FY 2017

Annual Report

Nuclear Regulation Authority

The Nuclear Regulation Authority reports the state of affairs under its jurisdiction to the Diet based on the provisions of Article 24 of the Act for Establishment of the Nuclear Regulation Authority (Act No. 47 of 2012).

Major Actions in Fiscal Year 2017

(1) Rigorous and Proper Implementation of Regulations on Nuclear Facilities

As for conformity review of new regulatory requirements established based on the lessons learned from the accident at TEPCO's Fukushima Daiichi Nuclear Power Station, 11 licensees have submitted applications for permission for change in reactor installation of 26 nuclear power reactors, and 9 licensees have submitted applications for permission for operation changes at 20 facilities handling nuclear fuel material.

In this fiscal year, after conducting reviews and inspections of nuclear facilities in an orderly manner, applications for installation change were approved for 4 nuclear power reactors, and applications for decommissioning plans were approved for 7 reactors, including Prototype Fast Breeder Reactor MONJU. Furthermore, applications for permission for 5 changes in total at nuclear fuel material processing facilities, and applications for 2 installation changes in total for test research reactors were approved.

(For details, see Section 2, Chapter 2.)

(2) Oversight of Efforts to Decommission Reactors of TEPCO's Fukushima Daiichi Nuclear Power Station

As a regulatory authority, the NRA actively conducts oversight and provides guidance to implement early and safe decommissioning of and disposition of contaminated water at TEPCO's Fukushima Daiichi NPS. Although for the time being focus has been placed on emergency response to various troubles that occurred after the accident, it is now possible to thoroughly examine, plan, and steadily implement overall countermeasures.

Periodically revising Measures for Mid-term Risk Reduction at TEPCO's Fukushima Daiichi NPS for which priority safety levels were clarified, and specifying completed measures and other measures for which continuous oversight has been required, oversight and the provision of guidance were carried out to ensure that the disposition of treated water, the treatment of waste products generated through the decommissioning of reactors, and other such measures are appropriately undertaken.

(For details, see Section 1, Chapter 3.)

(3) Enhancement of Nuclear Emergency Measures and Radiation Monitoring

Actively incorporating the latest international knowledge, the Nuclear Emergency Response Guidelines have been enhanced so that the criteria for disaster prevention plans always be optimal, the promotion of designation of core hospitals for nuclear disaster will be supported, and medical treatment systems in a nuclear emergency will be steadily developed. Improvement of emergency response capabilities of both NRA and nuclear licensees has been actioned.

Regarding radiation monitoring, the emergency monitoring system has been enhanced and strengthened by increasing the number of staff in charge of monitoring at the NRA regional offices. Based on the Comprehensive Radiation Monitoring Plan, environmental radiation monitoring, in accordance with the situation related to the TEPCO's Fukushima Daiichi NPS accident, has been conducted continuously, and transmission of information on monitoring results to related local governments and other domestic and overseas parties has been promoted.

(For details, see Sections 1 and 2, Chapter 6.)

(4) Revision of the System to Further Strengthen Safety Measures in Nuclear Use

The "Draft bill for partial revision of the Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material, and Reactors in order to reinforce safety measures in nuclear use" (hereinafter referred to in this section as "revised Act") was passed by the 193rd ordinary session of the Diet, and promulgated on April 14, 2017. In accordance with the recommendations of the International Atomic Energy Agency, the revised Act aims at strengthening safety measures in nuclear use in Japan by revising the inspection system for nuclear and other licensees (scheduled to be implemented in FY 2020), mandating protective measures applicable to radioisotopes (scheduled to be implemented in September 2019), and establishing regulatory systems concerning burial of waste (scheduled to be implemented in October 2018). The NRA continues to prepare related cabinet orders and develop regulatory requirements to facilitate implementation of these measures.

(For details, see Section 1, Chapter 4, and Sections 1 and 4, Chapter 2.)

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Chapter 1 Ensuring Trust in Nuclear Regulatory Administration

○ **Summary of Chapter 1**

(Ensuring Independence, Impartiality, and Transparency of the Nuclear Regulatory Administration)

Based on its organizational philosophy, the NRA has continued to strive to ensure transparency by thoroughly implementing measures such as adhering to disclosing discussions, and made decisions in an impartial, neutral, and independent manner from scientific and technological viewpoints.

As five years have passed since its establishment, the current state of the NRA was examined, and the policy of "on-site inspection by the NRA members and exchange of opinions with local parties concerned" was determined in the 49th NRA Commission Meeting (November 15, 2017).

The NRA Chairman, Fuketa, together with the former Chairman, Tanaka, visited 13 municipalities in Fukushima Prefecture and exchanged opinions with the heads of the local governments, and new activities started such as on-site inspections by NRA Commissioners and exchange of opinions with local parties concerned.

To promote communication with the outside, the NRA continued to improve the accessibility of the website so that anyone can easily access necessary information regardless of the circumstances such as.

(Continuous Improvement of Organizational Structure and Management)

Based on the revision of the Act in April 2017, the NRA Secretariat was reorganized, and a necessary system was developed in order to respond to the new inspection system, etc.

Being checked by domestic and foreign experts, etc. in internal audits, the Reactor Safety Examination Committee, the Nuclear Fuel Safety Examination Committee, and Policy Review Meeting, measures to be taken by the NRA are being improved by implementing the PDCA cycle.

Regarding the IAEA's Integrated Regulatory Review Service, IAEA accepted the request of the NRA for a follow-up mission at an appropriate time after the summer of 2019.

(Collaborating with the International Community)

The NRA has continued to share the findings and lessons learned from the accident at the TEPCO's Fukushima Daiichi NPS with the international community and collaborate with international organizations and nuclear regulatory bodies in other countries by collecting information and exchanging opinions. In 2017, Japan chaired the 10th session of the Top Regulator's Meeting on Nuclear Safety among China, Japan, and Korea (TRM) held in Tokyo, and Commissioner Yamanaka served as Chair of the session.

Commissioner Ban was elected as Chairman of the Safety Culture Working Group, which had been newly established in OECD/NEA/CNRA.

Section１ Ensuring Independence, Impartiality, and Transparency of Nuclear Regulatory Administration

１. Ensuring Independence, Impartiality, and Transparency of Nuclear Regulatory Administration

(1) Ensuring Independence

Independent decision-making is vital for effective regulation and is emphasized by many global nuclear regulatory organizations as one of the most significant factors of their own organizational philosophy. The NRA, which was established as a highly independent, so-called Article 3 Authority, states that "we shall make decisions independently, based on the latest scientific and technological information, free from any outside pressure or bias" in "NRA's Core Values and Principles." In line with these principles, the NRA has continued to make decisions in an impartial, neutral, and independent manner from scientific and technological viewpoints.

(2) Ensuring Impartiality

The NRA defined the "Code of Conduct related to Ethics for NRA Chairman and Commissioners" at the first NRA Commission Meeting of FY 2012 (September 19, 2012). The Code stipulates that the Chairman and the Commissioners must not receive donations from nuclear licensees during their term of office and that they must disclose information on any donations which they received in the 3 years prior to assuming office. Further, they must disclose any situation involving their students finding jobs with nuclear licensees. Information on 5 members appointed as of September 22, 2017 has also been fully disclosed on the NRA website.

At the 4th NRA Commission Meeting of FY 2012 (October 10, 2012) the "Requirements for Ensuring Transparency and Neutrality when the NRA Takes Advice from External Experts as a Reference in Making a Decision on Nuclear Safety Regulations, etc. for Electric Utilities" were defined. This regulation requires thorough disclosure on the relationship between the relevant external experts and electric utilities in hearing the views from external experts regarding nuclear regulation on electric utilities and other issues. Furthermore, when reviewing the safety of individual facilities or when re-reviewing earlier assessments of individual facilities, personnel may be selected as external experts only if they have not served as executives of the relevant electric utilities in the previous 3 years, if they have not personally received 500,000 yen or more as remuneration during one fiscal year, or if they have not been involved in earlier examinations of said facilities. Similar requirements were established for the appointment of members of the Reactor Safety Examination Committee (hereinafter referred to as RSEC), the Nuclear Fuel Safety Examination Committee (hereinafter referred to as NFSEC), and the Radiation Council.

