

Self-Assessment of Key Issues related to Nuclear Safety Reforms

“To keep the Fukushima Nuclear Accident firmly in mind; we should be safer today than we were yesterday, and safer tomorrow than today; we call for nuclear power plant operations that keeps creating unparalleled safety”

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1. Self-Assessment Background

- **Self-assessment of nuclear safety reforms** (September 2016)
 - The Nuclear Reform Special Task Force performed a self-assessment of achievements in nuclear safety reforms.
 - The self-assessment identified **“governance”** and **“education & training”** as weaknesses. Improvement measures were examined to address these key issues.

- **Review of self-assessment** (January 2017)
 - **The Nuclear Reform Monitoring Committee (NRMC) reviewed** the self-assessment and reported to the Board of Directors.
 - In light of this report, **“cultivating nuclear safety culture together with contractors”** and **“constructing effective communication mechanisms”** were additionally identified as key issues.

- **Findings from investigation into KK Seismic Isolation Building Issue** (October 2017)
 - The NRMC compiled a report on the investigation into the KK Seismic Isolation Building Issue that occurred in February 2017.
 - In this report, **“making decisions concerning external announcements,”** and **“enabling the idea of viewing issues from the perspective of society to permeate through the organization,”** were identified as weaknesses and added to the list of key issues to be addressed

- **Self-assessment of key issues** (November 2017)
 - The NRMC called for a **self-assessment of the degree to which key issues have been addressed/improved.**
 - The NRMC also called for the **process of performing self-assessments to become voluntary and commonplace.**

1-1 Initiatives for resolving key issues

- Initiatives for resolving key issues have been determined based on the following:
 - a. Perceived weaknesses in each department identified during the previous self-assessment (September 2016)
 - b. Recommendations from the Nuclear Reform Monitoring Committee (January 2017)
 - c. Improvements made in the wake of the seismic-isolated building issue (February, 2017)
- Initiatives focused on the FDEC, the Nuclear Power & Plant Siting Division, and the Corporate Communications Office

Strengthening Organizational Governance	Development and utilization of the Management Model (a.)	Improving Communication	Establishing communication mechanisms (c.)
	Nuclear Safety Advisory Board activities (a.)		Communication training (b.)
	Development and implementation of Decommissioning Strategy (a.)		Enhancing the process for making decisions related to external announcements (c.)
Enhancing Education and Training	Revision of education/training programs based on SAT (a.)	Improving Communication	Ensuring that examining issues from the society's viewpoint permeates the organization (b.)
	Enhancement of engineering capabilities (a.)		Risk communicator training (b.)
			Third-party assessment of communication (b.)
Stronger Nuclear Safety Culture	Internal activities for stronger nuclear safety culture (b.)	Improving Internal Oversight Function	Better explanations of the basis for suggestions (b.)
	Activities for stronger nuclear safety culture amongst contractors (b.)		Nuclear Safety Oversight Personnel education/training (b.)

1-2 Self-assessment flow

Individual assessment of initiatives
by the departments in charge

- The department spearheading an initiative assesses the status of progress and achievements of the initiative as a measure to address key issues.

Examination of individual assessments by
Nuclear Reform Special Task Force Secretariat

Nuclear Reform Monitoring Committee
briefed on the interim report (March 22, 2018)

Comprehensive assessment by
Nuclear Reform Special TF
Secretariat

- Initiative results assessed to confirm that the issues are being addressed, and that the self-assessments of individual initiatives are effective
- The results of the assessment are discussed with the head of the department spearheading the initiative to confirm common understanding and decide upon a direction for making improvements

Creation of action plan by the department
spearheading the initiative

- A detailed action plan is created upon clarifying the achievements, leading to improvements

Report to the Nuclear Reform
Monitoring Committee (NRMC)

2. Assessment Scale

- The “degree of rooting of initiatives” and the “effect” are both assessed
 - Rooted: The mechanism and rules for execution have been explicitly stated and methods for checking progress are clear
 - Effect: Improvements aimed at resolving key issues can be qualitatively and quantitatively measured, and improvement can be expected
- Departments in charge of the initiatives assess each initiative
- The Nuclear Reform Special Task Force Secretariat assesses key issues

V. Rooted and effective	The initiatives are rooted and have had a definite impact in resolving key issues
IV. Rooted and possibly effective	The initiatives are rooted and the resolution of key issues can be expected if they are continued
III. Rooted but not effective	The initiatives are rooted but continuing implementation is not having an effect
II. Not rooted	The initiatives have begun but the mechanisms and rules for execution are insufficient
I. Not implemented	Plans have been formulated but there is no evidence of execution

