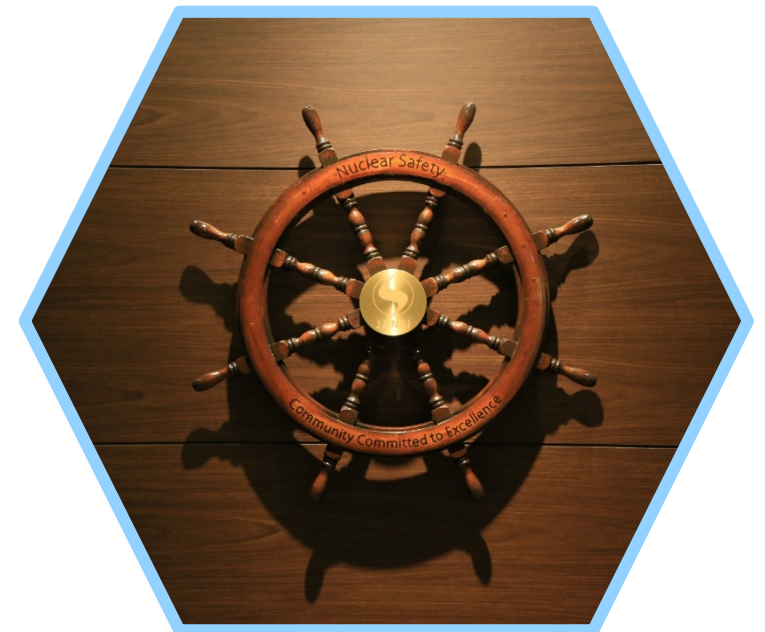


JANSI

# Annual Report 2020

Japan Nuclear Safety Institute



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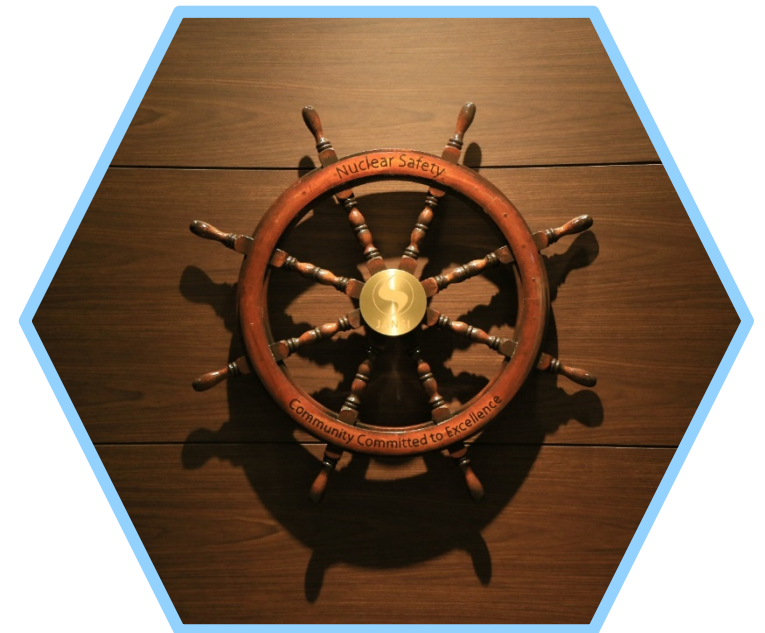
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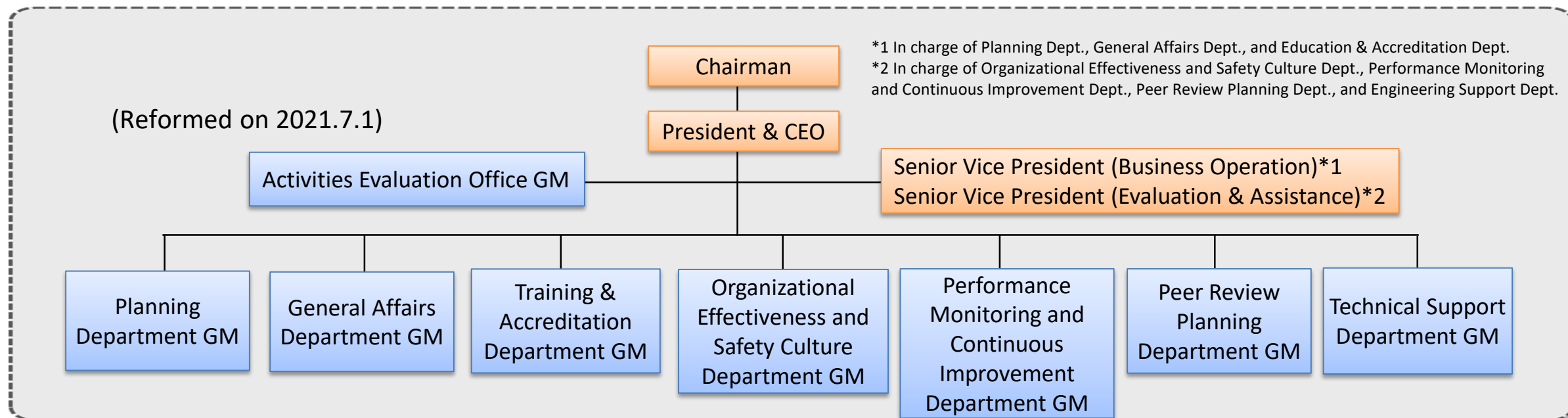
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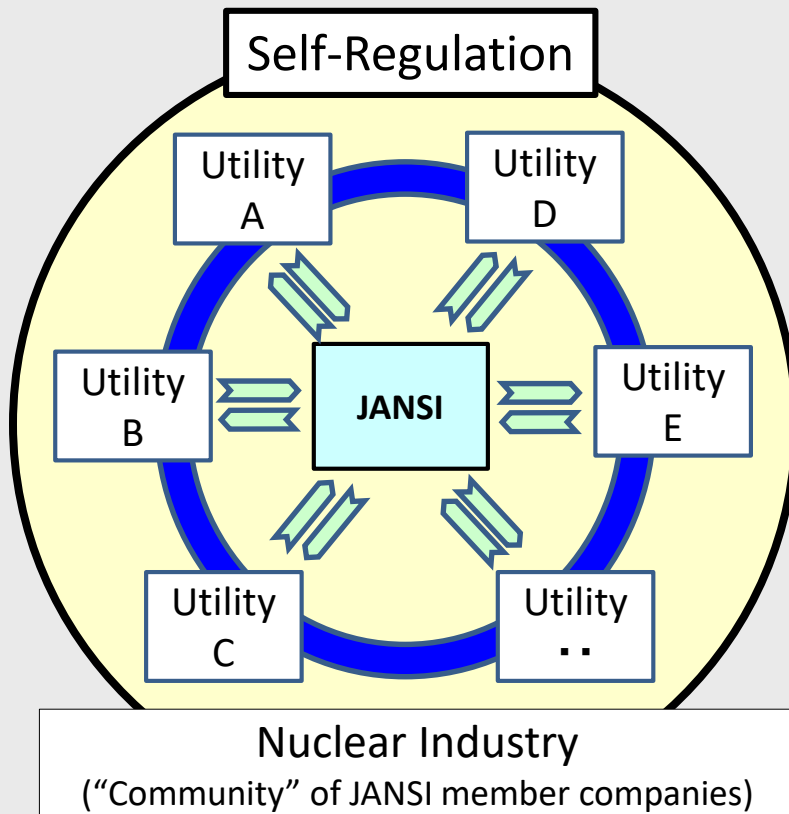
# Overview of JANSI



- (1) Name: Japan Nuclear Safety Institute (JANSI)
- (2) Number of members: 129 (as of end of March 2021)
- (3) Number of personnel: 204 (as of end of March 2021)
- (4) Organization



- Established as **a self-regulatory organization** under the consensus of the industry “to prevent any events similar to the TEPCO Fukushima Daiichi Nuclear Power Station accident” (2012.11)
  - **Modeled on INPO (Institute of Nuclear Power Operations)** in the US nuclear industry
  - Concluded **"Coordination Principle"** with the operators. Shared basic ideas such as information sharing and ensuring independence
  - Developed evaluation and support activities such as peer reviews with the mission: **"Pursue the World's Highest Level of Safety in the Japan's Nuclear Power Industry (Untiring Pursuit of Highest Standards of Excellence)"**
- Formulated “Ideal which JANSI and Operators Strive for to Achieve Self-regulation,” and the operators and JANSI deepened discussions, making continuous improvements toward its realization (June 2017)
- The Board of Directors is composed of the CEOs of the operators and the JNFL (June 2018)
- Developed a Ten-Year Strategy, and defined main actions to realize the visions (March 2019)



### 【JANSI members (operators)】

- As a main actor of self-regulation, operators fulfill their responsibilities as a member of community and continue to make united efforts to improve safety
- Individual and collective responsibility for safety of nuclear facilities
- Give authority and support to a self-regulatory organization to implement the mission

### 【JANSI(self-regulatory organization)】

- Roles and responsibilities to assist self-regulation activities effectively and efficiently
  - Evaluate and monitor self-regulatory activities (Watchdog)
  - Stimulate activities (Catalyst)
  - Promote activities by showing the path forward (Facilitator)
  - Be firm anchorage (Accountable Agent)
- Technical capacity that underpins the authority of self-regulation
- Appropriate relationship with the regulator

○ In order to realize self-regulation, clarified requirements such as responsibilities expected of the operators and JANSI, and set them as action targets when planning, implementing, and evaluating each activity.

○ Studied and established with the collaboration of the operators and JANSI

I. Fundamental principles

I-1 Nuclear Safety Focus

I-2 Involvement of CEO, CNO

I-3 Accountability of Operator

I-4 Accountability of JANSI

I-5 Independence of JANSI

II. Leadership

III. Governance

III-1 Organization management

III-2 Oversight

III-3 Audit

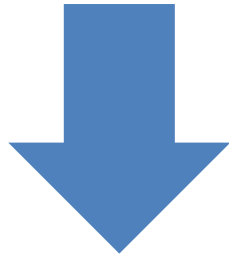
IV. Communication

V. Securing and developing JANSI human resources

CEO: Chief Executive Officer

CNO: Chief Nuclear Officer

○ At the time of establishment, from the viewpoint of ensuring independence, the Board of Directors consisted of vice presidents of the electric power companies other than the nuclear sector, vice presidents of manufacturers, and domestic experts.



