

Summary of 17th Chief Nuclear Officer Conference

1. Date: November 8, 2023 (Wed.) 15:00 ~ 17:00
2. Place: Otemachi Headquarters, Central Research Institute of Electric Power Industry (CRIEPI)

3. Participants:

Chair: Apostolakis (NRRC)

Members: Makino (Hokkaido EPCO; substitute for Katsuumi),
Kanazawa (Tohoku EPCO), Fukuda (TEPCO HD),
Ihara (Chubu EPCO), Fukumura (Hokuriku EPCO),
Mizuta (Kansai EPCO), Hasegawa (Chugoku EPCO),
Kawanishi (Shikoku EPCO),
Hayashida (Kyushu EPCO; substitute for Toyoshima),
Kenda (JAPC), Ota (JNFL; substitute for Matsuda),
Sudo (J-Power; substitute for Hagiwara), Asaoka (NRRC)

Observers: Nakaguma (FEPC), Ono (JANSI), Uozumi · Tomioka (ATENA),
Meserve (NRRC)

Organizer: Furuta (NRRC)

NRRC Management: Yoshida, Yoneda, Nishimura, Matsuyama, Sakuramoto

4. Proceedings:

(1) R&D Research Plans of FY2024

NRRC presented the R&D research plans of FY2024.

(2) Activities of NRRC

The NRRC reported on the status of the preparation of public documents for the RIDM Action Plan (Phase 2) and how to proceed.

(3) Discussions with the NRRC director

(Main comments from committee members)

- The RIDM Strategy and Action Plan is to be published regularly. The utilities should carry it out with an understanding of the importance and priorities.
- It is important for the utilities to promote their risk-informed activities according to the Strategy and Action Plan in collaboration with ATENA and the NRRC.
- The validity of the models and the use of correct failure data are inevitable for the ensured reliability of the Japanese PRA. As the validity of the models has been reviewed by experts, we would like experts to check the validity of the failure rates to ensure that our data collection methods are technically sound.
- I understand that integrated risk assessment will be necessary in the future.
- All-hazard PRA has not been performed in Japan; however, that does not mean

that we are not qualified for risk-informed activities but we should do what we can do with the PRAs we have developed so far.

- The utilities, ATENA, the NRRC, and, if necessary, JANSI need a strategy to address the near-term issues such as the validation of the PRA models and the failure rate data and the introduction of online maintenance, as well as the future issues such as setting safety goals and realizing risk-informed regulation.

(Remarks of the NRRC director)

- The risk-informed changes never cause the change of the defense-in-depth concept itself. The ACRS (Advisory Committee on Reactor Safeguards) of the U.S. NRC discussed that on the premise that the defense-in-depth concept must be retained. I think plant people will use all the available equipment to respond when something happens to the plant. PRA is valuable in that it can evaluate the risk of the entire plant without distinguishing between DB and SA equipment.
- We need to tackle two things head-on: the PRA model and the data. Recognizing these issues, the NRRC has had the Japanese PRA model reviewed by overseas experts, who told us that the Japanese utilities properly addressed the review results. The failure rates in Japan are also not that worrisome, although they are in general slightly lower than those in the U.S. The NRRC will request the utilities to let us have an overseas expert review the failure screening results done by the utilities who collected the failure data. Important is an independent review.
- In the U.S., a risk-informed application to the NRC requires the applicant to show that the safety analysis addresses all hazards. Therefore, hazards not addressed in the PRA must be assessed whether they will impact the risk results. Even the U.S. PRAs do not cover all the hazards at the time of application.