In FY 2017, continuously, based on the Requirements, self-reported personal data on the

members of various study meetings were disclosed on the NRA Website.

Also, at the 50th NRA Commission Meeting (November 22, 2017), the NRA decided to revise the grounds for disqualification, etc. in appointing the members of RSEC, NFSEC, and the Radiation Council, and the revision took effect on the same day.

(3) Ensuring the Transparency in Decision-Making

The NRA determined the "Policy on Ensuring Operational Transparency of the NRA" at the first NRA Commission Meeting held in FY 2012 (September 19, 2012). It decided that its Commission Meetings, the council, and study teams would be open to the public and that the minutes and materials associated with these meetings would be publicly disclosed and subject to live broadcasts via online video sites, with the basic elements stated in this Policy; (i) building an information disclosure system that doesn't require submitting disclosure requests, (ii) thoroughly adhering to disclosing discussions, and (iii) thoroughly adhering to commitment to text-based administration.

In accordance with this Policy, the NRA prepared summaries of all meetings attended by three or more Commissioners and interviews between the NRA Chairman, the NRA Commissioners or the officials of the NRA Secretariat and the regulated parties. The summaries were then open to the public with the names of the attendees and the reference materials used. Summaries of significant meetings and interviews were reported at the NRA Commission Meetings.

In order to make known widely the activities, the NRA responded to the press, having taken their interviews and coverages. There were 22 cases of media interviews taken by Commissioners and 27 cases of media coverage on site inspections and site visits by Commissioners in FY 2017. As a general rule, the NRA held the Commission Meetings and other study meetings in public in accordance with the "Policy on Ensuring Operational Transparency of the NRA" and the "Operational Guidelines for NRA Commission Meetings." The NRA Commission Meetings and other study meetings have been broadcast live on YouTube and niconico Videos. In addition, for the convenience of video viewers, the reference materials used at the Commission Meetings and other study meetings have been posted on the NRA Website, so that the materials would be available as soon as each meeting started. The minutes of Commission Meetings and other study meetings have also been posted later on the NRA Website. As in FY 2016, a regular press conference by the NRA Chairman was held once a week, and regular NRA briefings by the NRA Secretariat were held twice a week. (A total of 148 press conferences were held in FY 2017.) Press conferences were also broadcast live and recorded videos were released in the same manner as for the NRA Commission Meetings and other study meetings. The minutes of press conferences by the NRA Chairman were posted on the NRA website on the same day, when possible, and those of the regular briefings of the NRA Secretariat on the following day.

2. Enhancing External Communication

(1) Enhancing Efforts on Diverse Communication Both in Japan and Overseas

In July 2017, the NRA Chairman visited Fukui Prefecture, where he met with the Prefectural Governor, the Mayors of Takahama Town and Ohi Town, the Deputy-Governor of Kyoto Prefecture, and the Mayor of Maizuru City. He also provided the people of Takahama Town with explanations on effective ways of evacuating in the event of a nuclear disaster and shared knowledge on radiation exposure, and they exchanged opinions. In December 2017 and January 2018, he and the former chairman visited 13 municipalities in Fukushima Prefecture to exchange opinions with the heads of these municipalities. The Secretary-General and the Deputy Secretary-General of the NRA Secretariat also met with the heads of local governments. In August 2017, staff members of the NRA Secretariat visited Kyoto Prefecture and gave explanations on the results of conformity reviews of Units 3 and 4 of Ohi Nuclear Power Station (KEPCO) (hereinafter referred to as "Ohi NPS") to New Regulatory Requirements and details of Nuclear Emergency Response Guidelines. Not only the NRA Chairman but also all the staff members of the NRA Secretariat were making efforts to enhance communications with local governments at various levels.

Figure 1-1 Visit of the NRA Chairman and the Former Chairman to Municipalities in Fukushima Prefecture

In the 49th NRA Commission Meeting (held on November 15, 2017), the NRA determined a policy of "on-site inspections by NRA Commissioners and exchange of opinions with local parties concerned" for the purpose of promoting visits of NRA Commissioners to nuclear facilities and exchange of opinions with people and local parties concerned. As part of this effort, the NRA Chairman, Fuketa, and Yamanaka Commissioner inspected Ohi NPS on December 22, 2017. They also visited Genkai Nuclear Power Station of Kyushu Electric Power Company (hereinafter referred to as Genkai NPS) on February 11, 2018, and exchanged opinions with local parties concerned at an offsite center

Figure 1-2 On-Site Inspection by the NRA Chairman, Fuketa

in Saga Prefecture.

In addition, the NRA is making efforts to adopt external opinions in various manners.

Specifically, external experts were included at various meetings of the NRA, so that the NRA could make use of their knowledge. The NRA also held the second opinion-exchanging meeting with the Japan Atomic Energy Commission on June 27, 2017, on human resources development in the field of nuclear power. On June 29, 2017, the NRA held an opinion-exchanging meeting with the National Institutes for Quantum and Radiological Science and Technology, which has the role of a technical support organization, a designated public institution, and an advanced support center for radiation medicine, to discuss problems of radiation protection/radiation medical research, the medical treatment system in a nuclear emergency, the way of human resource development, etc. In FY 2017, the NRA Chairman and Commissioners exchanged opinions from time to time with Director-General Amano of the International Atomic Energy Agency (hereinafter referred to as "IAEA[1]"), Director-General Magwood of the Organization for Economic Co-operation and Development/Nuclear Energy Agency (hereinafter referred to as "OECD[2]/NEA[3]"), other people of related international organizations and overseas regulatory bodies, and External Advisors[4].

In addition to public commenting procedures in accordance with the Administrative Procedures Act (Act No. 88 of 1993) (public comments designated by law), 23 cases of public commenting procedures not requested in the same Act (optional public comments) were carried out in FY 2017 to proactively obtain opinions from the public, and the NRA responded carefully to them.

In addition, the NRA established a system for accepting public opinions and questions on a daily basis by having a page to receive opinions on the NRA website and operating a call center. In FY 2017, the NRA received about 30 opinions and questions on the website and about 180 opinions and questions through the call center (average values per month).

Table 1 Major Public Comments Asked for in FY 2017

Designated by Law	Optional
・Cabinet order for development of the cabinet order related to partial implementation of the bill for partial	・Review report on application for permission for change in reactors, installation of Units 6 and 7 at

[1] Intrenational Atomic Energy Agency
[2] Organisation for Economic Co-operation and Development
[3] Nuclear Energy Agency
[4] Key figures with extensive experience as heads of nuclear regulatory bodies in foreign countries appointed by the NRA Chairman

revision of the Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material, and Reactors in order to reinforce safety measures in nuclear use ・Cabinet order for partial revision of the ordinance for enforcement of the Act on the Prevention of Radiation Hazards due to Radioisotopes, etc. and others Total 15 cases	Kashiwazaki Kariwa NPS (TEPCO Holdings) ・Partial revision of the Guidelines for Assessing the Impacts of Volcanic Activities on Nuclear Power Stations and others Total 8 cases

(2) Efforts to Develop Information Management System

For the purpose of archiving important information over the next few decades and widely publicizing it for Japanese people, the information management system records the publicly available information on the website, such as the record of the meetings held at the NRA, the processes of reviews carried out with the regulated parties, and the discussions of the problems relating to the regulation.

In the first quarter of FY 2017, the NRA formulated an annual plan for system development, and on the basis of this plan, it decided the policy for development, and a draft of the specification requirements of the information management system.

(3) Reinforcing the Transmission of Information on Activities of the NRA

Efforts were made to reinforce the prompt and careful transmission of information to the public in accordance with the high levels of societal interest in this issue.

