

Summary of Press Conference Comments Made by Kazuhiro Ikebe, FEPC
Chairman, on June 19, 2020

I am Kazuhiro Ikebe, Chairman of the Federation of Electric Power Companies.

Today, I want to address the “enactment of the Act for Establishing Energy Supply Resilience (Act on the Partial Revision of the Electricity Business Act and Other Acts for Establishing Resilient and Sustainable Electricity Supply Systems)” and the “use of risk information to increase safety in nuclear power generation”.

<On the enactment of the Act for Establishing Energy Supply Resilience>

I first want to talk about the enactment of the Act for Establishing Energy Supply Resilience.

The Act for Establishing Energy Supply Resilience reflects system reforms discussed in the Subcommittee for Sustainable Power Systems and the Subcommittee on System Reform for Renewable Energy as Main Power Source to secure a resilient, sustainable, and stable electricity supply system. The bill for this Act was approved by the cabinet in February this year and, following diet deliberations, was enacted on June 5th.

This law includes provisions for promoting cooperation among utilities in disasters, further increasing the resilience of the transmission and distribution network, establishing a disaster-resilient distributed electricity system, creating a market-linked system to support the introduction of renewable energy, and developing systems that make full use of resources. We consider this law an extremely important part of supplying electricity stably now and in the future and in realizing S + 3E.

On June 16, Electricity Resilience WG was held by the Ministry of Economy,

Trade and Industry. Members discussed detailed design of systems and plans scheduled to be implemented based on the new law, which includes the “disaster cooperation plan” that will promote cooperation among utilities in disasters and a “mutual assistance system” that aims to secure disaster recovery funds. The WG was able to reach a general agreement on the direction of these measures.

Under this law, general transmission and distribution companies have been given a new responsibility to further increase electricity resilience. In this new phase, we will continue to do our utmost to maintain stable electricity supply.

Furthermore, it is our understanding that the specific design of systems related to the measures laid out in the Act for Establishing Energy Supply Resilience will be developed. We will continue to fully cooperate as utilities to realize systems and measures that contribute to a sustainable and stable electricity supply.

<On “use of risk information to increase safety in nuclear power generation”>

Next, I would like to address the use of risk information to increase safety in nuclear power generation.

In April this year, a new inspection system for nuclear power plants was introduced. Under this new system, utilities are required to conduct plant inspections themselves, and the Nuclear Regulatory Authority is given free access to plant facilities in order to inspect general safety activities being implemented by the utilities so that it can provide a comprehensive rating on the plant’s safety.

Under a strong commitment to never let an accident like the Fukushima Daiichi Nuclear Power Station Accident occur again, we nuclear power operators have been responding to the new regulatory requirements

appropriately and have been actively and continuously cooperating with external organizations such as the Nuclear Risk Research Center (NRRC) at the Central Research Institute of Electric Power Industry (CRIEPI), the Japan Nuclear Safety Institute (JANSI), and the Atomic Energy Association (ATENA) to secure a higher level of safety beyond the regulatory framework.

Please look at slide 1 of the [materials](#) at hand. As part of nuclear operator initiatives to secure a higher level of safety, we have introduced a Risk-Informed Decision-Making (RIDM) process into nuclear power plant management as a mechanism by which nuclear power plant activities can be assessed appropriately to reduce risk more effectively and increase safety.

Next, please turn to slide 2.

We are now gradually introducing the RIDM process at nuclear power plants in two phases: Phase 1 in which the RIDM process is implemented using existing tools while developing necessary functions, and Phase 2 in which, in addition to enhancing the Probabilistic Risk Assessment (PRA) model for external events such as earthquakes and tsunamis and responding to the new inspection system, the RIDM process will be applied more extensively to plant activities.

Please see slide 4 for specific initiatives we have been implementing as part of Phase 1.

We have been promoting nuclear power operators' voluntary safety activities and raising station personnel's awareness about risk by using risk information when discussing the work schedule for plants in shutdown (TEPCO HD) and implementing "operation risk monitoring" that visualizes fluctuations in risk in plants in operation (Kyushu EPCO).

As shown in the summary on slide 7, we have recognized that the

development of a technical foundation for introducing the RIDM process in Phase 1 has been progressing steadily through these initiatives.

Going forward in Phase 2, we will be actively working on using and improving the technical foundation developed in Phase 1, continuing to develop and enhance risk assessment technology through research and development, expanding the applicable scope of PRA in risk assessment, and expanding the use of the RIDM process in daily activities including plant operation and maintenance work.