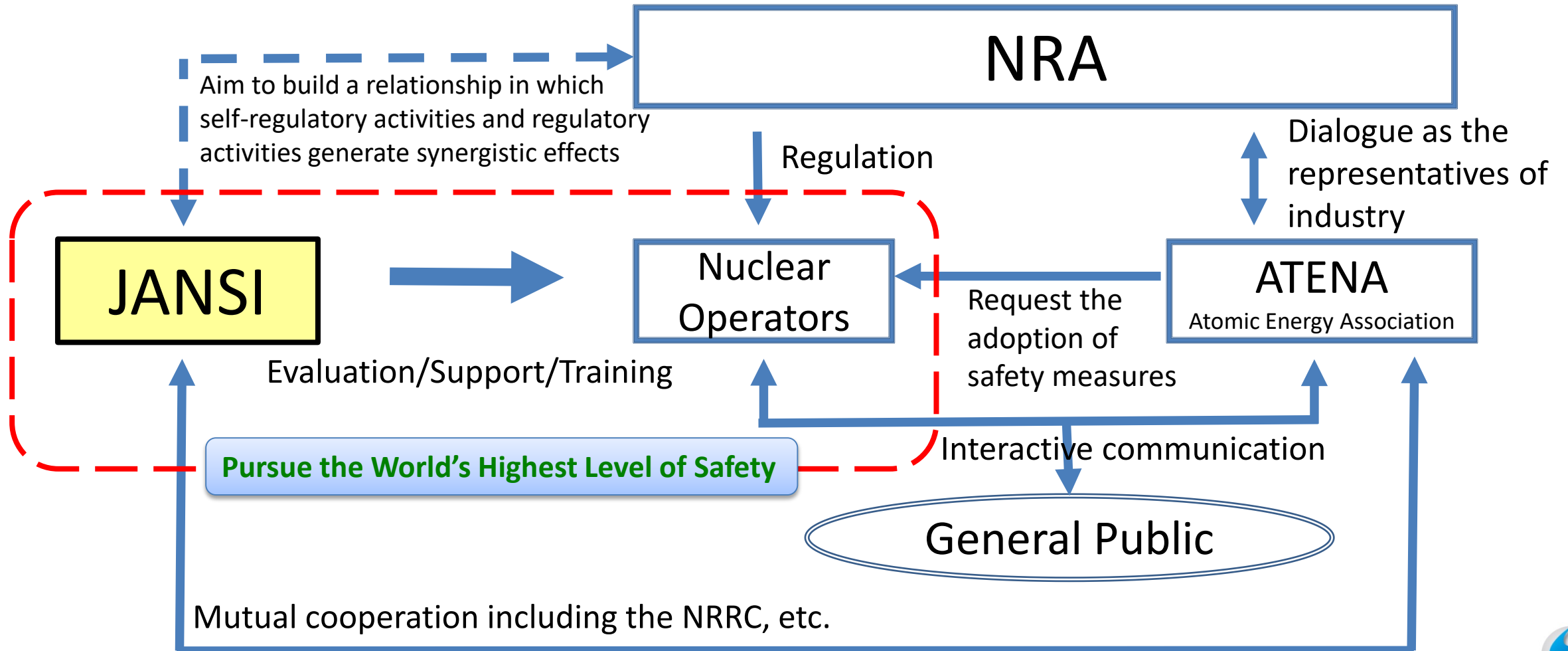
The leadership of the CEOs of electric power companies and their commitment to JANSI are essential to achieving self-regulation [Clarification of responsibilities as electric power companies, and enhancement of referral to JANSI]

○ The Board of Directors is composed of the CEOs of electric power companies and JNFL, and invited Mr. Webster, former INPO leader, as the Chairman.

✓ Vice Presidents of manufacturers were reorganized as the Associate Special Member Representative Meeting to discuss business operations and make recommendations to the Board of Directors and the President & CEO as necessary.

✓ Domestic experts were reorganized as the Domestic Advisory Committee to exchange opinions with the top management.

## Common Goal: Improving Nuclear Safety



## Relationship with the NRA

- Although self-regulatory activities and national regulatory activities are independent from each other, they aim to build a relationship that generates synergistic effects.
  - Information sharing on operating experience information (OE information) is underway
  - Careful discussions are being held on the mechanism for sharing information with the NRA including the peer review reports, while considering the business environment.

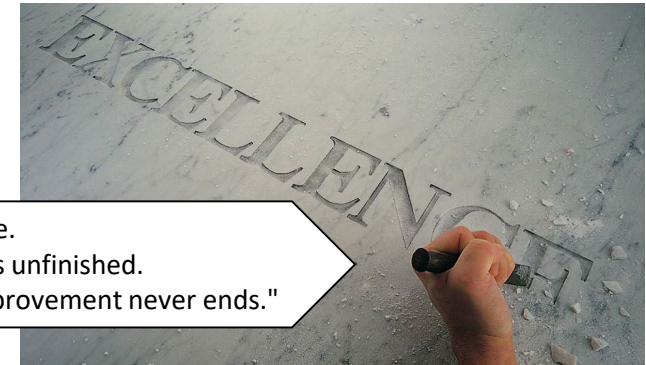
## Relationship with Industrial Organizations

- Mutual cooperation with ATENA, NRRC, etc.
  - Concluded technical cooperation agreements with ATENA and NRRC, and have implemented: attendance at each other's conferences, information sharing, mutual business support, collaboration to solve important issues in the industry, etc.
  - Information has been shared with other organizations such as Japan Atomic Industrial Forum and Japan Electrical Manufacturers' Association as appropriate.

## Relationship with INPO (Institute of Nuclear Power Operations)

- As self-regulatory organizations with the same vision of "pursuing the highest level of performance," INPO and JANSI mutually cooperates on behalf of the operators of the US and Japan on the issues of improving safety of nuclear power plants.
  - Benchmarking visit to US power plants
  - Exchange of opinions between the US and Japanese nuclear industries regarding the reflection of Fukushima Daiichi lessons learned

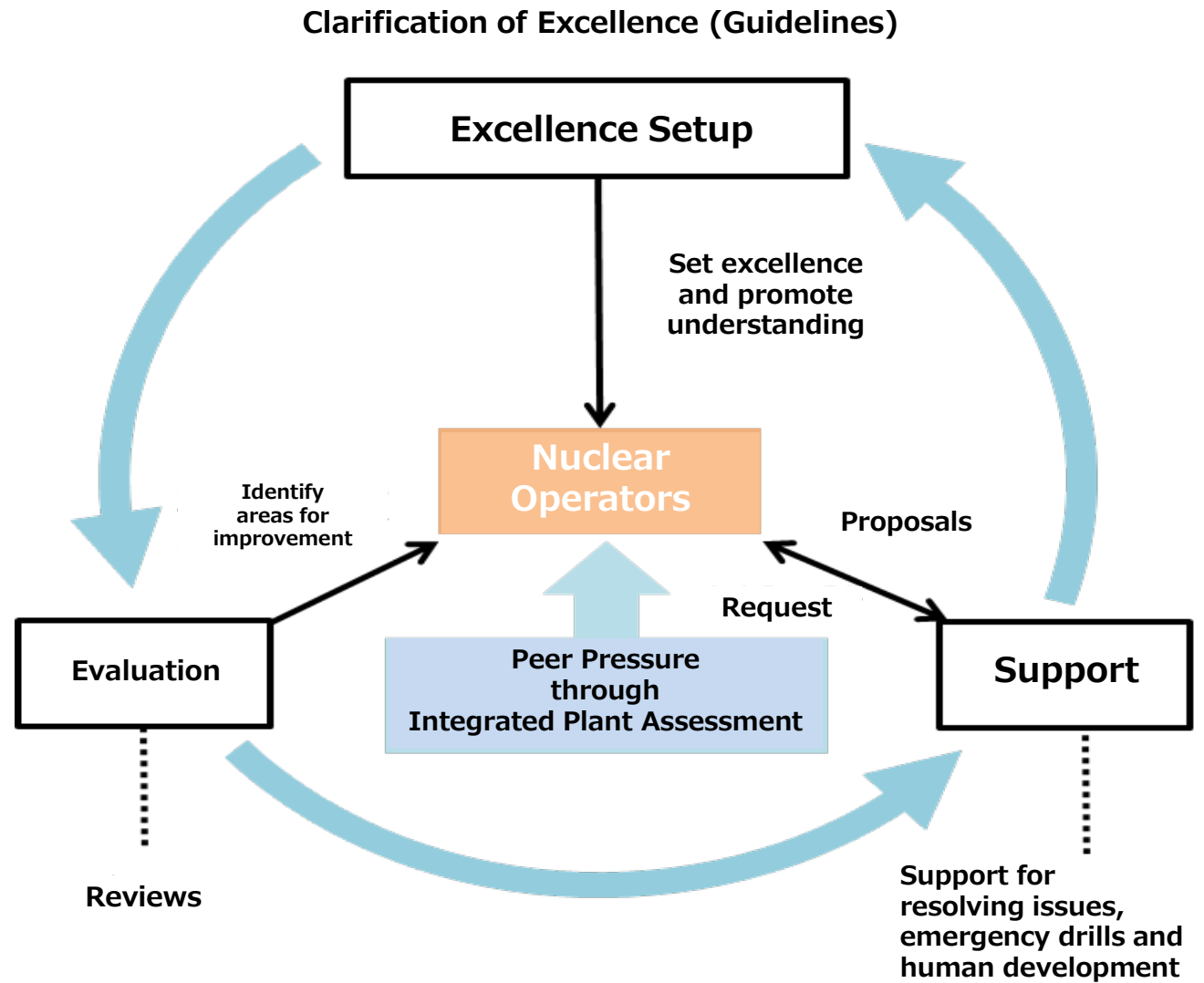
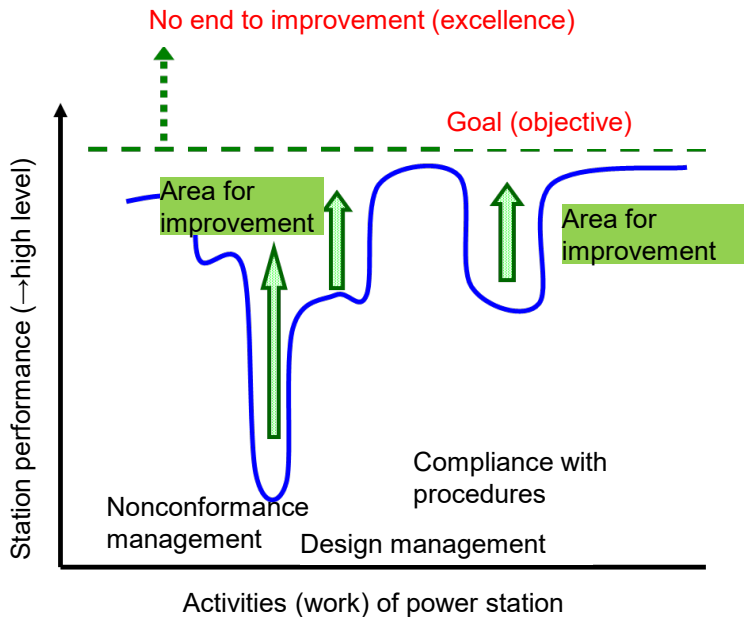
Reprinted from the INPO website.  
The word "EXCELLENCE" remains unfinished.  
It is a symbol of "The road to improvement never ends."



## Relationship with WANO (World Association of Nuclear Operators)

- Although WANO and JANSI are independent organizations, they cooperate with each other to improve the safety of nuclear power plants by taking advantage of their respective characteristics. JANSI closely cooperates with WANO Tokyo Center.
- JANSI strives to grasp and pursue international standards for world's excellence and evaluation/support methods.
  - From JANSI: Dispatch reviewers to WANO peer reviews, provide PI information of domestic operators, etc.
  - From WANO: Dispatch overseas peer reviewers, etc.