Specifically, the NRA provided advice and support on the preparation process, necessary materials, etc. from the publicity point of view. In July 2017, it produced a video to disclose the results of the examination on compliance with the new regulatory requirements. The NRA also made use of top pages of websites to collect and disseminate information on topics of high social interest and topics that the NRA considers important. In January 2018, the NRA started to use twitter to distribute outlines of information concerning topics of high social interest that were discussed at the NRA Commission Meeting held on the day. Moreover, it was decided that information on any problems affecting nuclear facilities and the impact of ballistic missiles and nuclear tests on nuclear facilities would be transmitted according to the degree of societal interest, even if the problem does not fall under an event reported based on the laws.

(4) Enhancing Communication with Regulated Parties

Since October 2014, the NRA has exchanged opinions with the top managers of

licensees of major nuclear facilities. The reasons were (1) promoting penetration of a safety culture in Japan as an entire country and efforts on safety improvement based on that, and (2) hearing of opinions of licensees on basic ideas and activities related to safety improvement, and proposals for continuously improving the current regulatory systems.

In FY 2017, the NRA exchanged opinions with 10 licensees. These focused on the following areas: efforts for safety improvement where nuclear licensees perform voluntarily (i.e. fostering safety culture), and hearing ideas from nuclear licensees on improving the regulatory systems.

In January 2017, the NRA started to exchange opinions with the managers of nuclear power departments of the licensees installing major nuclear facilities, in order to contribute to the smooth introduction of regulations and enhancement and clarification of regulatory requirements and examinations, which improve foreseeability. In FY 2017, such opinion-exchanging meetings were held four times to discuss revision of regulations concerning high-energy arcing faults (HEAF) events, and the state of correspondence of licensees concerning the data alteration problem of Kobe Steel, Ltd. (hereinafter referred to as Kobe Steel).

On May 23, 2017, based on the revision of the Radiation Hazards Prevention Act in April 2017, the NRA and the Japan Radioisotope Association exchanged opinions on issues related to the regulation of radioactive isotopes, including the disposal of radioactive contaminants, and the NRA requested the Association to cooperate to disseminate and raise awareness of the revised Act. In addition, the NRA asked cooperation of the Japan Radioisotope Association to inform users of permissions and notifications and others about the revision of the Ordinance for Enforcement of the Radiation Hazards Prevention Act, which was promulgated on January 5, 2018, and regulatory requirements added in accordance with the revised law, including advance handling of measures at the time of danger, and held briefing sessions in Tokyo, Sendai, Nagoya, and Kyoto on and after February 1, 2018.

Section２ Continuous Improvement of Organizational Structure and Management

As of September 19, 2017, the former Chairman, Tanaka, retired, and the new Chairman, Fuketa, and a new Commissioner, Yamanaka, assumed office. As five years have passed since its establishment, the current state of the NRA was discussed.

As in FY 2016, the NRA also implemented other measures, as described below.

１．Full-Scale Operation and Improvement of Management System

（１）Improvement of the Management System According to the Roadmap

Regarding continuous improvement of the NRA management system, based on the

IAEA Integrated Regulatory Review Service (hereinafter referred to as "IRRS[5]“) accepted in 2016, the NRA formulated the “Roadmap for improvement of the NRA Management System” (adopted at the 45th NRA Commission Meeting on November 22, 2016) for further improvement. In FY 2017, the NRA started an all person participatory movement to foster organizational and nuclear safety culture, and made efforts to promote the integrated operation of PDCA, etc.

(2) Operation of the PDCA Cycle Based on the NRA Management Rules

Based on the Nuclear Regulation Authority Management Rules (adopted by the NRA on September 3, 2014), the NRA was engaged in operations in accordance with various policies such as “Core Values and Principles of the NRA,” the “Statement on Nuclear Safety Culture,” “Regulatory Guides for activity on Nuclear Security Culture” “Mid-Term Goals for the First Term of the NRA,” and the “Annual Strategic Plan for FY 2017.” At the 68th NRA Commission Meeting (February 28, 2018), the NRA also conducted a management review to assess the results/achievements for FY 2017 and discussed pending issues and the direction for the next fiscal year. The “Annual Strategic Plan for FY 2018,” which was based on the evaluation of the Annual Strategic Plan for 2017 and the discussion on pending issues and the direction for FY 2018, was adopted at the 75th NRA Commission Meeting (March 28, 2018).

In order to conduct internal operation audits from April 2016, the Management System Office was established within the Secretariat of the NRA. In FY 2017, 2 sections was audited and one theme was examined, and the Office provided instructions to strengthen support for running the NRA regional offices so that the new inspection system could be efficiently operated, and to utilize lessons, knowledge, etc. regarding amendment of the Act in 2017 so that the office could improve its capacity for legal work.

(3) Policy Evaluations of the NRA in Accordance with the Government Policy Evaluations Act

For policy evaluations of the NRA in accordance with the Government Policy Evaluations Act (Act No. 86 of 2001, hereinafter referred to as Policy Evaluations Act), the NRA conducted ex-post evaluations of measures implemented in FY 2016 and pre-analysis of measures to be implemented in FY 2017. It determined, then, the evaluation report of measures implemented in FY 2016 and the pre-analysis table for measures to be implemented in FY 2017 at the 32nd NRA Commission Meeting (August 23, 2017). After being sent to the Minister for Internal Affairs and Communications, these reports were posted on the NRA website. The report for the state of incorporating the results of policy evaluation concerning measures conducted in FY 2016 into the NRA policies and the

[5] Integrated Regulatory Review Service

implementation plan for ex-post evaluations of measures conducted in FY 2017, etc. were approved at the 75th NRA Commission Meeting (March 28, 2018). In the 2nd NRA Policy Review Meeting in FY 2017 (January 16, 2018), major efforts made in the five years since its establishment were reviewed, and opinions were exchanged between the NRA and experts on ex-post evaluations of measures implemented in FY 2017.

In addition, as a measure implemented in FY 2017, the NRA has been operating a PDCA cycle as an integral part of the management system.

2. Addressing Issues Clarified by the IRRS Mission

The IAEA carries out IRRS, which is one of the review services offered in response to requests from its Member States to provide comprehensive review of a wide range of issues, including legal systems and organizations relating to nuclear regulatory controls.

The IRRS mission team conducted a review in January 2016, and the NRA publicized their report in April 2016.

(1) Reinforcing the Structure of the NRA

The NRA made efforts to reinforce its internal structure, addressing the issues identified through the IRRS mission, such as revision of the inspection system, strengthening of radiation source control and radiation protection, and development and securement of human resources.

Specifically, the NRA determined to increase the staffing level of the NRA Secretariat, established a Radiation Regulation Department, which addresses the strengthening of radiation source regulations, and also established an Oversight Planning and Coordination Division to manage the new inspection system for nuclear facilities. Also, in order to respond to new technical issues relating to nuclear regulations, the post of Deputy Secretary-General for Technical Affairs, which is a director-level post for managing a wide range of technical problems, was also established.

