Nuclear Risk Research Center (NRRC)
Central Research Institute of the Electric Power Industry (CRIEPI)
1-6-1 Otemachi, Chiyoda-ku, Tokyo, 100-8126, Japan

Dr. George Apostolakis
Director

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Mr. J.W. Stetkar, Chairman
Technical Advisory Committee

Subject: TAC Report titled “PRELIMINARY NRRC RESEARCH PLAN FOR FISCAL YEAR 2026” dated June 3, 2025

Dear Chairman Stetkar:

We appreciated the interactions with TAC throughout the review of our research plan and the Committee’s insights. The NRRC reply to the TAC conclusions and recommendations is as follows.

1. Research plan for fiscal year 2026

In the subject report, the Committee stated, “The overall scope of the preliminary research plan for fiscal year 2026, as well as the technical objectives of the constituent projects within each principal research domain, remain aligned with the NRRC’s short-, mid-, and long-term strategic goals.”
We are gratified to receive this comment.

2. Recommendations for individual research activities in the Discussion section

With regard to the two recommendations on individual research activities, we will consider them in the plans for fiscal year 2026 and beyond. Details are as follows.

(1) Develop Guidance Documents for External Events PRA

The NRRC research team will consider developing PRA guidance for each category of external events (earthquakes, tsunamis, tornadoes/high winds, volcanoes/ash-fall, etc.) based on the recommendations received from TAC. In the case of developing PRA guidance, based on TAC's

recommendations, we will set milestones in our research plan. The PRA guidance will include a systematic and holistic approach for identifying and modeling consequential events resulting from external hazards, such as seismically-induced fires or flooding.
We will plan to work out the details of the PRA guidance for each external event category, based on the status of development and revision of the Atomic Energy Society of Japan standards and we would like to discuss these details with TAC members in the future.

(2) Human Reliability Analysis Methodology for Actions Resulting in Undesirable Events
Thank you for recommending this research topic. We would like to investigate this topic as one of the human error probability (HEP) quantification methods to be developed in the NRRC's human reliability analysis (HRA) research. When the plant is in operation, maintenance work using on-line maintenance (OLM) will be the target for this investigation. However, in Japan, the first field demonstration of OLM has just begun, and there are no implementation examples. Therefore, we plan to conduct HRA research in conjunction with research on internal hazard PRA and shutdown PRA using the following approach as an example.

- Investigate maintenance error cases in OLM overseas, collect error scenarios, and consider their generalization. Additionally, investigate overseas research cases,
- Conduct a detailed evaluation of HRA for maintenance work targeting specific plant operational state (POS) during shutdown using methods developed by utilizing HRA guides or exploring new methodologies,
- Compare the results with existing HEP quantification methods in shutdown PRA, etc., and investigate the rationality and the merits of developing a dedicated HRA methodology.

Sincerely,

George Apostolakis