We, nuclear power operators, seek to establish the use of risk information through the steady introduction of the RIDM process at nuclear power plants and implement activities that lead to maintaining and increasing the safety of nuclear power plants while using resources effectively and efficiently.

<In closing>

Finally, I would like to address the electricity supply and demand outlook for the summer of 2020. In the Electricity and Gas Basic Policy Subcommittee meeting held on May 25th, the Organization for Cross-regional Coordination of Transmission Operators, JAPAN reported on the supply and demand outlook for this summer for each of the general transmission and distribution companies. They reported that each area will likely be able to secure the necessary electricity reserve margin for stable supply.

However, calculations on the demand front assume customers' cooperation in conserving electricity, and moreover, the supply front requires the continued use of aging thermal power plants.

Each utility's demand outlook, on which the supply and demand outlook is based, does not include the impact that the spread of the novel coronavirus

infections may have on electricity demand as this is difficult to quantify.

We electricity operators will continue to do our utmost on both the supply and demand fronts by preparing for an increase in electricity demand due to high temperatures in the summer and the risk of reductions in supply capacity due to equipment troubles, while also keeping a close eye on the impact that the novel coronavirus infections may have on electricity supply and demand.

This will conclude my segment today.

END

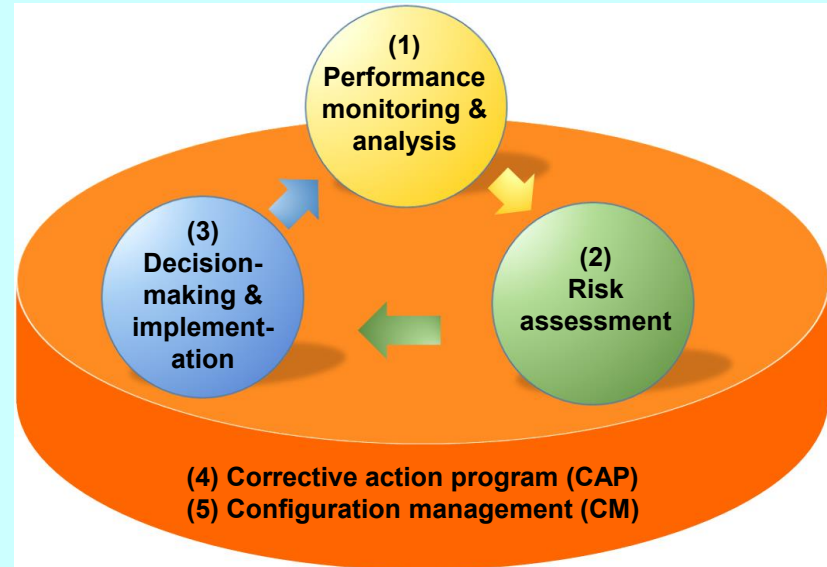
Risk Information Utilization at Nuclear Power Plants

June 19th 2020

The federation of electric power companies of Japan



The nuclear licensees, decided to introduce the risk-informed decision-making (RIDM*) process into our management process at our stations as a framework by which to appropriately assess our initiatives, effectively reduce risks and improve safety. The nuclear licensees compiled basic approaches and action plans in “Strategic and Action Plans for the Implementation of Risk Information Utilization at Nuclear Power Plants” (February 2018).



*RIDM: A method of decision-making that utilizes insights obtained from probabilistic risk assessment (PRA) together with other engineering-related findings.