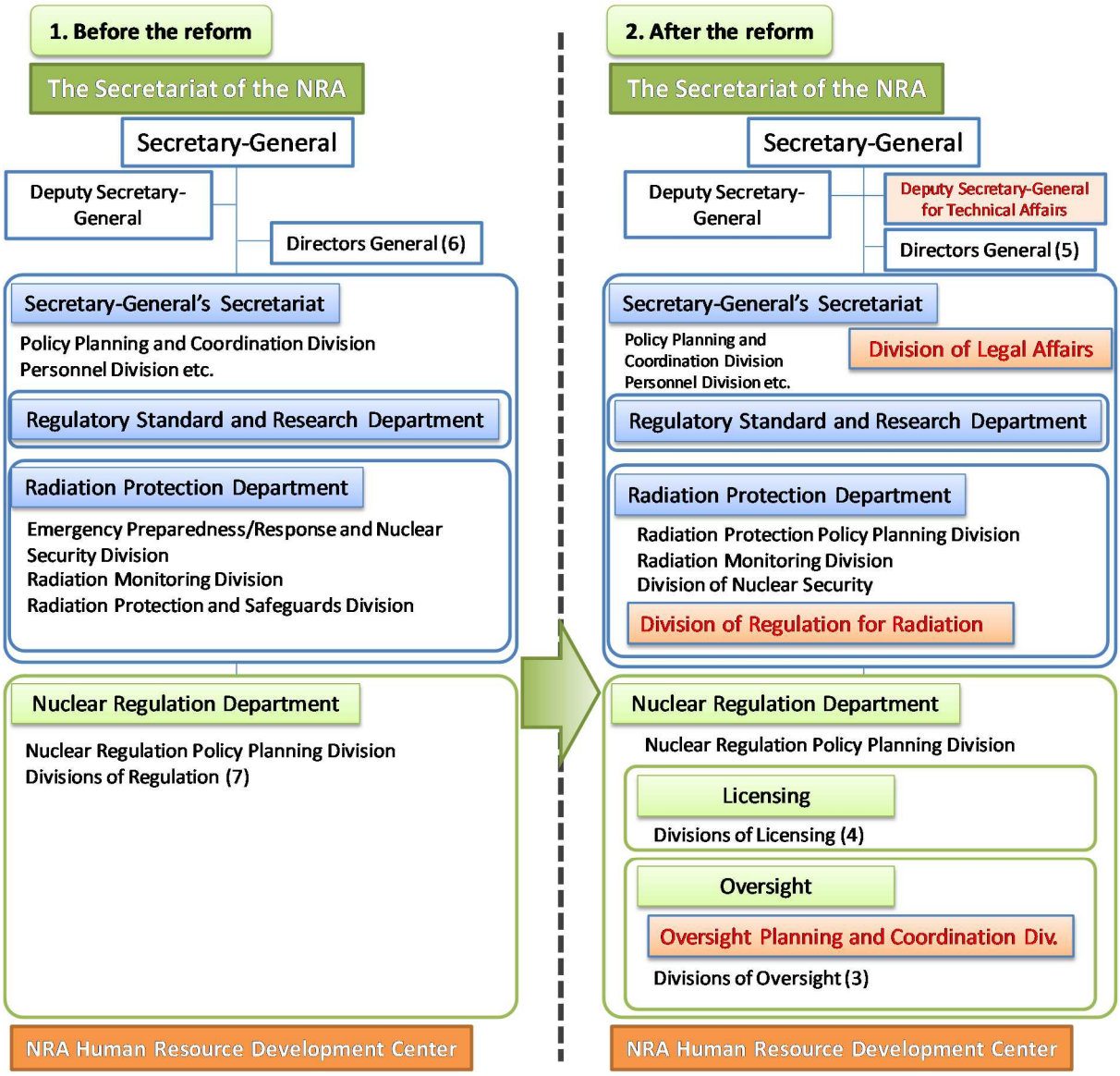


Figure 1-3 Organizational Restructuring of the NRA Secretariat (July 1, 2017)

(2) Adequately Addressing Issues Identified through the IRRS Mission

The NRA issued instructions to the RSEC and the NFSEC to follow up on the NRA's responses to the 31 issues drawn up on the basis of the recommendations and suggestions shown in the report and the issues identified through the NRA's self-assessment conducted in preparation for the IRRS mission (hereinafter referred to as "issues identified through the IRRS mission"). As in FY 2016, the NRA Secretariat reported to these Committees on the actions taken for each issue identified through the IRRS mission. At the 55th extraordinary NRA Commission Meeting in FY 2016 (January 12, 2017), the Chairmen of the RSEC and the NFSEC pointed out that some issues, other than the recommendations and suggestions which need to be carefully examined, were inherent in the report. Accordingly, these Committees prepared "Addressing IRRS Missions in the Future", based on the discussion held in FY 2017. The NRA Secretariat reported the issue

to the NRA at the 37th NRA Commission Meeting (September 13, 2017).

The IAEA offers IRRS follow-up missions in response to requests from its Member States to review the state's progress in response to the initial IRRS mission recommendations and suggestions. In August 2017, the NRA submitted a letter requesting for an IRRS follow-up mission of the corresponding initial mission given in January 2016 to the IAEA, to be given at an appropriate time after the summer of 2019, and the IAEA accepted the request. In addition, the NRA requested the IAEA to additionally conduct a review of the regulations for the safe transport of radioactive material in the follow-up mission in the presence and cooperation with relevant ministries in Japan.

Section 3 Collaborating with the International Community

(1) Cooperation with International Organizations and Contribution to the International Community

In collaborating with international organizations, the NRA has shared findings and lessons learned from the accident at TEPCO's Fukushima Daiichi NPS with the international community, and gathered information and exchanged opinions in order to improve global nuclear safety through its participation in and dispatching of experts to various meetings held by the IAEA, OECD/NEA, and other organizations.

In collaborating with overseas nuclear regulatory authorities, the NRA has gathered information and exchanged opinions within multilateral frameworks, including the International Nuclear Regulators Association (INRA[6]), the Western European Nuclear Regulators Association (WENRA[7]), and Top Regulators' Meeting on Nuclear Safety among China, Japan and Korea (TRM[8]), as well as through bilateral meetings with overseas nuclear regulatory authorities. The NRA has also participated in meetings based on international treaties and conventions.

[6] International Nuclear Regulators Association
[7] Western European Nuclear Regulators Association
[8] Top Regulators' Meeting on Nuclear Safety among China, Japan, and Korea

①Cooperation with international organizations such as the IAEA and OECD/NEA

The NRA shares findings and experiences with the international community through attendance at conferences organized by international organizations, such as the IAEA and OECD/NEA, through dispatch of experts abroad, and puts the results of international activities to account for improvement of nuclear regulations in Japan.

i. Participation in the conferences held by the IAEA, OECD /NEA

The Chairman and Commissioners attended international conferences as shown in Table 2, and shared the findings and lessons learned from the accident at TEPCO's Fukushima Daiichi NPS with the international community and exchanged information and opinions to contribute to improvement of international nuclear safety.

In November 2017, the first meeting of the Safety Culture Working Group (WGSC), which had been newly established in CNRA[9] of OECD/NEA, was held, and Commissioner Ban was elected as Chairman of the Working Group.

Table 2 Participation of the NRA Commissioners in the Conferences Organized by International Organizations

Schedule	Name (Location) of Conferences	Attended by
April 18-21, 2017	IAEA Advisory Group on Nuclear Security (AdSec) (Vienna)	Commissioner Tanaka
May 31 - June 2, 2017	OECD/NEA CNRA/CSNI[10]/CRPPH[11] Joint Forum for Decision Making in Serious Accidents Committee on the Safety of Nuclear Installations (CSNI) (Paris)	Commissioner Fuketa
October 9-15, 2017	International Commission on Radiological Protection (ICRP) (Paris)	Commissioner Ban
November 28-30, 2017	OECD/NEA/CNRA Safety Culture Working Group (WGSC) (Paris)	Commissioner Ban
March 26-28, 2018	OECD/NEA/CNRA Safety Culture Working Group (WGSC) (Tokyo)	Commissioner Ban

[9] Committee on Nuclear Regulatory Activities
[10] Committee on the Safety of Nuclear Installations
[11] Committee on Radiation Protection and Public Health

ii. Exchange of views with the IAEA Director General and the OECD/NEA Director-General

The NRA Chairman held discussions with Director-General Amano of the IAEA in April and October 2017. He also exchanged opinions with Director-General Magwood of the OECD/NEA in July and November 2017. In these opinion exchanges, they discussed on ways to continue close cooperation with both of the international organizations in the future.

iii. Communication on the sea area monitoring programs including the program conducted in cooperation with the IAEA

As a part of its international communication efforts, the NRA regularly releases the sea area monitoring results[12] in the surrounding areas of TEPCO's Fukushima Daiichi NPS and other areas. The NRA and the IAEA conducted results comparison of sea samples radioactivity analysis done by the IAEA's and Japanese laboratories as well as a proficiency test with laboratories under the agreement on cooperation of sea area monitoring in Japan.

②Participation in efforts under various international conventions on nuclear safety

Together with the relevant ministries and agencies, the NRA is participating in various international initiatives under the frameworks as following: Convention on Nuclear Safety, Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, Convention on Early Notification of a Nuclear Accident, Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency, Convention on Physical Protection of Nuclear Material and Nuclear Facilities, and International Convention for the Suppression of Acts of Nuclear Terrorism.