Define the latest standards of excellence apply it in the cycle of **setting up excellence standards, evaluating** to these standards and **supporting** the operators in an effective and timely manner



Based on the reflection on the Fukushima Daiichi accident, JANSI drives the operator activities and pursue world's excellence beyond the regulatory framework.

For this reason, JANSI top executives directly informs the CEOs of the operators about the areas for improvement and encourages improvement.

## 【Peer Reviews】

- **Directly present peer review results (areas for improvement, etc.) to the operator CEOs**  
(Regarding common issues, the content will be shared at the CEO session (a place for exchanging opinions exclusively for the operator CEOs, hosted by JANSI))

## 【Safety Culture】

- **Directly present the safety culture diagnosis results to the operator CEOs**

## 【Power Plant Integrated Assessment】

- **Present the integrated assessment results (5-grade evaluation) at the CEO session (Peer pressure)**

## 【Recommendation for safety improvement measures】

- **Directly present the consideration of safety improvement measures to the operator CEOs**

## 【CEO session, CEO training, Dialogue】

- **Direct exchange of opinions with the operator CEOs toward the realization of self-regulation**

- In order for peer reviews, safety culture diagnosis, and various support activities to be continuously effective, it is important to maintain a sound environment surrounding these activities.
- Frank dialogue with the operators is indispensable for observing/evaluating the operator performance, and its content is maintained on the premise that it is kept private and used productively.

## ○ Purpose of Development

- ① Study possible environmental changes in the next ten years, **identify the end state the industry and JANSI should achieve.**
- ② Clarify how individual activities and initiatives of JANSI relate to the desired end state, reorganize importance of each item, reach agreement in the Institute and share it.



JANSI closely collaborated with operators in the process of strategy development by seeking advice of experts in Japan and overseas.

## ○ Formulation of Ten-Year Strategy (Approved by JANSI Board of Directors in March 2019)

- ✓ During the target period of FY2019-FY2028, **with this strategy as a guide, JANSI will work hard with the operators to accomplish the desired end state.**
- ✓ Since this is a long-term strategy, effectiveness of the activities and business environment changes will be regularly evaluated and the strategy will be updated as necessary.

## ○Setting the Desired End State

- ✓ The Industry: **The industry continuously improves by the initiatives of voluntary safety improvement by operators.**
- ✓ JANSI : **JANSI drives initiatives for voluntary safety improvement as the self-regulatory organization in nuclear industry.**
- ✓ Embodies the future image of the industry and JANSI

## ○Main Actions to realize the Desired End State

- ✓ Critical Success Factors (CSFs) for the industry and JANSI are established to improve plant performance over the next ten years.
- ✓ Based on the CSFs, orientation of JANSI activities is determined (5 categories).
- ✓ Associated actions are determined (20 actions).

Action Category	Orientation of Activities
<b>Effective and Efficient Peer Reviews</b>	<ul style="list-style-type: none"> <li>▪ Conduct peer reviews considering Japanese culture or systems in addition to international standards. Also, with strengthening the collaborative relationship, JANSI and WANO conduct alternate peer reviews every two years.</li> </ul>
<b>Continuous Monitoring and Timely Information Sharing on Plant Performance, Enhancement of Supports</b>	<ul style="list-style-type: none"> <li>▪ Initiate continuous monitoring of plant performance through performance indicators (PI), and reflect it in evaluation and support activities.</li> <li>▪ Upon collecting/analyzing operating experience (OE) information, the analysis is shared with the operators by the timely information sharing method.</li> <li>▪ Find important issues common to the industry (including restart assistance and JNFL support) and individual weaknesses, driving initiatives for improvement as a nuclear industry.</li> <li>▪ Bring out the commitment of the top management of the operators and prompt peer pressure.</li> </ul>
<b>Evaluation and Support for both corporate office and stations</b>	<ul style="list-style-type: none"> <li>▪ Evaluate utilities' efforts both in corporate office and stations from organizational culture, safety culture and risk management points of view to provide necessary support.</li> </ul>
<b>Maintain and improve technical capability of operators</b>	<ul style="list-style-type: none"> <li>▪ Support raising awareness and increasing knowledge and skills of operators by planning/implementing trainings, etc.</li> <li>▪ Support Fukushima Daiichi lessons learned to be incorporated and regularly refreshed.</li> </ul>
<b>Strengthen foundation of self-regulatory organization: Roles, mindset and technical capability</b>	<ul style="list-style-type: none"> <li>▪ Strengthen the role, mindset and technical skills required for the self-regulatory organization.</li> <li>▪ Build a relationship of trust and respect with the utilities, NRA and other external organizations.</li> </ul>

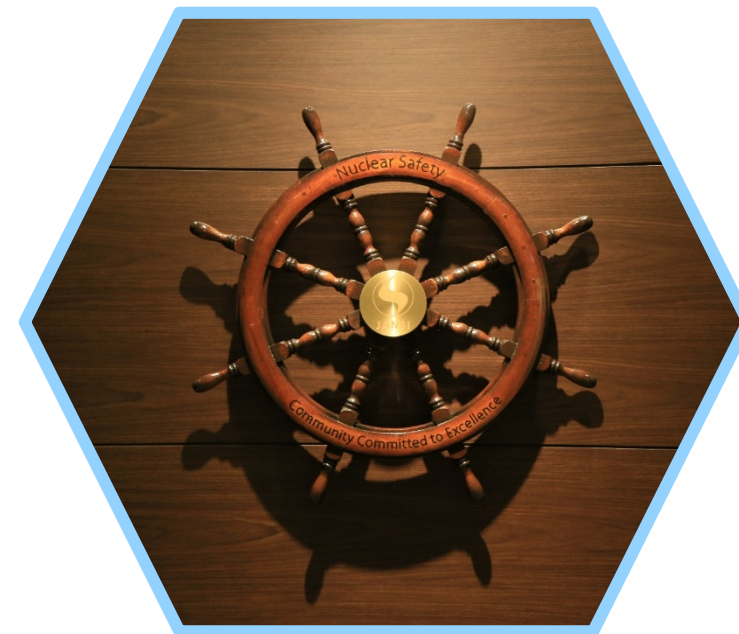
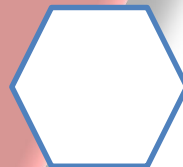
- **“Pursuit of excellence” is to continue the “journey.”**
- **JANSI clarifies the “course,” and firmly takes the “helm.”**



「Nuclear Safety」  
【原子力安全にフォーカス】

「Community Committed to Excellence」  
【常にエクセレンスを追求する共同体】

# Status of Main Activities



## ○Peer Review

➤ Conducted **21 times** since the founding of JANSI (2012)

### <The Role of JANSI Peer Review>

- Evaluate the safety improvement activities of the operators
- Create a mechanism for the top management of the operators to commit to improvement through peer reviews



### <Desired End States>

- Based on the premise that there is a feeling of trust between the power plant (interview content, reports, and other information will not be disclosed)
- Conduct “quality peer reviews” that will lead to improvements in power plants
- Continuous involvement through “evaluation and support”
- Ensure “independence”
- Seek “highest excellence” for JANSI itself too



**Pursue the World’s Highest Level of Safety and Reliability**

### Peer Review Track Record of the Past 3 Years

FY2018	FY2019	FY2020
Ikata Kashiwazaki Kariwa (5-7) Sendai Tsuruga	Kashiwazaki Kariwa (1-4) Shika Ohi Hamaoka	Ikata Tokai Daini  (Partially postponed due to COVID-19 pandemic)

### Team Meeting



### ○Support for improving power plant performance

- Currently conducting a Feasibility Study (FS) of **a mechanism to constantly grasp power plant performance**
- **Power Plant Integrated Assessment** has been conducted from FY2016
  - Conduct evaluations based on the results of the previous FY, and share information in the CEO session
  - Power Plant Special Awards were given (to 3 plants in 2018, to 1 plant in 2019)
- For the identified issues, support power plants through seminars on improvement measures, benchmarking visits, training, Senior Representative (SR) visits, and Technical Contact Point (TCP) for each specialized field.
- Currently developing activities to present excellence to the operators by organizing the concept of **programs that are the basis of voluntary safety improvement activities** such as Corrective Action Program (CAP), Configuration Management (CM), and Risk Management (RM).

### ○Restart Assistance, etc.

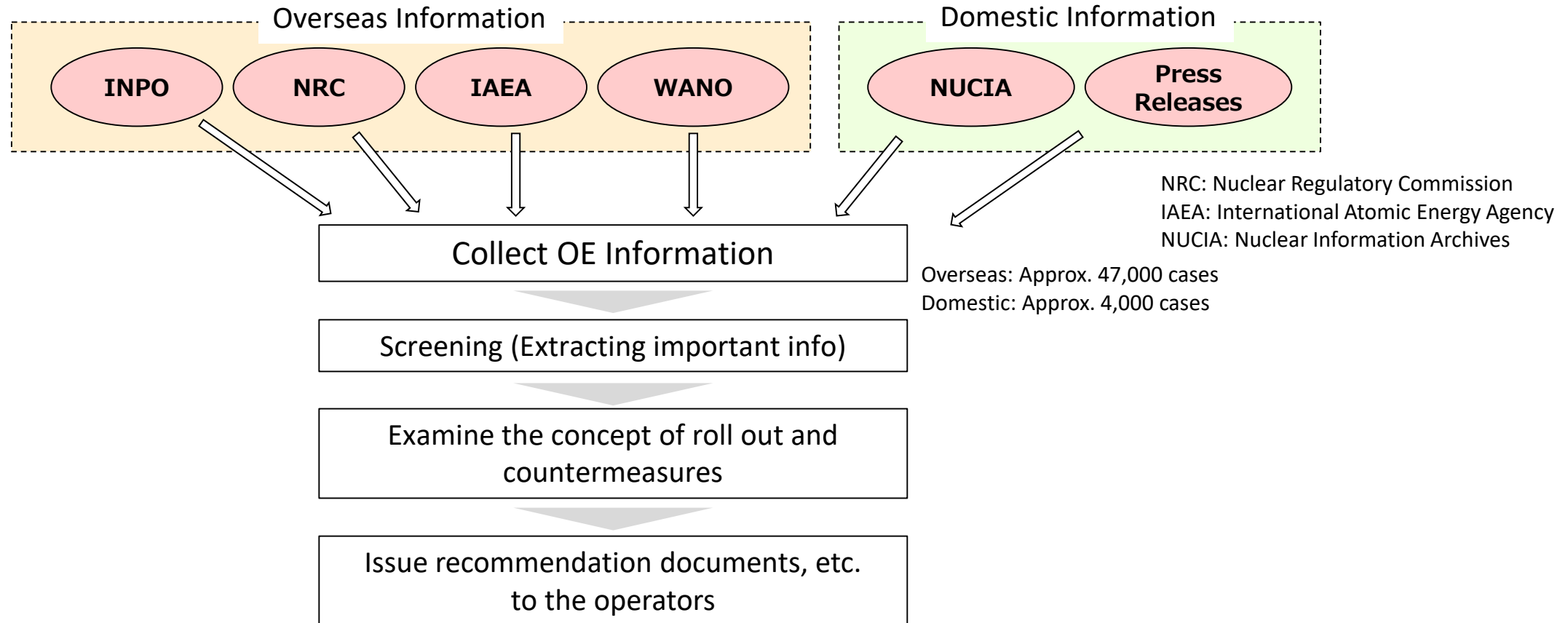
- Exchange opinions with the preceding restarting plants, and provide support such as walk-downs by utility experts as appropriate.
- Pre-completion support for the JNFL reprocessing plant is ongoing



【Power Plant Special Awards (All CEOs attended)】

## ○ Utilization of Operating Experience Information (OE)

- Collect and analyze domestic and overseas OE information, and present measures etc. to the operators as necessary
- Domestic OE information is registered in the public database (NUCIA), and if necessary, roll out will be required.



