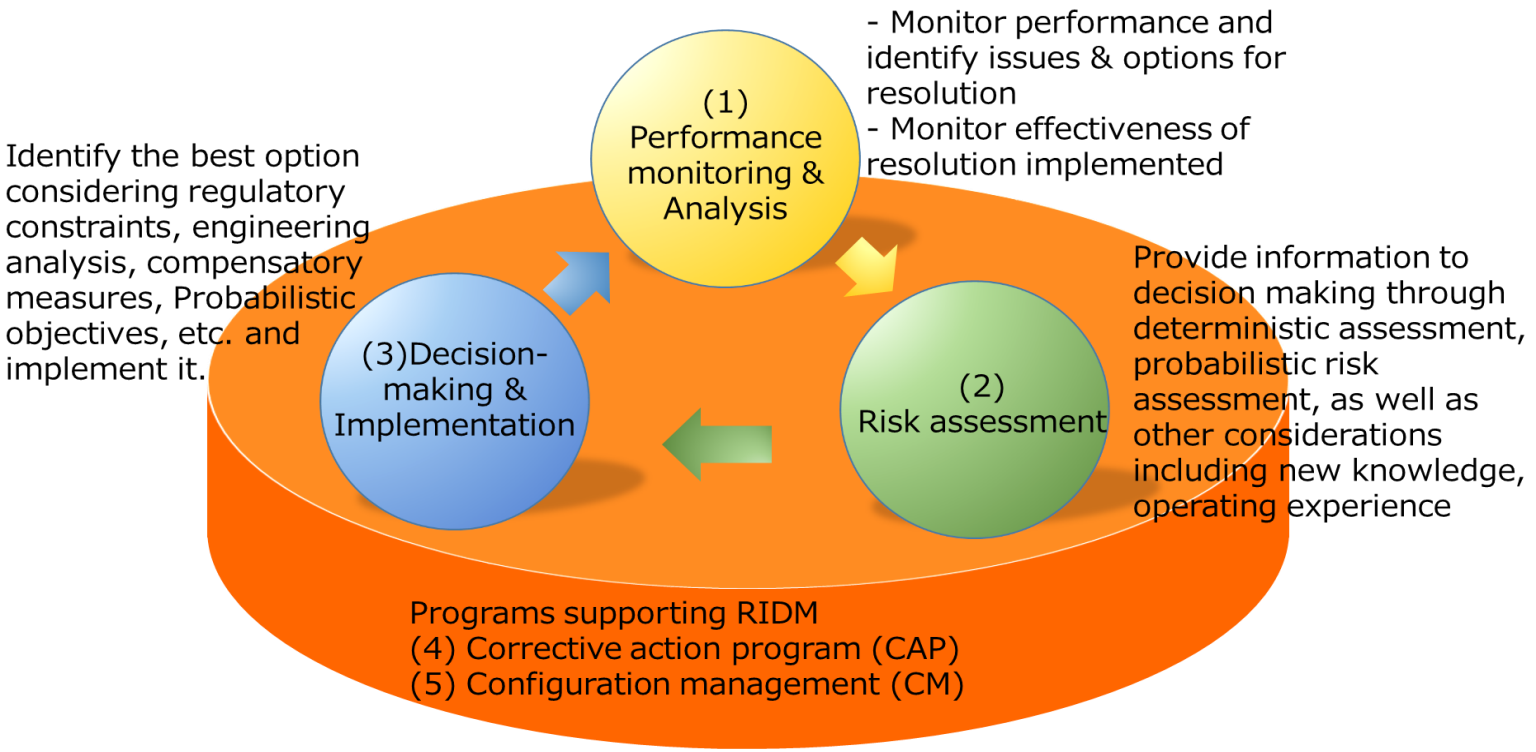
We share Goals

- **“This subcommittee also strives to … increase practical atomic disaster prevention, formulate long-term atomic energy safety research plans, raise the level of safety analysis methods, as well as utilize the results.”**

- **NRRC Mission Statement**
  - **To assist nuclear operators and the nuclear industry in their continuous effort to improve the safety of nuclear facilities, that is, to manage the relevant risks, by developing and employing modern methods of Probabilistic Risk Assessment (PRA), risk-informed decision making and risk communication.**

Strategic Plan

"increase practical atomic disaster prevention"