As key actions undertaken in FY 2017, the NRA participated in the peer review among Contracting Parties, which was conducted to review the submitted National Reports of Contracting Parties, including Japan, at the 7th Review Meeting of Convention on Nuclear Safety held in Vienna between March 27 and April 7, 2017. NRA Commissioner Ban attended this meeting as a member of the Japanese delegation.

The NRA also prepared the National Report of Japan for the 6th Review Meeting of the Joint Convention scheduled to be held from May 21 to June 1, 2018, and submitted it in October 2017 under a framework provided by the Joint Convention.

[12]http://www.nsr.go.jp/english/f1issues/index.html

③Cooperation with foreign nuclear regulatory authorities

From the viewpoint of improving nuclear safety, the NRA is promoting information exchange with nuclear regulatory authorities in other countries.

i. International Nuclear Regulators Association (INRA[13]) and other framework

The INRA consists of the persons responsible for regulatory authorities in the major countries having nuclear power stations, and it is a framework to exchange opinions twice a year on a wide range of issues of nuclear safety regulations. Its member countries include Japan, U.S.A., France, U.K., Germany, Canada, Sweden, Spain, and Republic of Korea.

In May 2017, the 40th meeting of the Association was hosted by the Nuclear Regulatory Commission (NRC[14]) of U.S.A., which served as the Chair of the Association that year. This meeting was attended by Yasui, Secretary-General of the NRA Secretariat, in place of the NRA Chairman, and reported on, among other topics, the state of reviews conducted according to New Regulatory Requirements, and the current state of TEPCO's Fukushima Daiichi NPS.

The 41st meeting was held in Vienna, Austria during the session of the General Conference of the IAEA in September 2017. Secretary-General Yasui of the NRA Secretariat attended in place of the NRA Chairman, and discussed a wide range of issues related to nuclear regulations.

WENRA is a framework comprising the heads of regulators for nuclear safety within the European countries, and it has held two regular Plenary Meetings in 2017. The NRA joined the WENRA as an observer, and Commissioner Ban of the NRA attended the Spring Plenary Meeting held in Berne, Switzerland in April 2017, and Regional Cooperation Promotion Officer Hirano attended the Fall Plenary Meeting held in The Hague, the Netherlands, in October 2017 as the representative of Commissioner Ban.

ii. Regional cooperation: China-Japan-Korea Top Regulators' Meeting (TRM)

The TRM was set up as a framework between Japan, China, and Republic of Korea to promote information exchange on regulatory issues and technical improvement, and its meeting has been held once a year since 2008.

In November 2017, a Japan-China-South Korea joint emergency drill was conducted under the framework of TRM at Hanul Nuclear Power Plant in Korea, and in connection with the emergency drill, exercises were carried out for notification of the emergency situation from the country where the disaster occurred to the other two countries.

In December 2017, Japan served as the President, and the 10th meeting was held in Tokyo. Commissioner Yamanaka chaired this meeting, in which discussions on various

[13] International Nuclear Regulators Association
[14] Nuclear Regulatory Commission

topics were held, such as the actions taken by the nuclear regulatory authorities of Japan, China and South Korea, as well as activities of three working groups (Working Group on Online Information Sharing Systems, Working Group on Human Resources Development, and Working Group on Emergency Preparedness and Responses). Regarding the framework of emergency notification among the nuclear regulatory authorities of Japan, China, and South Korea, the three countries agreed to conduct the same exercises in the next joint emergency drill in 2018 as those carried out in connection with the previous drill conducted for the first time in November 2017, and also agreed to develop an emergency notification framework among the three nuclear regulators.

Furthermore, in the 5th TRM Plus held in conjunction with the TRM, persons in charge exchanged practical information focusing on more technical contents, including earthquake countermeasures concerning design basis ground motion and seismic design evaluation, efforts to share information during emergencies, disaster prevention training given by licensees, and systems for inspecting nuclear reactors.

iii. Bilateral cooperation: Preparation of the cooperation agreement documents

The NRA concluded arrangements and memorandums of understanding on cooperation with 12 countries (13 nuclear regulatory authorities) by the end of FY 2017. Table 3 shows conclusion of agreements on cooperation between the NRA and other countries as of the end of FY 2017.

The NRA exchanged information and views on nuclear regulations with nuclear regulatory authorities in other countries through these bilateral frameworks.

Table 3 Conclusion of Agreements on Cooperation between the NRA and Other Countries

Name of Country	Name of Authority	Fiscal year of conclusion
United States	NRC[15]	Handed over from the Nuclear and Industrial Safety Agency in 2012 (Updated in FY 2015)
	DOE[16]	FY 2013
France	ASN[17]	FY 2013
United Kingdom	ONR[18]	FY 2013

[15] Nuclear Regulatory Commission
[16] United States Department of Energy
[17] Autorité de Sûreté Nucléaire
[18] Office for Nuclear Regulation

Russia	RTN[19]	FY 2013
Sweden	SSM[20]	FY 2013
Germany	BMUB[21]	FY 2014
Spain	CSN[22]	FY 2013
Finland	STUK[23]	FY 2013
Canada	CNSC[24]	FY 2015
Vietnam	VARANS	FY 2014
Turkey	TAEK[25]	FY 2014
Lithuania	VATESI[26]	FY 2014

iv. Nuclear bilateral meetings

In cooperation with the United States, a Japan-US Steering Committee meeting was held in Tokyo in October 2017 based on the cooperation implementation agreement with the US NRC. They shared information on their efforts to technical matters to be considered in regulatory activities as well as the activities of staff members of the NRA Secretariat dispatched to the NRC, and held discussions on future technical cooperation.

In accordance with the agreement on cooperation, the NRA dispatched five officials of the NRA Secretariat for a one-year term to the NRC in July 2016 so that they can get training for inspectors in the U.S. The training had been planned taking into consideration revision of the inspections system stipulated in the Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material and Reactors (Act No. 166 of 1957; hereinafter referred to as the "Reactor Regulation Act"). Following this, six officials of the the NRA Secretariat were dispatched for a one-year term to the NRC in July 2017. In October 2017, the NRA invited two instructors from US NRC, who gave lectures on the inspection system in the U.S., and the NRA and the instructors exchanged opinions on preparation of the new inspection system and a program for educating inspectors. In addition, the NRA dispatched staff to the US NRC to get information in the field of safety research.

In cooperation with France, the fifth Japan-France Regulatory Authorities Meeting was held in Paris in November 2017. This meeting was chaired by Secretary-General Yasui of the NRA Secretariat and the Chairman and Commissioners of the ASN, France. At this

[19] Rostekhnadzor
[20] Swedish Radiation Safety Authority
[21] Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety
[22] Nuclear Safety Council
[23] Radiation and Nuclear Safety Authority
[24] Canadian Nuclear Safety Commission
[25] Turkish Atomic Energy Authority
[26] State Nuclear Power Safety Inspectorate of the Republic of Lithuania

meeting, discussions were held on the current state of regulations in both countries.

In addition, we cooperated with the UK, Germany, etc. to hold bilateral meetings.

(2) Efforts concerning development and securing of global human resources for nuclear regulations

Based on the Memorandum of Understanding with the Turkey TAEK, the NRA held seminars on designing earthquake resistant structures, with the support of the NRA Secretariat and the NRA Human Resource Development Center, for Turkey TAEK staff in Ankara, Turkey on December 12 and 13, 2017.

Section 4 Steady response to litigation affairs and legal support

(1) Steady response to litigation affairs and clerical affairs

The NRA responded to the litigation affairs and provided legal support for its affairs under the jurisdiction in cooperation with relevant authorities. Specifically, the NRA has rapidly and appropriately taken actions, preparing briefs and responding to examinations of witnesses in collaboration with the Ministry of Justice and Legal Affairs Bureaus with respect to 47 pending cases (as of the end of FY 2017) and 5 cases for which a judgement was made in FY 2017 regarding the affairs under jurisdiction of the NRA.