Since the founding of JANSI, 20 Documents of Significance, etc. and 10 Documents of Warning have been sent.

## ○ Safety Culture Diagnosis

- **On-Site Diagnosis:** Based on the results of a questionnaire survey every 3 years, it is conducted every 3 to 4 years for power plants, major plant manufacturers, and fuel processing manufacturers (Able to hear opinions of the on-site staffs, and grasp the potential problems)  
The interview has been expanded to the corporate offices from FY2020
- Questionnaire Survey of Safety Culture: Conducted as **a fixed-point observation every 3 years** for Special Members and Associate Special Members

### 【On-Site Diagnosis】

**On-site diagnosis observes and analyzes the target organization from multiple perspectives of organizational culture, and gives a diagnosis on how they are involved in maintaining and improving performance including safety, from an independent and objective standpoint.**

Its purpose is to provide an opportunity for the target organization itself to recognize its own situation in relation to safety more correctly, and to improve its learning ability as an organization pursuing excellence in safety.

### On-Site Diagnosis Track Record of the Past 3 Years

	FY2018	FY2019	FY2020
Nuclear Power Plants JNFL	Fukushima Daini, Takahama, Shimane, Genkai, Oma	Tokai/Tokai Daini, Hamaoka, Tomari, Kashiwazaki Kariwa, JNFL	Tsuruga, Ikata, Sendai
Plant manufacturers Fuel manufacturers	Toshiba	Mitsubishi Heavy Industries	Hitachi-GE Nuclear Energy

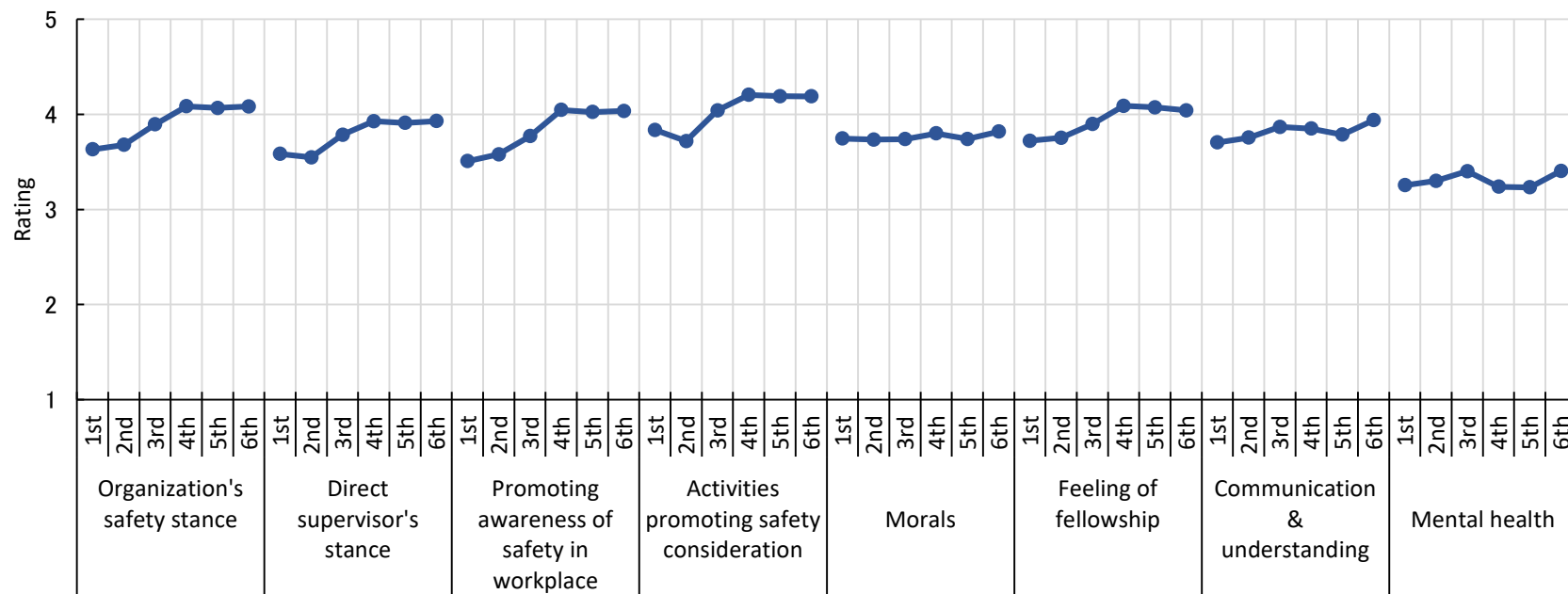
## 【Safety Culture Surveys】

- ✓ Trends can be ascertained
- ✓ Statistical analysis allows comparisons to be made of the relative position of each member within the membership as well as between divisions within members' business establishments
- ✓ Hierarchical analyses can be made



- ① Areas are able to be clarified that organizations should prioritize.
- ② The focus of field diagnoses can be narrowed down.

### Factor Rating Trends (Power Station Average)



1<sup>st</sup> survey: FY2002-2004  
4<sup>th</sup> survey: FY2012

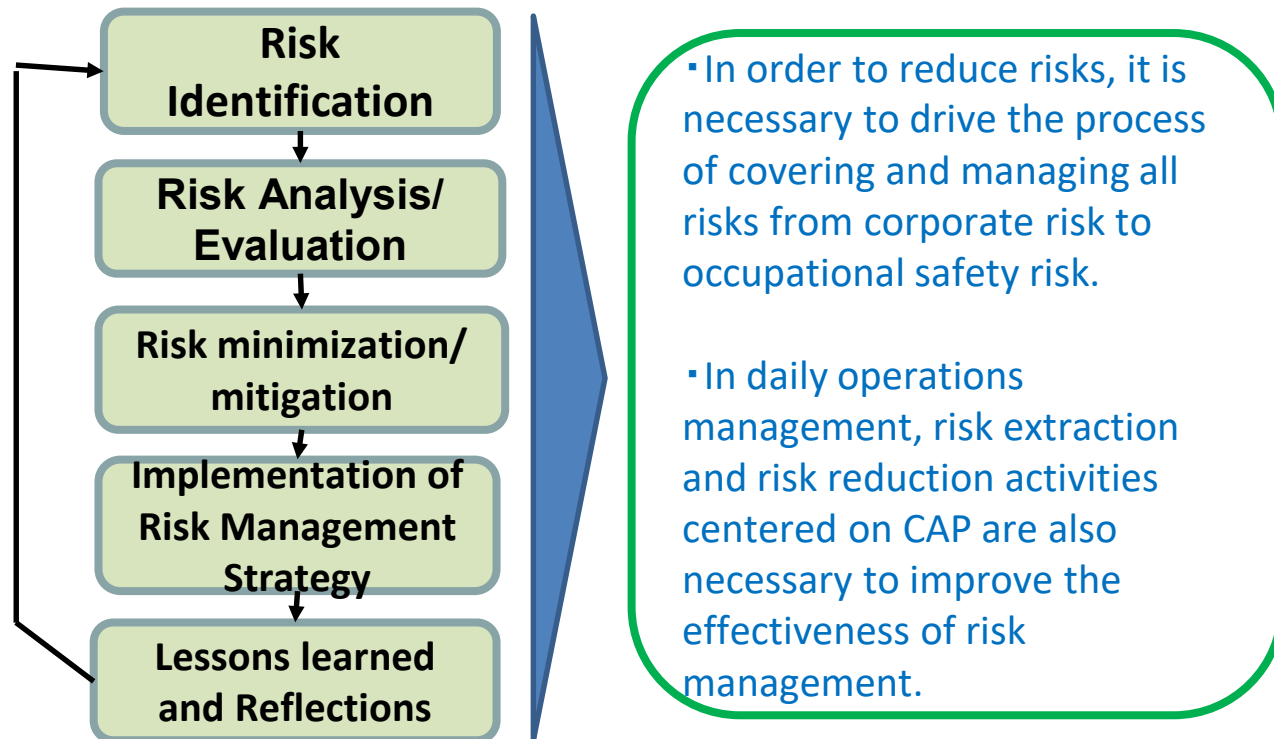
2<sup>nd</sup> survey: FY2006  
5<sup>th</sup> survey: FY2015

3<sup>rd</sup> survey: FY2009  
6<sup>th</sup> survey: FY2018

## ○Support for establishing a risk management (RM) structure

- In order for the operators to practice risk management and continuously improve safety, carry out support activities such as reviews including the corporate office.

### 【Risk Management Process】



• In order to reduce risks, it is necessary to drive the process of covering and managing all risks from corporate risk to occupational safety risk.

• In daily operations management, risk extraction and risk reduction activities centered on CAP are also necessary to improve the effectiveness of risk management.

### 【JANSI's Support Activities】

- Disseminate recommendations to all operator CEOs regarding the establishment of a safety assurance structure that takes into account the nuclear safety related risks
- Establish RM Excellence Guideline
  - Investigate/reflect good overseas initiatives
- Confirm the initiatives of the operators
  - Support individually for on-site penetration
- Share specific initiatives in other domestic industries with the operators
- Implementation of risk sensitivity improvement training

## ○ Safety improvement measures evaluation, recommendation and support

Pursue world's excellence by investigating/collecting the latest findings of the world, and evaluate/support safety improvement measures of each operator.