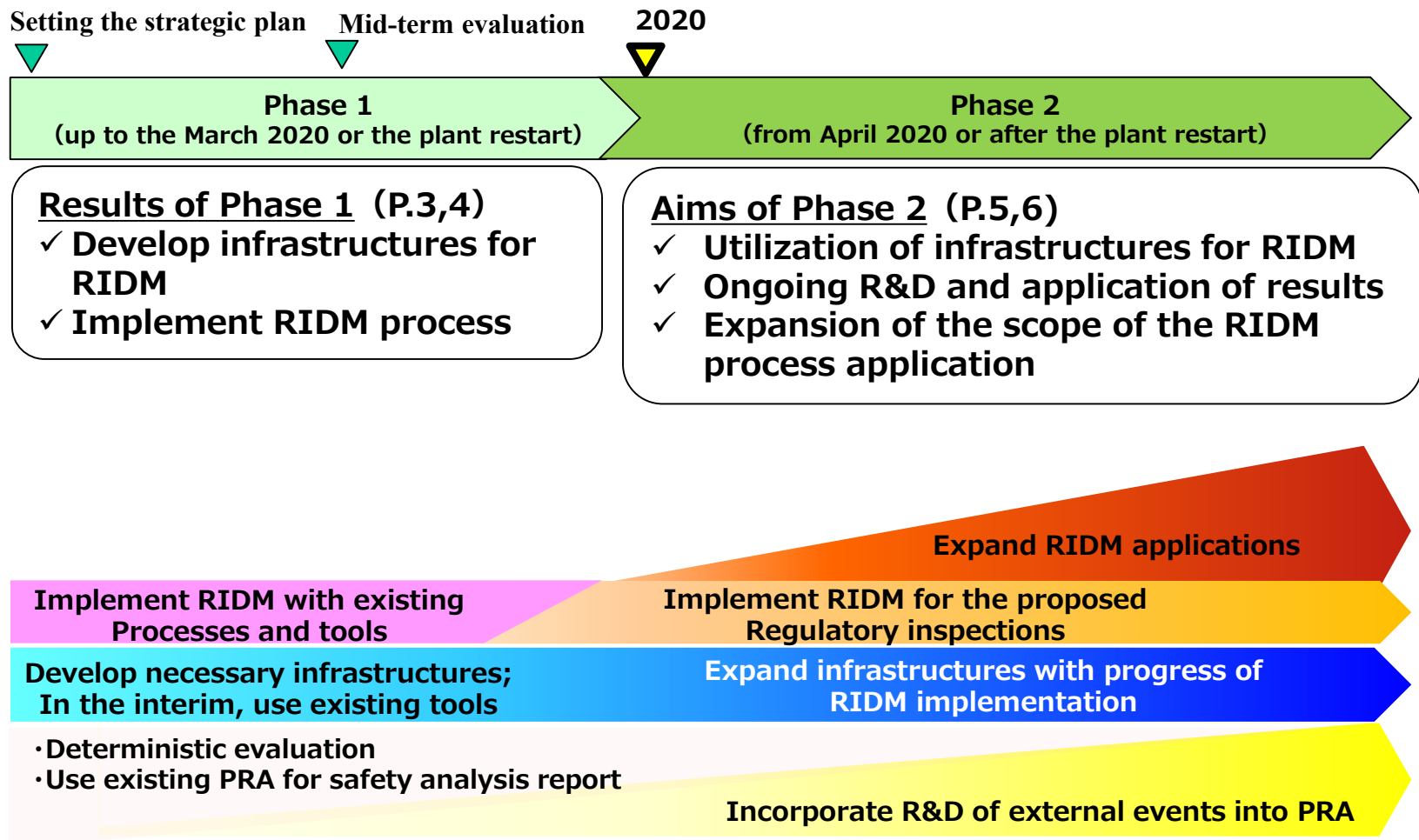


The action plan Phase 1 (up to the March 2020 or the plant restart) was summarized, and the action plan Phase 2 (from April 2020 or after the plant restart) was compiled (this time).

Strategic Plan toward RIDM Introduction

Phase 1: Self-disciplinary enhancement of plant management by utilizing risk information. => **Progressed steadily**

Phase 2: Continuous improvement in plant management under self-disciplinary efforts as well as extension of RIDM scope. => **Set an action plan**



Overview of licensee initiatives

Item		Status
Performance monitoring & analysis	<ul style="list-style-type: none"> • Develop common guidelines across licensees. • Define targets to monitor and commence performance monitoring. • Configure process for trend analysis, study for countermeasures and commence the process. 	<p>The restarted plants have achieved the target of Phase 1 by FY2020, and the plants before restart are eagerly preparing (refer to the following pages for specific examples of RIDM practice). In the Phase 2 Action Plan, the licensees will work to further establish and improve the activities.</p> <ul style="list-style-type: none"> • Risk assessment With regard to restarted plants, the licensees have worked to enhance PRA models of internal events and have made it possible to quantitatively assess plant-specific risks. With regard to other plants, the licensees are still working to enhance PRA models and plan to execute this work by the time of plant restart. For further development of the Phase 1 efforts, we recognized the point of improvement such as common cause failure parameters and are studying them. • CM With regard to restarted plants and the plants before restart, the licensees have worked to clarify the scope to be monitored and commence configuration management. With regards to plants under construction, the licensee will investigate/consider systems in step with design/construction work progress.
Risk assessment	<ul style="list-style-type: none"> • Implement quantitative assessment of plant-specific risks with enhanced PRA models of internal events. • Develop a data collection guideline and prepare parameters required for assessment. • Develop a peer review guideline. 	
Decision-making & implementation	<ul style="list-style-type: none"> • Develop a domestic training program for decision-makers. • Introduce risk information utilization framework for plant activities. 	
CAP	<ul style="list-style-type: none"> • Develop common guidelines across licensees. • Develop a system for reporting by all station personnel. • Develop a screening system for response proportional to severity. • Develop procedures, etc. and commence the procedures. 	
CM	<ul style="list-style-type: none"> • Develop common guidelines across licensees. • Clarify the scope to be monitored; develop equipment master list; arrange facility configuration information (FCI) to be controlled • Develop processes and commence them for checking/attaining conformity with regards to design requirements, FCI, and the physical configuration of the plant. 	