With respect to formal objections to the dispositions of approval of a construction plan for reactor installation, 2 cases were dismissed.

(2) Continuous review and improvement of laws and regulations

The NRA constantly reviewed and improved laws and ordinances under the jurisdiction, making use of the latest scientific and technical knowledge in regulatory requirements.

The Draft Bill for partial revision of the Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material, and Reactors in order to reinforce safety measures in nuclear use (Act No. 15 of 2017), which includes review of the system for inspecting nuclear facilities and introduction of protective measures for radioisotopes, was put into force, and the NRA steadily implemented revision of ordinances in accordance with the revised Act.

In addition, in order to steadily review and improve laws and regulations, the NRA strengthened its organization by setting up the Counsellor for Legal Affairs (see Figure 1-3).

Section 5 Allegation System Concerning Information on Safety of Nuclear Facilities

In order to detect legal and regulatory violations by nuclear licensees at an early stage and prevent nuclear disasters, the Reactor Regulation Act provides for “allegation system concerning safety information of nuclear facilities.” Under this system, the NRA

investigates allegation cases responding to information provided by employees and others on potential violations committed by nuclear licensees and, if necessary, issues directives to the relevant licensees or takes other corrective measures.

To ensure the impartiality and transparency of investigations by the NRA, the Nuclear Facility Safety Information Allegation Committee consisting of external experts was set up. Under supervision of the Committee, the NRA will process allegations as promptly as possible, with attention to privacy protection of the informant (whistleblower), and the operational status of the allegation system is disclosed.

At the end of March 2018, there were no pending cases and 3 cases had been completed.

Chapter 2 Rigorous and Proper Implementation of Regulations on Nuclear Facilities

○ **Summary of Chapter 2**

(Continuous Improvement of Regulatory Systems concerning the Reactor Regulation Act)

"Draft bill for partial revision of the Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material, and Reactors in order to reinforce safety measures in nuclear use" was passed by the 193rd ordinary session of the Diet, and promulgated on April 14, 2017.

Along with the passage of this bill, discussion was held on establishment of appropriate regulations on users of nuclear fuel materials and users of internationally controlled materials, establishment of systems concerning the decommissioning measures implementation policy, review of the regulatory systems concerning burial of waste, and review of the inspection system, and the NRA continued to prepare related cabinet orders and develop regulatory requirements to facilitate implementation of these measures.

(Rigorous and Proper Implementation of Regulations on Reactor Regulation Act)

As for conformity to new regulatory requirements established based on the lessons learned from the accident at TEPCO's Fukushima Daiichi NPS, the NRA continues to conduct scientifically and technically rigorous examination and inspection on application, etc. for permission for installation changes from licensees.

Concerning commercial power reactors, change in installation permission was approved in FY 2017 for Units 3 and 4 at Ohi Nuclear Power Station (KEPCO) and Units 6 and 7 at Kashiwazaki Kariwa NPS (TEPCO Holdings). Decommissioning plans were approved for Unit 1 at Genkai NPS (Kyushu Electric Power Company), Unit 1 at Tsuruga NPS (Japan Atomic Power Company), Units 1 and 2 at the Mihama NPS (KEPCO), Unit 1 at Shimane NPS (Chugoku Electric Power Company), and Unit 1 at Ikata NPS (Shikoku Electric Power Company). Regarding nuclear fuel facilities, etc., permission was granted to change the installation of the Static Experiment Critical Facility and the Nuclear Safety Research Reactor of the Nuclear Science Research Institute, the Japan Atomic Energy Agency. Decommissioning plans were approved for JRR-4 and TRACY of the Japan Atomic Energy Agency. License modification was approved for GNF-Japan, JNFL's enrichment and waste disposal site, Mitsubishi Nuclear Fuel, and Tokai Works and Kumatori Works of Nuclear Fuel Industries. Concerning incidents reported based on the Act, a total of 4 events occurred; 2 events at commercial power reactors and 2 events at nuclear fuel facilities.

In addition, the NRA steadily implemented pre-service inspections, periodic facility inspections, operational safety inspections, etc.; checked on efforts undertaken to ascertain causes of troubles occurred in nuclear facilities and to implement recurrence-prevention measures; reviewed applications for extension of operation period for power reactors, discussed issues on monitoring of volcanic activities; carried out research on ground motions without specifying the seismic center; responded to decommissioning measures for Prototype Fast Breeder Reactor MONJU; responded to abolishment of the Tokai reprocessing facility, etc.; carefully explained the results of reviews; and implemented measures for safety improvement evaluation.

(Continuous Improvement of Regulatory Systems concerning the Radiation Hazards Prevention Act)

Regarding the Radiation Hazards Prevention Act for the regulations to prevent radiation hazards associated with the use of radioactive isotopes, etc., the Revised Act submitted to the 193rd Diet, taking into account of the matters pointed out in the IRRS report was established and promulgated in April 2017. Regarding Article 4 of the Revised Act including special cases pertaining to waste management, the related Cabinet Order was promulgated in December, 2017, and related regulations, etc. were promulgated in January 2018. In accordance with these actions, in December 2017, the NRA decided interpretations of event reports, guides which should be included in the radiation hazards prevention program, on-site inspection guides for registered certification organization, review standards for operational rules for certification of registered certification organization, etc.

(Rigorous and Proper Implementation of Regulations on Radiation Hazards Prevention Act)

The NRA conducts reviews of application for permission from organizations having intention to use radioactive isotopes; accepts notifications; and administers on-site inspections of users of permissions and notifications, registered certification organization, etc. in accordance with the Radiation Hazards Prevention Act. The NRA reviewed radiation control status reports issued in 2016, and found that occupational exposure of radiation workers fell below the dose limits prescribed by the Act at all sites of users of permissions and notifications. In FY 2017, 2 events were reported based on the Act, and no emergency measures were taken. The NRA also

Section１ Continuous Improvement of Regulatory Systems concerning the Reactor Regulation Act

１．Continuous Improvement of Regulatory Systems and Their Operation

（1）Response to Legislative Deliberation

The “Draft Bill for partial revision of the Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material, and Reactors in order to reinforce safety measures in nuclear use” was approved at the 59th NRA Commission Meeting (February 1, 2017), decided by the Cabinet on February 7, 2017, and deliberated on at 193rd session of the Diet. The “Bill for partial revision of the Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material, and Reactors in order to reinforce safety measures in nuclear use” (hereinafter referred to as “revised Act”) was promulgated and partially enforced on April 14, 2017.

The revised Act revises the inspection system and aims to achieve higher levels of safety, from the standpoint of reinforcing actions undertaken by both regulated parties and regulatory agencies, by mandating that licensees independently carry out actions to verify conformity with regulatory requirements applicable to nuclear facilities and therefore fully meet their primary responsibilities for security. It also establishes a new framework in which regulatory agencies can comprehensively oversee and evaluate security activities of licensees in a consistent and seamless manner, from the licensing and designation of licensees to the completion of decommissioning measures without restrictions on timing and contents. In addition, regulatory agencies are urged to engage in efforts to maintain and elevate levels of safety measures, which are proactively taken by licensees, by making assessments based on inspection results and engaging in oversight to ensure improvements in security are accurately incorporated into subsequent inspections. In formulating regulatory requirements, the revised Act also stipulates that efforts shall be made to clarify these requirements according to characteristics of nuclear facilities based on the latest knowledge concerning nuclear safety. These provisions shall come into force as of the date specified by Cabinet Order within a period not exceeding three years from the day of promulgation.