- Evaluation of safety improvement measures (applying methods different from those of the operators and NRA)
- Recommendation concerning Safety Improvement Measures (6 SA (Severe Accident) measures, 1 Defense in Depth level 1-3 recommendation have been issued)
- Support/review related to safety improvement measures (evaluation of the latest findings/follow-up on utilities response)

### 【Evaluation of safety improvement measures for SA (severe accident) measures】

#### Development of Evaluation Method

◆ Adoption of IAEA SRS-46 "Assessment of Defense in Depth for Nuclear Power Plants"  
 (1) Independence, (2) Uniqueness, (3) Originality, (4) (Exclusion of) Self-righteousness

#### Examination of plant-common issues

Extract issues to be examined for improving safety in light of good practices and new findings in Japan and overseas

#### Issuance of recommendations

From the agendas, issue 6 SA measures as recommendations

#### Evaluation of domestic plants

##### Evaluation of all utilities

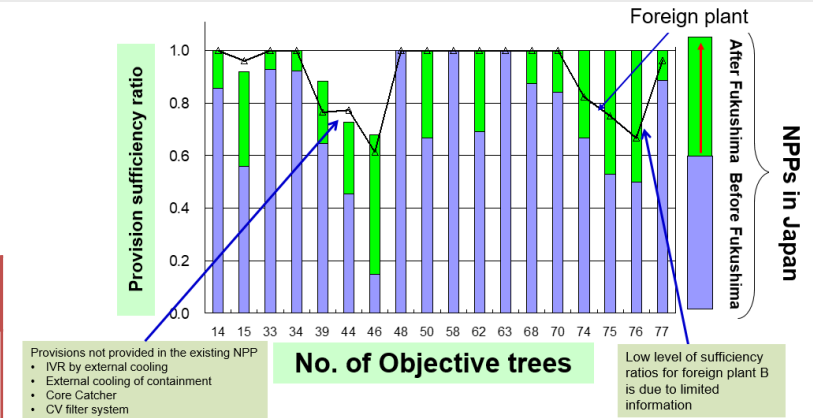
- PWR: 13 units 7 power plants
  - BWR: 7 units 6 power plants
- (One more BWR unit will be evaluated in the future)

#### Future activities

- By FY2022, evaluate Defense in Depth level 1-3 and measures against external events, and give an overall summary
- Operators support activities such as new findings surveys, effectiveness evaluations, and seminar & lectures held by JANSI will be continued in the future

#### Quantitative evaluation of the degree of safety improvement using a deterministic method

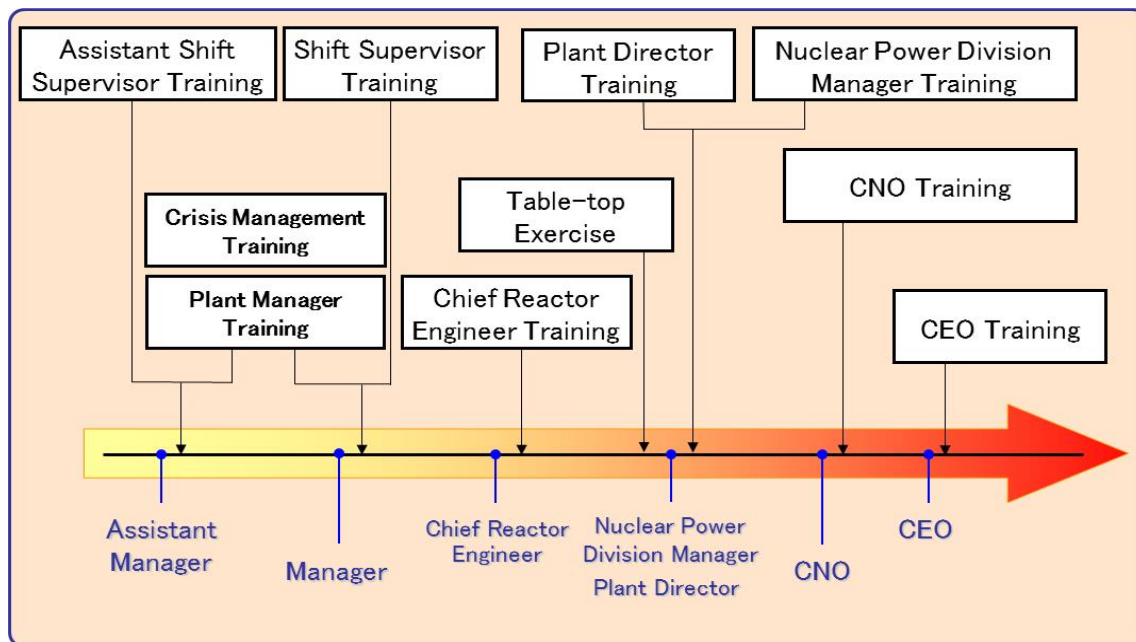
- Improvement of safety measures before and after compliance with new regulatory requirements
- Identify areas for improvement of safety measures
- Standard comparable to overseas plants'
- Organize differences between plants



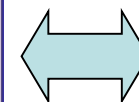
## ○Leadership Training

CEO: Chief Executive Officer  
CNO: Chief Nuclear Officer

- Conduct training for fostering awareness of making nuclear safety top priority and non-technical skills (leadership, communication, etc.)
- Provide 10 courses according to duty position for the management level employees including Shift Supervisors, Plant Directors, CNO/CEO, etc.



Cooperation



### External organizations

- Fire Dept.
- Self Defense Forces
- Aviation
- Railway, etc.

- Lectures by experts
- Utilization of training facilities
- Know-how of curriculum development



Crisis Management Training



Online Implementation

- Conducted online in FY2020 due to the COVID-19 pandemic
- [Training Track Record (number of people) of the past 3 years]

FY2018	FY2019	FY2020
266	203 ( * )	128 ( * )

\* In FY2019/2020, a part of the training was canceled due to the COVID-19 pandemic

## ○SAT Support [SAT: Systematic Approach to Training]

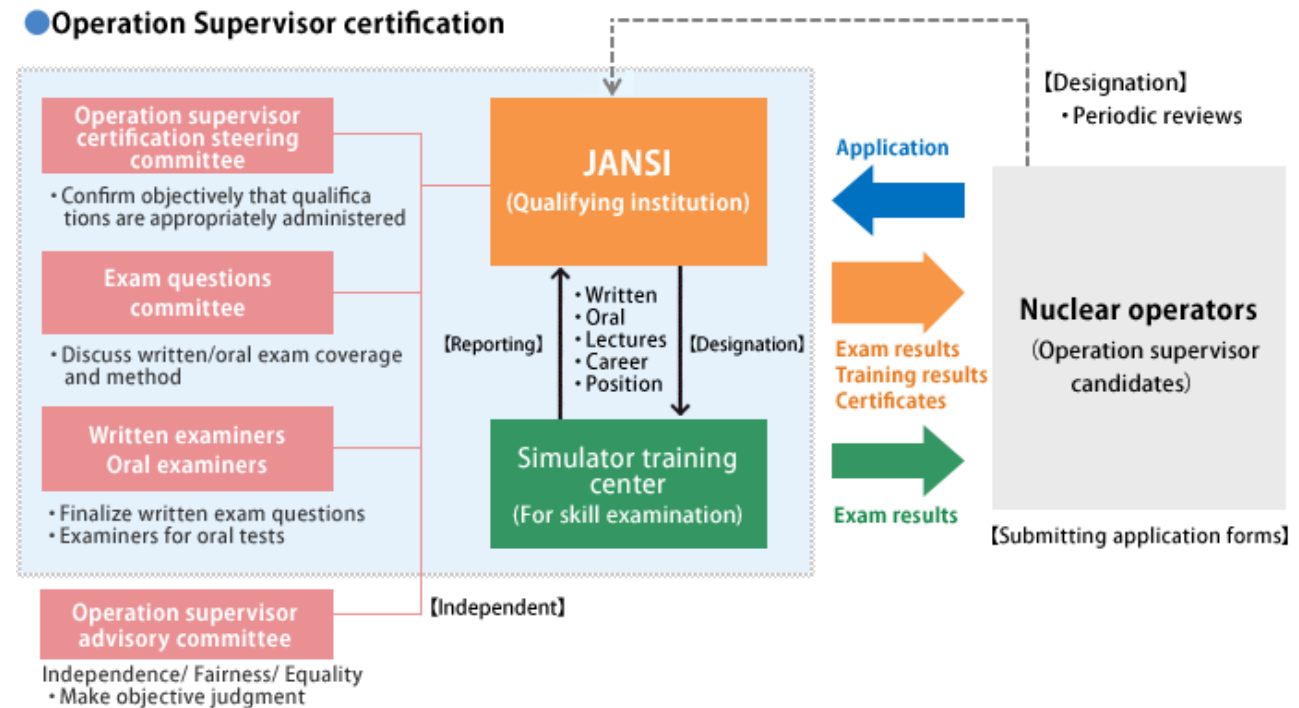
- Provide support for the operators' efforts to secure the technical competence of the staffs through the development of guidelines, training, caravans, etc.
- In FY2020, practical training and power plant caravan were implemented online for each power plant (6 utilities, 9 offices)

## ○Operation Supervisor Certification

◇ JANSI is designated as the qualifying institution from the nuclear operators, and carries out certification consistent with the Nuclear Power Plant Operation Supervisor certification rules (JEAC4804) and the pass/fail assessment rules of the nuclear operators (renewed every 3 years).

◇ In FY2020, oral/written examinations and lectures were held four times a year, and the certification results were announced.



(Conducted online in FY2020 due to the COVID-19 pandemic)



## ○Annual Conference

• JANSI holds the “JANSI Annual Conference” to report on the results of its activities, and to receive opinions from domestic/overseas nuclear community in order to make future activities more effective.

### Track Record of the Past 3 Years

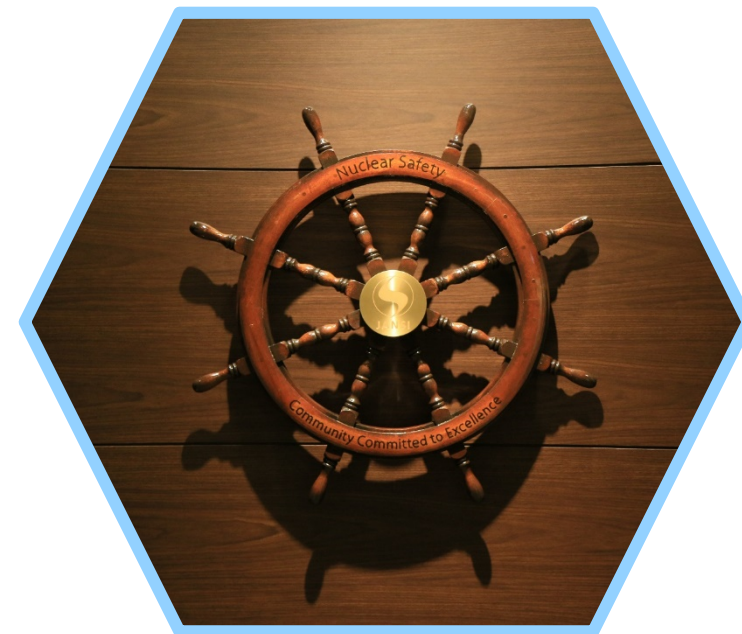
Event Date	2019.3.13	2020.3.18 (Cancelled)	2021.3.17
Number of Participants	Approx. 430	-	Approx. 600 (Held Online)
Panel Discussion	<p><b><u>Strategy for Improving Organizational Management Effectiveness and Promoting a Safety Culture —Activities and Future Outlook on Industry &amp; JANSI—</u></b>            (Chairman) Kenichi Takano: Professor, Graduate School of System Design and Management, Keio University            Yeonhee Hah: Head of the Division of Radiological Protection and Human Aspects of Nuclear Safety, OECD NEA            Shinichi Inoue: President &amp; Representative Director, Japan Aircraft Pilot Association            Masahide Wakakura: Executive Director, NPO Japan Safety Competency Center            Hiroya Harada: Representative Director&amp; President, Tohoku Electric Power Co., Inc.            Akira Ono: Managing Executive Officer, Tokyo Electric Power Company Holdings, Inc.            Hiromi Yamazaki: President &amp; CEO, JANSI</p> 	<p>The event was cancelled in response to the spread of COVID-19 infection and the "Basic Policy for Countermeasures against COVID-19 Infections" announced by the government. A tripartite talk was held on the <u>Denki Shimbun</u>, related to the theme "improvement of risk sensitivity" scheduled for the day.</p> <p>(Tripartite Talk)  <b><u>Risk Management from the perspective of Hayabusa2 and Nuclear Power</u></b></p> <p>Yuichi TSUDA: Hayabusa2 Project Leader, Japan Aerospace Exploration Agency</p> <p>Professor Akira YAMAGUCHI: Nuclear Professional School, School of Engineering, The University of Tokyo</p> <p>Hiromi YAMAZAKI: President &amp; CEO, JANSI</p>	<p><b><u>Establishment and Progress of Voluntary Continuous Safety Improvement Initiative</u></b></p> <p>(Chairman) Professor Akira YAMAGUCHI, Nuclear Professional School, School of Engineering, The University of Tokyo            Fumihito OGATA: Executive Vice President, West Japan Railway Company            Jeffrey B. Archie: Former CNO, South Carolina Electric &amp; Gas Company (SCE&amp;G)            Yutaka FUJII: President &amp; Director, Hokkaido Electric Power Company            Kazuhiro IKEBE, President &amp; CEO, Kyushu Electric Power Company            Hiromi YAMAZAKI: President &amp; CEO, JANSI</p> 