2-1 Individual assessments by departments in charge of initiative (reported to committee members on March 22)

Key Issue	Expectations/Requirements	Initiatives	Self-assessment by department spearheading initiative
1. Strengthening Governance	Governance in the Nuclear Power Division must be stronger	1-1. Creation and permeation of Management Model	IV
		1-2. Nuclear Safety Advisory Board action	IV
		1-3. Creation and promotion of decommissioning promotion strategy	V
2. Improving human resource training	In-house technological capabilities must be enhanced	2-1. Revision of educational and training programs based upon SAT	IV
		2-2. Strengthening engineering prowess	IV: SE training II: CM, EC established
3. Improving communication	The opinions of society must be heard, risks and information must be proactively disclosed and dialogue engaged in continuously, and a relationship of trust must be built	3-1. Creation of effective communication mechanisms	V: All companies, II: FDEC
		3-2. Communication training	V
		3-3. Strengthening of process for making decisions about external announcements	IV
		3-4. Ensuring that viewing problems from the society's viewpoint permeates the organization	V
		3-5. Risk communicator training	V
		3-6. Third-party assessments of communication	V
4. Cultivating nuclear safety culture	Management must embody the concept of prioritizing safety, every individual must constantly think about safety, and all parties must continually pursue higher levels of safety	4-1. Activities to cultivate nuclear safety culture internally	IV
		4-2. Activities to cultivate nuclear safety culture within contracting companies	IV
5. Strengthening internal oversight functions		5-1. Making it easier to explain recommendations	IV
		5-2. Oversight officer education training	IV

3. Results of Self-Assessment by TF

1. Strengthening Governance

IV. Rooted and possibly effective

Revision of education and training programs based on SAT (a.)

2. Improving Human Resource Training

IV. Rooted and possibly effective

Strengthening engineering prowess (a.)

3. Cultivating Nuclear Safety Culture

IV. Rooted and possibly effective

4. Improving Communication

IV. Rooted and possibly effective

5. Strengthening Internal Oversight Functions

IV. Rooted and possibly effective

3-1 Strengthening governance

■ Rooting and Permeation of the Management Model/Decommissioning Promotion Strategy

Rooted:

- ✓ The basic plans for corporate action have been explicitly stated and leaders periodically give briefings (committee expectation)
 - ✓ Management Model (Nuclear Power & Plant Siting Division)/Decommissioning Promotion Strategy (FDEC)
- ✓ A cycle where fiscal year business plans are formulated based upon the corporate plan, the status of implementation and achievements are checked by management, and improvements made if necessary, is being employed

Effects:

- ✓ CFAM are leading initiatives to make improvements based on the Management Model, and examples of improvements, such as improvement to the quality of management observation (MO), have been seen in multiple areas (Nuclear Power & Plant Siting Division)
- ✓ Questionnaires have confirmed that understanding of the plan has improved along with employee motivation (FDEC)

Issues to address going forward:

- ✓ Further improvement will be promoted by periodically implementing self-assessments of key issues, reflecting gap improvements in business plans, and having progress and effect checked by leaders (Nuclear Power & Siting Division)
- ✓ In light of the fact that some promises made to the outside world are not being kept, the status of execution of plans shall be checked and the effectiveness of these plans assessed while mechanisms for managing plan execution are revised (FDEC)

3-2 Improving human resource training (1/2): Education and Training

- Revision of education and training programs based upon SAT

Rooted:

- ✓ The use of SAT (Systematic Approach for Training) has begun in order to improve education and training programs.
- ✓ Along with creating a roadmap for achieving the world's highest levels of safety 10 years from now, the progress and impact in each group, power station and department level is checked at the Education and Training Review Meeting.

Effects:

- ✓ At each review meeting, issues for continual improvement are identified and the progress of improvements are checked. Examples of improvement, such as an increase in the number of people that have passed the licensed reactor engineer primary examination, etc., have been seen.

Issues to address going forward:

- ✓ To improve the level of understanding and acceptance of education/training by trainees, departments in charge are working with education/training departments to strengthen initiatives. (Committee expectation)
- ✓ Mechanisms for clarifying the skills required and weaknesses to be improved in each department have been formulated and put into trial operation by test groups. In conjunction with this, skill sets to be taught during OJT are being deliberated and a management support system for ascertaining the level of skill of individuals and departments is being created.