Utilization of risk information when studying the work process of maintenance outage (TEPCO HD)

- Evaluating for fuel damage frequency (FDF) and cumulative value of fuel damage frequency increase (Δ FDF cumulative value) when studying work process, then conduct measures to reduce the risk.

According to the risk evaluation, prepare countermeasures to reduce the risk

Example (equipment guards)



Utilization of risk information in CAP(Kansai EPCO)

- Added the PRA results (CDF, etc.) as the indicators of CAP processing categories to more quantitatively determine the degree of event impact.

【CAP meeting】

- Determine the significance (high, middle or low)
- Determine the department in charge
- Instruction of the specific action (if needed)

Ex) Information to be considered

- PRA results
- LCO
- Compliance with regulatory requirements

Introduction of risk monitor at power (Kyushu EPCO)

- Visualizing the risk changes according to the operating status.
 - ✓ Grasping risk changes according to the operating status, using it to conduct risk reduction measures and prevent further risk increases



Check the status

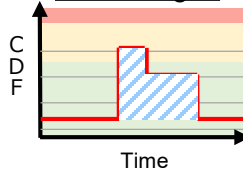


Input to risk monitor and evaluate

Risk evaluation



Visualization of risk changes



Review and conduct measures

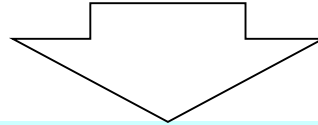


Examples of measures

- Adjustment of maintenance timing
- Compensatory measures
- Countermeasures based on risk significance evaluation
- Raise risk awareness by alerting staff



- Steady progress has been made toward the establishment of infrastructures for RIDM during Phase 1, and risk management is practiced with reference to quantitative risk information obtained from PRA at site.
- In the future, we need to expand the application of the RIDM processes within the plant operation and maintenance to manage limited resources effectively and efficiently while maintaining safety.



< Goal >

Implementation and retention of RIDM processes for the control/ improvement of safety

- While implementing and retaining RIDM processes by utilizing infrastructures developed during Phase 1.
- Through R&D, raise the accuracy of risk assessment and extend the scope of PRA.
- Expand the scope of the RIDM process application, and aim to achieve both control / improvement of safety and improvement of capacity factor by effectively and efficiently performing resource management based on quantitative risk information.

Action Plan for Implementation and Retention of RIDM Processes (Phase 2)

① Utilization and improvement of infrastructures for RIDM

- Apply developed infrastructures to utilize within daily activities, such as responding to regulatory inspections, revising procedural documents and enhancing training programs ,and improving the infrastructures though periodic self-assessment.
- For further development, improve the parameters for common-cause failures based on the prepared data.

② Ongoing R&D and application of results

- Continue R&D, confirm applicability on nuclear power plants, and perform risk assessment of individual plants.
- Through discussion with academic societies or associations, work to assure the scientific foundation and transparency.

③ Expansion of scope of RIDM process application

- Expand the scope of application of the PRA and aim to achieve both control / improvement of safety and improvement of capacity factor by effectively and efficiently performing resource management.
- Exchange views continuously with NRA and share goals toward control / improvement of safety.

- The licensees decided to introduce RIDM processes into plant management and compiled “**the Strategic and Action Plans for the Implementation of Risk Information Utilization at Nuclear Power Plants**”(February 2018).
 - The licensees have made steady progress toward the establishment of infrastructures for RIDM introduction during Phase 1.
 - In the future,
 - the licensees will utilize the established infrastructures,
 - the licensees will continue to develop and improve risk assessment technology through R&D,
 - the licensees will work to expand the scope of application of PRA and the RIDM process for daily activities such as operation and maintenance.
- Through these activities, the licensees will establish the utilization of risk information, manage resources effectively and efficiently, and promote initiatives that lead to control and improvement of safety.