## ○Response to the COVID-19 pandemic

- Manage both "COVID-19 infection prevention measures" and "ensuring the effectiveness of JANSI activities"
- Regarding peer reviews, while considering the importance of face-to-face communication, incorporate the advantages of the online method, and taking into account the status of infection, promote the initiatives that make the best use of the both methods.
- For the leadership training and safety culture diagnosis, utilize the online method to achieve the same effect as conventional face-to-face training
- Promote process innovation utilizing the IT, etc. throughout the organization, and establish a foundation for switching to the remote work method

Main Operations	Overview of Initiatives
Peer Reviews	<ul style="list-style-type: none"> <li>▪ Postponed peer reviews at two locations in the first half of FY2020</li> <li>▪ Promoted measures such as remote interviews and small team formation by decentralization of functions, and carried out improved peer reviews at two locations on and after October</li> </ul>
Leadership Training	<ul style="list-style-type: none"> <li>▪ Postponed/cancelled all trainings in the first half of FY2020</li> <li>▪ Promoted digitalization support such as training design and review of teaching materials, and conducted training online on and after October</li> </ul>
Safety Culture Diagnosis	<ul style="list-style-type: none"> <li>▪ Postponed on-site diagnosis of 2 offices in the first half of FY2020</li> <li>▪ Promoted digitalization support such as examining the content of interviews, and conducted on-site diagnosis interviews at 4 offices remotely on and after October</li> </ul>

# FY2020 Activity Status



Ten-Year Strategy Main Actions	FY2020 Activity Status (Items with ● are related to Highly Focused Activity)	Notes
(1) Effective and efficient implementation of peer reviews (PR)	<ul style="list-style-type: none"> <li>● Implementation of power plant PR               <ul style="list-style-type: none"> <li>▪ Ikata, Tokai Daini</li> </ul> </li> <li>● Currently undergoing WANO equivalency assessments</li> </ul>	<p>WANO Equivalency Acquisition: Obtain certification that JANSI peer review is equivalent to WANO peer review</p>
(2) Strengthen the support for the operators to resolve shared important issues	<ul style="list-style-type: none"> <li>● Held Plant Performance Review Meeting 2 times</li> <li>● Support for resolving important issues identified in PR               <ul style="list-style-type: none"> <li>① <u>Operations fundamental for shift-operators in accident response simulator training</u> <ul style="list-style-type: none"> <li>▪ A small number of witnesses for team performance improvement training (2 times), training video observation (2 times), for benchmarks, conducted a trial by live streaming on the Web (2 times).</li> </ul> </li> <li>② <u>Mitigation of fire risk</u> <ul style="list-style-type: none"> <li>▪ Held “FP Review Meeting” (5 times), "FP Seminar"</li> </ul> </li> <li>③ <u>Support for performance improvement</u> <ul style="list-style-type: none"> <li>▪ Support for improving on-site observation skill, Focused Self-Assessment support, etc.</li> </ul> </li> <li>④ <u>Comprehensive support for SAT*</u>: (Please refer to the Main Action (14))               <ul style="list-style-type: none"> <li>(*: Systematic Approach to Training)</li> </ul> </li> </ul> </li> <li>○ Support for issues related to maintenance (Established “MA Review Meeting,” held (2 times))</li> <li>○ Continued regular contact and visit by Senior Representatives (SR)</li> <li>○ Activity of Technical Contact Points (TCP)</li> <li>○ Updated Excellence Guideline (8GL)</li> </ul>	<p>FP: Fire Protection (One of areas of expertise of PR)</p> <p>MA: Maintenance (One of areas of expertise of PR)</p>
(3) Provide support for autonomous safety activity programs	<ul style="list-style-type: none"> <li>● Support for constructing/operating fundamental programs of operators               <ul style="list-style-type: none"> <li>▪ CAP: Held “QMS Review Meeting” (3 times)</li> <li>▪ CM: Held “CM-WG” (3 times)</li> <li>▪ Common Voluntary PI: Full-scale operation will start in FY2020, Held a “Common Voluntary PI Review Working Group” (1 time)               <ul style="list-style-type: none"> <li>▪ RM: (Please refer to the Main Action (9))</li> </ul> </li> </ul> </li> <li>● Support for improving power plant risk sensitivity               <ul style="list-style-type: none"> <li>▪ Design and develop education and training to increase the risk sensitivity of power plant staff.</li> </ul> </li> </ul>	<p>QMS: Quality Management System</p> <p>CAP: Formal corrective action program</p> <p>CM.: Configuration Management</p> <p>PI: Performance Indicator</p> <p>RM: Risk Management</p>

Ten-Year Strategy Main Actions(	FY2020 Activity Status (Items with ● are related to Highly Focused Activity)	Notes
(4) Provide support for restarting plants	○Provide support such as exchanging opinions with preceding plants, such as reviews of restart action plans, etc., in cooperation with WANO	
(5) Provide support for reprocessing and other facilities	●Support for reprocessing facilities ▪Created a support activity plan (self-check confirmation items, etc.), individual support activities at each department	
(6) Strengthen daily monitoring of plant performance	● Feasibility Study for Performance Monitoring & Cont.M construction ▪“Tasks” (4 times), “WG” (3 times) held ○Utilization of WANO-PI/Common Voluntary PI data ▪ Implemented quarterly reports as planned	<b>PM &amp; Cont.M:</b> Abbreviation for Performance Monitoring & Continuous Monitoring A mechanism for constantly grasping power plant performance through information such as PI and close communication, and reflecting it in the evaluation and support activities  <b>PI:</b> Performance Indicator
(7) Upgrade OE tasks and actively provide information	●Collect/analyze OE information internally/externally and release documents to operators according to the significance ▪ Issued information notices (3 cases) ▪ Study for improvement/upgrade of OE tasks	
(8) Upgrade safety culture diagnosis method	○Conduct safety culture diagnosis ▪ Conducted in 4 places, follow-up in 3 places ○Support for reinforcement/improvement of safety culture conducted by operators ▪ The creation of self-assessment teaching materials, training using the same teaching materials was conducted (3 places) ▪ Lectures requested by members were conducted (4 places) ▪ The Safety Caravan was conducted (2 places) ▪ The Safety Culture seminar was conducted (2 times) ○Review and improvement of safety culture diagnosis method ▪ Revised to 10Traits based ○Safety culture assessment and PR information sharing/cooperation strengthening ▪ Conducted in Ikata PR, Tokai Daini PR	<b>10Traits:</b> 10 Characteristics (Traits) of Nuclear Safety Culture

Ten-Year Strategy Main Actions	FY2020 Activity Status	Notes
(9) Summarize safety improvement tasks and enrich RM support	<ul style="list-style-type: none"> <li>○ Risk Management (RM) system development support :               <ul style="list-style-type: none"> <li>▪ “RM Practical Review Meeting” held (4 times)</li> <li>▪ Held “Risk-informed Decision Making (RIDM)/RM Basic Education Teaching Material Briefing Session” (5 times)</li> <li>▪ Preparation of review manual, etc. in preparation for implementation in FY2021</li> </ul> </li> <li>○ Activities pertaining to development of safety measures evaluation method :               <ul style="list-style-type: none"> <li>▪ For the review of Severe Accident (SA) measures, Shimane No.2 was evaluated, completed preparation of summary report</li> <li>▪ For the review of Defense in Depth Level 1-3 (design basis event) measures, the evaluation of Ohi No.3 and No.4, and Hamaoka No.4 was completed.</li> <li>▪ For the review of measures against external events, Takahama No. 3 was evaluated.</li> </ul> </li> <li>○ Development of foundation for evaluation of safety improvement measures :               <ul style="list-style-type: none"> <li>▪ Investigate the latest knowledge of safety improvement measures in Japan and overseas, evaluate the presented new issues, follow-up and Safety Expert Meetings, provide information to the operator through seminars (8 times), register the evaluation results of domestic plants in the JANSI database.</li> <li>▪ Completed the basic concept study on the basic concept of the Defense in Depth data site.</li> <li>▪ Held an opinion exchange meeting with Czech Electric Power (2 times)</li> </ul> </li> <li>○ JSAR Guideline development :               <ul style="list-style-type: none"> <li>▪ Completed the BWR version of JSAR guidelines</li> </ul> </li> </ul>	<p><b>NRRC:</b> Nuclear Risk Research Center</p> <p><b>RIDM:</b> Risk-Informed Decision Making</p>
(10) Strengthen oversight function including corporate offices	<ul style="list-style-type: none"> <li>○ Support for improving the effectiveness of oversight of the operator (Please refer to Main Actions (8) and (9))</li> </ul>	

Ten-Year Strategy Main Actions	FY2020 Activity Status	Notes
(11) Foster operators' awareness as owner of self-regulation by having discussion among executives	<ul style="list-style-type: none"> <li>○ Training leadership for self-regulation               <ul style="list-style-type: none"> <li>▪ Held the Board Meeting (5 times)</li> <li>▪ Visit to new CEO/CNO by President&amp;CEO (3 times)</li> </ul> </li> <li>○ Direct dialogue between JANSI executives and stations</li> <li>○ Communication with working-level station staffs by various contents               <ul style="list-style-type: none"> <li>▪ Issued "JANSI ACTIVITIES" (6 times)</li> </ul> </li> </ul>	<p>CEO: Chief Executive Officer CNO: Chief Nuclear Officer</p>
(12) Continuously improve and conduct Integrated Assessment for nuclear stations	<ul style="list-style-type: none"> <li>○ Implementation of Power Plant Integrated Assessment               <ul style="list-style-type: none"> <li>▪ Conduct integrated assessment of FY2019 data, and reflect in FY2020 budget</li> <li>▪ Held plant commendation</li> </ul> </li> </ul>	
(13) Leadership trainings for emergency preparedness and disaster drills	<ul style="list-style-type: none"> <li>○ Leadership training               <ul style="list-style-type: none"> <li>▪ Held CEO training (Meeting at the venue), CNO training (Online), Senior Management training (Hybrid), Plant Superintendents training (Online), Chief Reactor Engineers training (Online), Shift Supervisors training (Online).</li> </ul> </li> <li>○ Support for nuclear emergency training               <ul style="list-style-type: none"> <li>▪ The emergency training presentation was canceled due to the influence of COVID-19, and as an alternative, the presentation was held through the Web</li> <li>▪ Held "Emergency Training Review Committee" (2 times)</li> <li>▪ Seminars and lectures related to emergency response were held</li> </ul> </li> </ul>	<p>OL: Online Training</p>
(14) Educate operators about systematic approach to training (SAT)	<ul style="list-style-type: none"> <li>○ Activities for education on SAT               <ul style="list-style-type: none"> <li>▪ The design of SAT practical training was reviewed for online training, and started for each plant together with the power plant caravan (6 operators and 9 offices)</li> </ul> </li> </ul>	<p>SAT: Systematic Approach to Training</p>