In addition, two revisions are included as regulatory improvement corresponding to decommissioning. As the first point, in order to achieve a smooth transition from the termination of its operation to decommissioning of nuclear facilities when ageing has advanced, it is mandated that licensees prepare and announce the policy (The Forward Planning of the Demmissioning Policy), from the commencement of business, which includes measures associated with decommissioning of the facilities. The second point is the development of necessary regulations concerning the burial of waste. To implement this, (i) the NRA shall designate locations of disposal relating to Category 2 waste disposal projects (mid-depth disposal of core internals wastes, etc.) for disposing of wastes with

radioactive concentration higher than a certain standard value and Category 1 waste disposal projects, and surrounding areas that should also be protected, and shall impose restrictions on digging in these locations and areas, (ii) licensees for Category 1 waste disposal projects shall be allowed to dispose of Category 2 wastes in the same way for Category 1 wastes, and (iii) licensees intending to close a gateway for mid-depth disposal in addition to the current Category 1 waste disposal project shall obtain approval for the closing measures plan, etc. from the NRA. These provisions shall come into force as of October 1, 2018. With regard to the Forward Planning of the Decommissioning Policy, licensees who have already received permission to install nuclear facilities at the time of enforcement of the revised Act shall prepare and announce their policy within 3 months from the enforcement date.

As for other revised items, the NRA shall improve procedures concerning the merger, division, and inheritance of nuclear fuel material users and internationally controlled materials users, and optimize restrictions on transfer and acquisition of nuclear fuel materials. These provisions came into force on July 10, 2017. (See Section 4 and Section 5 for revisions concerning regulations on radioactive isotopes, etc. and revised matters concerning the Radiation Council.)

(2) Investigation of Operation of Regulatory Systems, including Revision of Regulations, etc. Accompanying the Revision of the Act

Following the establishment of the revised Act, the NRA continued to prepare related cabinet orders and develop regulatory requirements in accordance with the "Establishment of the revised Act and future response" reported at the 2nd NRA Commission Meeting (April 12, 2017). The details are shown below.

①Optimization of regulations on nuclear fuel materials users and internationally controlled materials users

Regarding the establishment of related laws and regulations concerning optimization of regulations on nuclear fuel materials users and internationally controlled materials users, the related draft Cabinet Order and regulations, etc. were decided at the 16th NRA Commission Meeting (June 21, 2017). In response to the Cabinet decision of the Order on June 27, 2017, it came into effect on July 10, 2017, and the regulations were promulgated on July 7, 2017, and enforced on July 10, 2017.

②Development of Regulatory Systems Pertaining to the Decommissioning Measures Implementation Policy

Regarding discussion on establishment of regulatory systems relating to the Forward Planning of the Decommissioning Policy, the NRA held three meetings to hear opinions

from related licensees, and prepared draft guidelines for developing it.

Based on the results of the discussions and public comments given in these meetings, the related draft Cabinet Order and Ordinance, etc. were decided at the 16th NRA Commission Meeting (November 22, 2017). In response to the Cabinet decision of the Order on December 15, 2017, it was promulgated on December 20, 2017, and the ordinance were promulgated on December 22, 2017. These provisions and guidelines shall come into force as of October 1, 2018.

③Review on revision of regulatory systems related to waste disposal

The NRA decided to incorporate the concept of As Low As Reasonably Achievable (ALARA) into regulatory requirements and others concerning mid-depth disposal. Based on the outline of draft regulatory requirements determined in line with the ALARA 's philosophy, it also decided to discuss how to address the concept of ALARA at the 66th NRA Commission Meeting of FY 2016 (March 2, 2017). The Study Team on the Regulation of Radioactive Waste in Decommissioning determined the outline of draft regulatory requirements concerning mid-depth disposal that adopted the ALARA philosophy. At the 27th NRA Commission Meeting (July 31, 2017), the NRA studied the outline of the draft and instructed the NRA Secretariat to clarify items which should be confirmed in reviews to show that it is possible to examine the outline based on regulatory requirements, etc. adopting the ALARA concept. In response to this, the incorporation of the ALARA concept into regulatory requirements concerning waste disposal was discussed at the 56th NRA Commission Meeting (December 20, 2017), the 60th NRA Commission Meeting (January 24, 2018), the 67th NRA Commission Meeting (February 21, 2018), and the 69th NRA Commission Meeting (March 7, 2018). The NRA plans to formulate regulatory requirements and related review guidelines based on this idea in the future.

④Review on revision of inspection system

Meetings of the Study Team on Oversight Program, which consists of NRA Commissioners, officials of the NRA Secretariat, and experts, have been held continually since May, 2016, seeking the participation of licensees and adhering to the policies of disclosing discussions. The study team also held meetings of various working teams to examine the design and implementation of the inspection system in detail.

(3) Study of Method of Operational Safety Inspection

According to the instruction concerning inspections to check conformity to the operational safety programs of nuclear facilities (hereinafter referred to as “operational safety inspection”) given at the 25th NRA Commission Meeting of FY 2012 (January 30, 2013), the NRA continued to study improvement measures. In June and July 2017, it

received reports for FY 2016 from licensees installing commercial power reactors concerning the collection of data for 30 indicators, which was instructed to the licensees by an instruction document as of April 13, 2016. The reports contained analysis of the data and the results.

As operational safety inspections are to be integrated into nuclear regulatory inspections upon enforcement of the revised Act in 2020, the NRA is studying the details of the operation of nuclear regulatory inspections for the future, which should be implemented based on indicators and risk information. At the 58th NRA Commission Meeting (January 10, 2018), under the current framework of operational safety inspections, the NRA decided to gradually incorporate features of the new inspection system. These included utilization of risk information and reflection of actual achievement of safety assurance, into the inspections, examining the progress of the study and the possibility of incorporation in inspection practice with a view to continuous improvement of concrete implementation measures.

(4) Opinion Exchanges with Regulated Parties on Safety Improvements

Since October 2014, the NRA has exchanged opinions with the top managers of licensees of major nuclear facilities. The reasons were (1) promoting of penetration of a safety culture in Japan as an entire country and efforts on safety improvement based on that, and (2) hearing of opinions of licensees on basic ideas and activities related to safety improvement, and proposals to improve the current regulatory system for continuous improvement.

In FY 2017, the NRA exchanged opinions with 10 licensees. These focused on the following areas: efforts for safety improvement where nuclear licensees perform voluntarily (i.e. fostering safety culture), and hearing ideas from nuclear licensees on improving the regulatory systems.

In January 2017, the NRA started to exchange opinions with the Chief Nuclear Officers (CNOs) of major nuclear facilities, in order to contribute to and clarify regulatory requirements and review processes, which foster smooth introduction of regulation and improve foreseeability. In FY2017, the opinion-exchanging meetings with CNOs were held four times to discuss the additional requirements of measures aginst high-energy arcing faults (HEAF) events, and the falsification of data on the certificate of Kobe Steel (KOBELCO) products.

On May 23, 2017, based on the revision of the Radiation Hazards Prevention Act in April 2017, the NRA and the Japan Radioisotope Association exchanged opinions on issues related to the regulation of radioactive isotopes, including the disposal of radioactive contaminants, and the NRA requested the Association to cooperate to disseminate and raise awareness of the revised Act. In addition, the NRA asked cooperation of the Japan

Radioisotope Association to inform users of permissions and notifications and others about the revision of the Ordinance for Enforcement of the Radiation Hazards Prevention Act, which was promulgated on January 5, 2018, and regulatory requirements added in accordance with the revised law, including advance handling of measures at the time of danger, and held briefing sessions in Tokyo, Sendai, Nagoya, and Kyoto on and after February 1, 2018.

(Repetition of 2 (4) in Section 2 of Chapter 1)

Section 2 Rigorous and Proper Implementation of Regulations on Reactor Regulation Act

1. Implementation of Conformity Review to New Regulatory Requirements and Inspection of Commercial Power Reactors

As for commercial power reactors, after the NRA enforced the New Regulatory Requirements on July 8, 2013, 11 licensees submitted applications for permission for change in reactor installation concerning conformity to the New Regulatory Requirements of 26 plants of 16 nuclear power stations by the end of FY 2017. These applications are now reviewed strictly based on the policies approved by the NRA. In FY 2017, review meetings were held 102 times. Many discussions centered on issues such as design basis ground motion and design basis tsunami, basis preventive design against tornadoes, internal overflows and internal fire, the evaluation of effectiveness of measures for severe accidents such as preventing core damage and preventing breakage of containment vessels, and the preparation of procedures for serious accidents.