3-2 Improving human resource training (2/2): Engineering prowess

II. Not rooted

■ Strengthening engineering prowess

Rooted:

- ✓ Although programs for certifying the skills of design-management and configuration-management engineers have been put into trial use, there have been delays with formulating a comprehensive training program.

Effects:

- ✓ The training of system engineers is moving steadily forward according to the reform plan targets .
- ✓ Efforts to Kashiwazaki-kariwa licensing preparation are preventing sufficient resources from being allocated to engineering training, so the effect has been limited

Issues to address going forward:

- ✓ In conjunction with establishment of the engineering center, the job requirements for engineers and a corresponding training plan shall be established, and a training program created. (Committee expectation)
- ✓ Education and training program management based on SAT shall be put on track.

3-3 Improving communication

- Creation of effective communication system, enhancement of decision-making process regarding external announcements, and third-party assessments of communication

Rooted:

- ✓ Departments have been reorganized to strengthen governance of corporate communications functions
 - Decommissioning-related corporate communications functions have been incorporated into the Decommissioning Communication Center inside the Decommissioning Promotion Center
 - SC Office function has been integrated into the HD Headquarter Corporate Communications Department
 - Risk communicators (RC) have been assigned to the Corporate Communications Department and training to improve their abilities is being implemented continuously (Committee expectation)
- ✓ Communication targeting stakeholders and media outlets is continuously assessed by third parties (Committee expectation).

Effects:

- ✓ Participants in awareness reform training given by RCs have stated that they are able to reflect upon issues from the perspective of the public.
- ✓ Areas for improvement pointed out during third-party assessments have been reflected in fiscal year business plans and assessment results are being leveraged in short-term cycles for improvements.

Issues to address going forward:

- ✓ To further improve the consistency of department action by the Nuclear Power Division, departments have been reorganized so that nuclear power-related corporate communications functions are under the command of the Chief Nuclear Officer, which has resulted in improvements.
- ✓ The effects of department reorganization will be assessed (The scope of third-party assessments is expanded).

3-4 Cultivating nuclear safety culture

- Activities to cultivate nuclear safety culture within the company and its contractors

Rooted:

- ✓ “Safety culture retrospection and group discussion,” and “condition assessments by safety culture teams” are continually implemented in-house, and leaders have begun assessing their own departments.
- ✓ Contractors are engaged in dialogues about safety culture in a planned fashion by leveraging opportunities such as contract signings and daily information exchanges.
(Committee expectation)

Effects:

- ✓ Opportunities to discuss safety internally, and the number of proposals made through the safety-improvement-measures proposal system, both have increased.
- ✓ A questionnaire about activities for engaging contractors in dialogue has shown that 92% of contractors consider the activities to be “helpful” or “slightly helpful.”

Issues to address going forward:

- ✓ To cultivate safety culture based on self-assessments more effectively, mechanisms shall be revised based upon standard safety-culture-assessment processes used in the United States.
- ✓ In dialogues with contractors, task-related risks and past troubles, as well as best practices, will be shared. Also, advice on making improvements shall be shared as required.

3-5 Strengthening internal oversight functions

- Improving abilities to explain suggestions and education/training for monitors

Rooted:

- ✓ To improve abilities to explain suggestions, processes have taken root for issuing recommendation notices, clarifying conditions for closing matters, and monitoring progress with follow-up sheet.
- ✓ For education/training, processes have taken room for formulating basic plans, using certification systems, participating in WANO training, and having monitors and licensed reactor engineers share information .

Effects:

- ✓ Implementing parties have been able to improve recommendations through corrective action programs (CAP) and key self-assessments.
- ✓ The percentage of recommendations that have been implemented has jumped from 37% three years ago to 88%
- ✓ The setting of personal dose targets and the inclusion of safety culture in common work specifications have shown that recommendations are spreading throughout the field, including to contractors.

Issues to address going forward:

- ✓ Excellence gaps shall be resolved based upon NIEP* reviews, which are third-party assessments of the internal-oversight functions of nuclear operators.
- ✓ An oversight task guide shall be created, based on coaching from overseas mentors and benchmarking, to standardize oversight tasks and improve the skills of monitors.

* Nuclear Industry Evaluation Program

4. Plans Going Forward

- These five key issues will be further improved by leveraging self-assessments conducted under the sole supervision of the managers of each initiative.
- The TF Secretariat shall further develop these improvements and support the rooting of self-assessments by checking the implementation status of action plans for each department, the status of gap improvement, and the degree to which self-assessments have taken root.
- We aim to firmly root a cycle by which improvements are continuously made based upon self-assessments conducted by the entire Nuclear Power Division.

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