Ten-Year Strategy Main Actions	FY2020 Activity Status	Notes
(15) Incorporate Fukushima Daiichi lessons learned	<ul style="list-style-type: none"> <li>○Prevention of Fukushima accident from fading               <ul style="list-style-type: none"> <li>▪ Lending the video reviewing the 1F accident, in the Plant Superintendents training used the “maintaining conscience of the 1F accident” video, exchanged of opinions</li> </ul> </li> <li>○Confirmation of Incorporating the lessons from the Fukushima Accident               <ul style="list-style-type: none"> <li>▪ New reviewer was selected and training was conducted</li> </ul> </li> </ul>	
(16) Operator support in emergency	<ul style="list-style-type: none"> <li>○Participated in the nuclear emergency training of the operator together with WANO-TC</li> </ul>	
(17) Secure medium/long-term human resources and development of human resource development program	<ul style="list-style-type: none"> <li>○Programs for securing mid/long term personnel               <ul style="list-style-type: none"> <li>▪ Steadily request and secure human resources by sharing personnel plans based on the 10-Year Strategy, reconstruction of performance evaluation system, hiring of new graduates, etc.</li> </ul> </li> <li>○Human resources development programs               <ul style="list-style-type: none"> <li>▪ Implemented competence evaluation in FY2020, Conducted basic business training 2 times</li> <li>▪ Sharing of information held by retirees, training textbooks, etc.</li> </ul> </li> </ul>	
(18) Raise awareness as self-regulatory organization by the executives	<ul style="list-style-type: none"> <li>○Dialogue activities with top management (Small-group dialogue 10 times, message from the President&amp;CEO 10 times)</li> <li>○Employee awareness survey (Questionnaire survey was conducted, aggregated, evaluated, explained within JANSI.)</li> </ul>	
(19)Strengthen collaboration with NRA	<ul style="list-style-type: none"> <li>○At the JANSI Annual Conference 2021, NRA committee members and NRA secretariat members participated</li> </ul>	
(20)Build peer relationships with WANO, INPO and other international organizations	<ul style="list-style-type: none"> <li>○WANO related               <ul style="list-style-type: none"> <li>▪ World Governing Board Meeting (3 times), Tokyo Center Board Meeting (3 times) participation</li> </ul> </li> <li>○INPO related               <ul style="list-style-type: none"> <li>▪ Exchanged opinions with INPO executives (3 times), participated in the INPO-CEO conference</li> </ul> </li> </ul>	

Technology Basis	FY2020 Activity Status	Notes
(A) Support through autonomous guideline development	<ul style="list-style-type: none"> <li>○Development of Vessel Internals Inspection &amp; Evaluation Guidelines (Review Meetings held 3 times)</li> <li>○Development of EQ Management Guidelines (Review Meetings held 2 times)</li> <li>○Development of guideline for Quality Improvement of Analysis work (Review Meetings held 1 time)</li> </ul>	
(B) Development of maintenance technology basis	<ul style="list-style-type: none"> <li>○Expansion of data for maintenance technology basis and promoting activity of basis meeting bodies               <ul style="list-style-type: none"> <li>▪ Improved the maintenance information library</li> <li>▪ Maintain and expand the database</li> <li>▪ Enhancement of on-site engineer network activities</li> <li>▪ Maintenance of deterioration mechanism rearranging table</li> </ul> </li> </ul>	
(C) Organizational effectiveness support (QMS)	<ul style="list-style-type: none"> <li>○Support through QMS committee (Committee held 3 times)</li> <li>○Support through Internal Audit Committee (Committee held 2 times)</li> <li>○Training for improvement of quality assurance activities (QA new manager training, auditor training)</li> <li>○Support for revision of JEAC4111 (Played a leading role in the work to submit to the "Nuclear Standards Committee" )</li> </ul>	<p><b>QMS:</b> Quality Management System</p> <p><b>JEAC4111:</b> Management system rules for nuclear safety</p>
(D) Organizational effectiveness support (Human Performance)	<ul style="list-style-type: none"> <li>○Training for improvement of human performance (4 times)</li> <li>○Continuous study of training for Human Factor (HF) specialist education</li> <li>○Create safety awareness materials (posters) (3 times)</li> <li>○Provide results of HF analysis to PR personnel as reference information (5 times)</li> </ul>	<p><b>HPI:</b> Human Performance Improvement</p>
(E) Organizational effectiveness support (Root Cause Analysis)	<ul style="list-style-type: none"> <li>○RCA training (2 times : held as HPI training)</li> <li>○RCA case studies (1 time : held included in HPI training)</li> <li>○RCA lecture (1 time : Held included in HPI training)</li> </ul>	<p><b>RCA:</b> Root cause analysis</p>
(F) Manufacturer support	<ul style="list-style-type: none"> <li>○Conduct manufacturer PR (1 place)</li> </ul>	
(G) Operation Supervisors Certification tasks	<ul style="list-style-type: none"> <li>○Operation Supervisors Certification (4 times)</li> <li>○Support for the operator experience training (Dispatch from FY2019 has been maintained)</li> <li>○Enrich certifications (Prepared the list of knowledge/skills of BWR emergency response personnel)</li> </ul>	
(H) Maintenance Skill Certification tasks	<ul style="list-style-type: none"> <li>○Granting certification and issuing certificates as per operators' request</li> </ul>	

Technology Basis	FY2020 Activity Status	Notes
(I) Development support of codes and standards of Academic Societies	<ul style="list-style-type: none"> <li>○Further speed-up of codes and standards development and promote its utilization</li> <li>○Continuous revision of mid/long-term plan of codes and standards</li> </ul>	

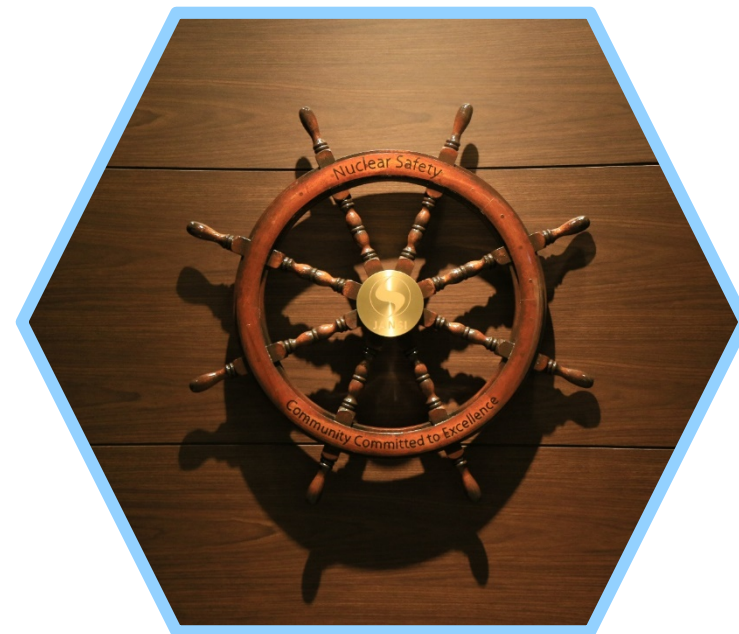
## 2. Status of FY2020 activities pertaining to the foundation of organizational management

- (1) Promotion of business continuity activities corresponding to COVID-19
- (2) Implementation of self-assessment
- (3) Implementation of internal audit

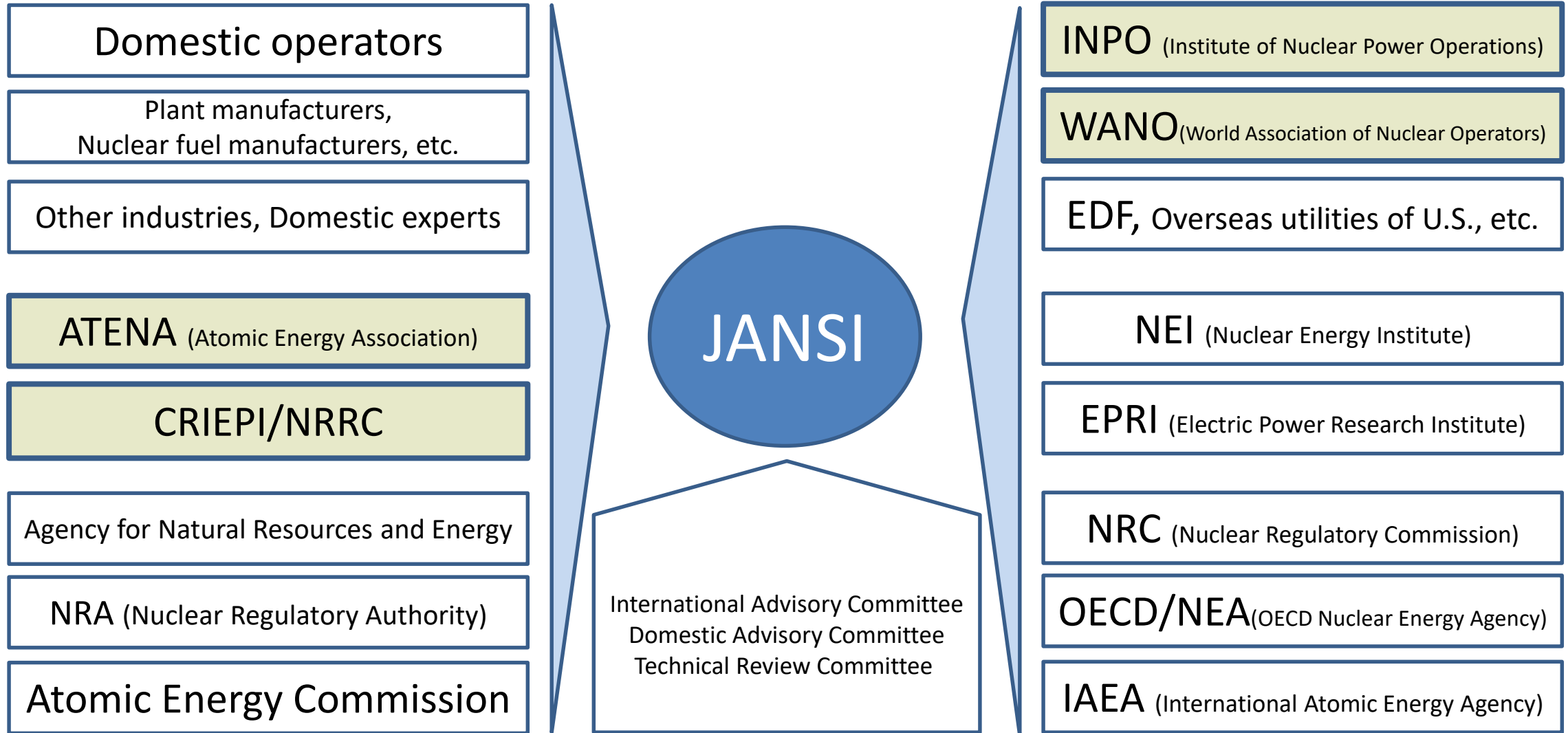
## 3. Meeting status related to the Articles of Incorporation