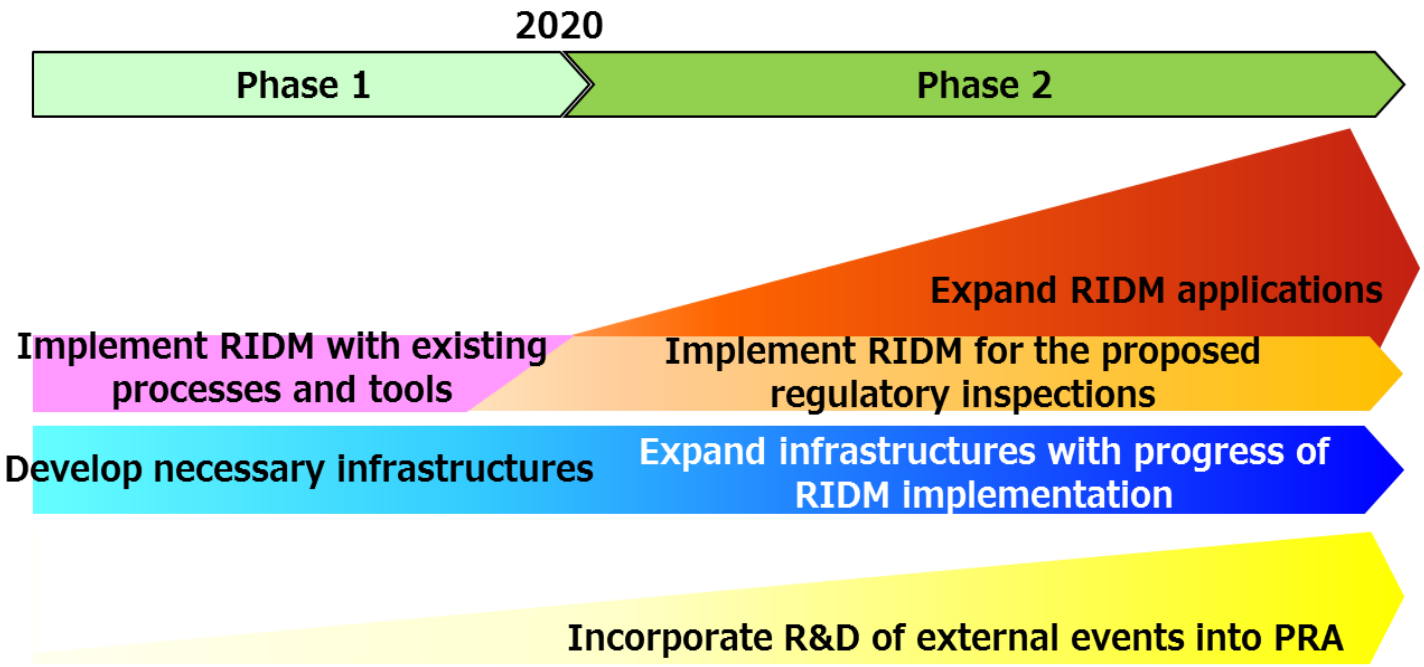
- **Corrective action program (CAP): Program by the licensees that identifies and resolves the problems, which includes evaluating safety significance of the problems, prioritizing the measures, and managing processes up to resolution.**
- **Configuration management (CM): Program that maintains alignment of three elements; design requirements, physical configuration, and facility configuration information (FCI)**

Important Note

- The Mission Statement says: "… continuous effort to improve the safety of nuclear facilities, that is, to manage the relevant risks…"
- "Continuous safety improvement," a commonly used phrase, is impractical.
- We should say "continuous risk management."

Basic Policy for the Introduction of RIDM

"formulate long-term atomic energy safety research plans"



Challenges in Japan

- An increased understanding of the value and use of risk concepts and risk management language
- Development of quality infrastructure for RIDM and PRAs
- Development of a cadre of risk analysts, both in the industry and the regulator
- Need to focus on effective means of risk communication to the public
- Need to develop quantitative safety goals
- A long-term commitment from both the regulator and industry would be required for implementation

PRA Quality in the U.S.

- A plant-specific PRA is the essential element for RIDM and the ROP.
- Such a PRA is a complex combination of logic models, experimental and statistical evidence, and judgment.
- U.S. scientific societies (ASME and ANS) have issued standards ("what to do" not "how to do it").
- The NRC has issued reports and regulatory guides endorsing the standards (with exceptions, as appropriate).
- NEI has issued guidance on peer reviews.
- NRC has approved the NEI peer review process.

Japanese Industry's Efforts on PRA Quality

- **Improving the infrastructure (NRRC)**
  - Guides on HRA, Fire PRA, Data Collection
  - Models for external events, including the SSHAC process
  - Multi-unit PRA
- **NRRC's Technical Advisory Committee (NRRC's TAC) high-level review of Ikata 3 PRA**
  - Expanding the list of Initiating Events, e.g., adding loss of instrument air system
  - Improving plant-specific data collection
- **International expert reviews following the ASME/ANS standards and the NEI process**
  - Ikata 3: Torri, Lin, Fleming (U.S.), Boneham (U.K.)
  - KK 7: Chapman, Wachowiak (U.S.), Nusbaumer (Switzerland)
- **NRA staff are welcome to observe these meetings, the resulting actions, and relevant documents**

NRRC Training Courses

"raise the level of safety analysis methods, as well as utilize the results"

1. **PRA and risk information utilization course**
   - For beginners
   - Preparing for implementation in FY2018

2. **Risk professional course (supported by EPRI)**
   - Mainly L1 internal events PRA
   - For utility's PRA practitioners and regulatory staff
   - Started in FY2018

3. **Risk information utilization course**
   - For decision makers (NPP managers)
   - Preparing for a trial offering in FY2019.

Collaboration with the Nuclear Safety Subcommittee

- No explicit collaboration; the NRRC has a supporting role
- NRRC Guides, Ikata 3 and KK 7 reviews, research on HRA, earthquakes, tsunamis, et al, are valuable source material for the NSC
- The NRRC Guides (HRA, FPRA, Data collection and analysis) could be referenced by NSC