- (1) General Meeting of Members 1 time
- (2) Board Meeting 5 times
- (3) Associate Special Member Representative Meeting 1 time
- (4) Domestic Advisory Committee Meeting 2 times
- (5) International Advisory Committee Meeting 1 time

# References

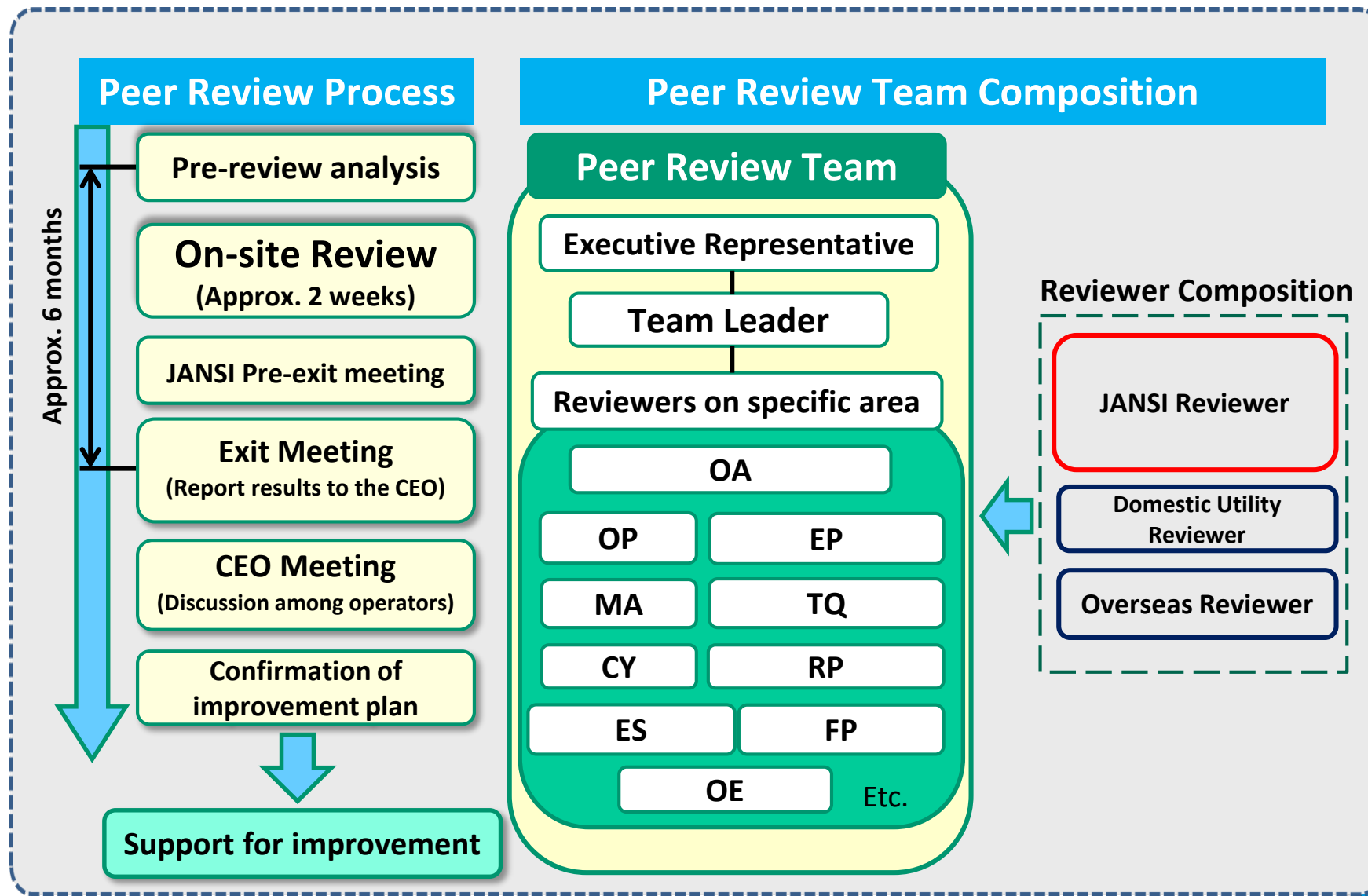


# C1 Cooperation with domestic/overseas related organizations



◇ "Peer" means "colleague," "one in the same profession," and is an expert with abundant work experience in the nuclear industry.

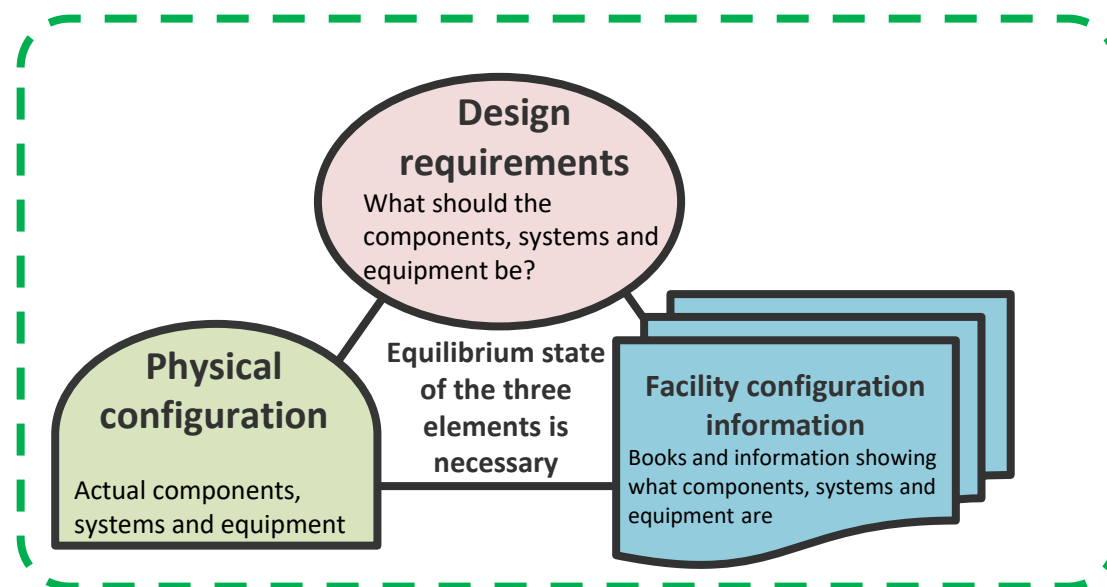
◇ Peer review is an initiative to improve safety and reliability by having experts visit the power plants, etc., and evaluate performance related to ensuring their safety (nuclear safety, radiation safety, and occupational safety) and reliability from their professional standpoint.



### ○ **CM (Configuration Management)**

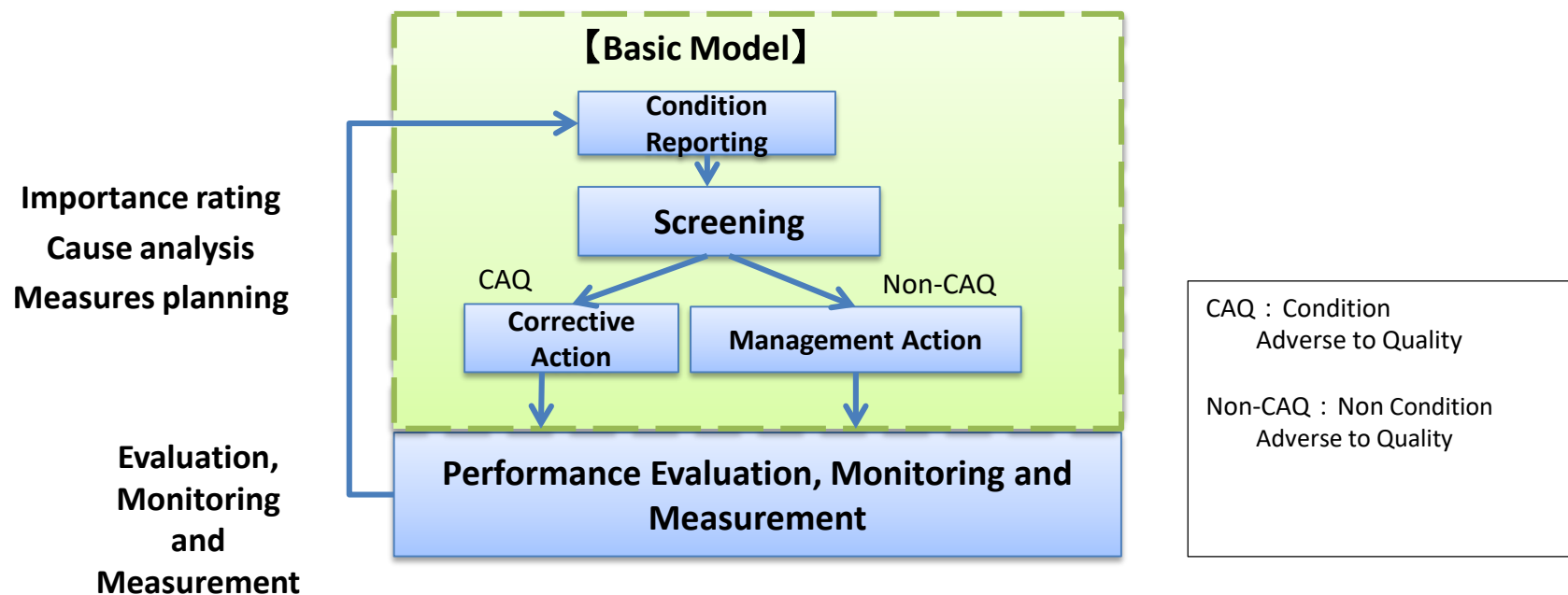
➤ A structure that constantly confirms and guarantees that each facility/equipment of a power plant is manufactured, installed, operated and maintained as required by the design.

→ In addition to ensuring the equilibrium state of the three elements--which are design requirements, physical configuration, and facility configuration information--when changes occur in the three elements, it is necessary to establish a process to evaluate and manage them.



### ○ CAP (Corrective Action Program)

- The CAP system is a process that collects and classifies concerns, awareness and performance status, and analyzes trends, in order to grasp the organizational vulnerabilities, and to take appropriate measures according to the degree of impact.
- Has the role of promoting overall improvement including not only the nonconformity but also the performance status of the organization and each department.
- By striving to prevent the occurrence of important issues and establishing a culture of continuous improvement, lead to an improved performance of the power plants.



### ○ Creation of JSAR Guideline

- A guideline for creating the Japanese Safety Assessment Report (JSAR) has been prepared and published. (PWR version and BWR version have been released)