Reviews for applications for a change in reactor installation permission were conducted for Units 3 and 4 at Ohi NPS (KEPCO) and Units 6 and 7 at Kashiwazaki Kariwa NPS (TEPCO Holdings) (hereinafter referred to as Kashiwazaki Kariwa NPS). On that basis, scientific and technical opinions on draft review reports were gathered on the technical abilities of the licensees and the structure of and equipment installed in the reactors. The NRA conducted opinion hearings on the peaceful use of nuclear power from the Japan Atomic Energy Commission, and on the appropriateness of permission from the Minister of Economy, Trade and Industry. In accordance with the results of this process, change in installation permission was approved at the 10th NRA Commission Meeting (May 24, 2017) for Units 3 and 4 of Ohi NPS and at the 57th NRA Commission Meeting (December 27, 2017) for Units 6 and 7 of Kashiwazaki Kariwa NPS. As for TEPCO Holdings Co., Ltd., based on the fact that it is the party in charge for the accident that occurred at TEPCO's Fukushima Daiichi NPS due to the 2011 Great East Japan Earthquake, the application for change in reactor installation permission for commercial power reactors at the Kashiwazaki Kariwa NPS (installation change for Units 6 and 7) was examined more carefully than usual to evaluate its technical capability by checking if TEPCO is qualified to install Kashiwazaki Kariwa NPS and operate nuclear reactors with sufficient safety

culture and other features required for a licensee installing commercial power reactors. Specifically, opinions were heard from TEPCO's top managers at the NRA Commission Meetings (July 10, August 30, and September 20, 2017), and investigation on the consciousness of the licensee on securing safety at Kashiwazaki Kariwa NPS was conducted (July 27 and July 28, 2017).

Among the cases being reviewed, it was proven that Onagawa Nuclear Power Station of Tohoku Electric Power Co. had sufficient ability to endure the standard earthquake ground motion, which was a major problem relating to earthquakes or tsunami. On the other hand, as for evaluation of the activity of the fault running under the ground of Tomari NPS (Hokkaido Electric Power Company), additional investigation was requested because of the poor reasoning the Company has shown for permission. So far, however, it could not show sufficient evidence required to get permission, and no progress was noticed in the review. The NRA approved construction plans for Units 3 and 4 at Ohi NPS on August 25, 2017, for Unit 3 at Genkai NPS on the same day, and for Unit 4 at Genkai NPS on September 14, 2017. The NRA also approved operational safety programs for Ohi NPS on September 1, 2017, and for Genkai NPS on September 14, 2017.

By the end of FY 2017, applications for change in reactor installation permission related to Specialized Safety Facilities were submitted by 7 licensees for 15 plants of 8 nuclear power stations. In the review of these applications, the NRA has checked whether measures have been taken to ensure that necessary functions are not impaired in the event of large-scale incidents such as intentional large-aircraft crashes and other acts of terrorism. As for application for changes in reactor installation permission to Units 1 and 2 of Sendai Nuclear Power Station of Kyushu Electric Power Co. Inc. (hereinafter referred to as Sendai NPS), Unit 3 of Ikata Nuclear Power Station of Shikoku Electric Power Company (hereinafter referred to as Ikata NPS), and Units 1, 2, 3, and 4 of KEPCO's Takahama Nuclear Power Station (hereinafter referred to as Takahama NPS), after preparing a draft review report of application for changes in reactor installation permission related to Specialized Safety Facilities, opinion hearing was conducted with the Minister of Economy, Trade and Industry and the Japan Atomic Energy Commission, and discussions were held based on the responses received. Taking the results into account, change in installation permission was approved at the 1st NRA Commission Meeting (April 5, 2017) for Units 1 and 2 of Sendai NPS, at the 41st NRA Commission Meeting (October 4, 2017), for Unit 3 of Ikata NPS, at the 69th NRA Commission Meeting (March 7, 2018), and for Unit7s 1, 2, 3, and 4 of Takahama NPS.

By the end of FY 2017, applications for approval of construction plans for installation of Specialized Safety Facilities were submitted by 3 licensees, for 7 plants of 3 nuclear power stations.

The plans for decommissioning commercial power reactors were approved for Unit 1 of

Genkai NPS, Unit 1 of Tsuruga Nuclear Power Station of Japan Atomic Power Co. (hereinafter referred to as Tsuruga NPS), Units 1 and 2 of KEPCO's Mihama Nuclear Power Plant (hereinafter referred to as Mihama NPS), and Unit 1 of Shimane Nuclear Power Station of Chugoku Electric Power Co. (hereinafter referred to as Shimane NPS) on April 19, 2017, and for Unit 1 of Ikata NPS on June 28, 2017.

(1) Increase in the Efficiency of Conformity Review to New Regulatory Requirements

The NRA continued efforts aiming at efficient advancement of all review processes. The summaries of records of review meetings were disclosed. After the review meeting, interviews with licensees were held to organize the findings and share perceptions.

(2) Status of Inspection Based on New Regulatory Requirements

The pre-service inspections and periodic facility inspections for Units 1 and 2 of Takahama NPS, Units 3 and 4 of Ohi NPS, Units 3 and 4 of Genkai NPS, and Unit 3 of Mihama NPS were conducted to confirm that construction had been undertaken according to authorized construction plans and that they conformed with the technical standards for commercial power reactors and their affiliated facilities. Unit 4 of Takahama NPS was found to have passed its pre-service inspection and was accordingly granted a certificate on July 16, 2017, and it was also granted a certificate for completion of the periodic facility inspection on the same day.

○ Commercial power reactors

No.	Applicant	Targeted power reactor			New Regulatory Requirements of Nuclear Fuel Facilities			Pre-service inspection, etc.
					Permission for change in reactor installation	Approval of construction plan	Approval of operational safety program	
1	Japan Atomic Power Company	Tokai Daini NPS		BWR	Under review	Under review	Under review	
2		Tsuruga NPS	Unit 2	PWR	Under review	Not applied	Under review	
3	Electric Power Development Co., Ltd.	Oma NPS		Under construction	Under review	Under review	Not applied	
4	Hokkaido Electric Power Co., Inc.	Tomari NPS	Unit 1	PWR	Under review	Under review	Under review	
5			Unit 2	PWR	Under review	Under review	Under review	
6			Unit 3	PWR	Under review	Under review	Under review	
7	Tohoku Electric Power Co., Inc.	Higashidori NPS		BWR	Under review	Under review	Under review	
8		Onagawa NPS	Unit 1	BWR	Not applied	Not applied	Not applied	
9			Unit 2	BWR	Under review	Under review	Under review	
10			Unit 3	BWR	Not applied	Not applied	Not applied	
11	TEPCO Holdings	Higashidori NPS		Under construction	Not applied	Not applied	Not applied	
12		Fukushima Daini NPS	Unit 1	BWR	Not applied	Not applied	Not applied	
13			Unit 2	BWR	Not applied	Not applied	Not applied	
14			Unit 3	BWR	Not applied	Not applied	Not applied	
15			Unit 4	BWR	Not applied	Not applied	Not applied	
16		Kashiwazaki Kariwa NPS	Unit 1	BWR	Not applied	Not applied	Not applied	
17			Unit 2	BWR	Not applied	Not applied	Not applied	
18			Unit 3	BWR	Not applied	Not applied	Not applied	
19			Unit 4	BWR	Not applied	Not applied	Not applied	
20			Unit 5	BWR	Not applied	Not applied	Not applied	
21			Unit 6	BWR	Completed	Under review	Under review	
22			Unit 7	BWR	Completed	Under review	Under review	
23	Chubu Electric Power Co., Inc.	Hamaoka NPS	Unit 3	BWR	Under review	Not applied	Not applied	
24			Unit 4	BWR	Under review	Under review	Under review	
25			Unit 5	BWR	Not applied	Not applied	Not applied	
26	Hokuriku Electric Power Company	Shika NPS	Unit 1	BWR	Not applied	Not applied	Not applied	
27			Unit 2	BWR	Under review	Under review	Under review	
28	Kansai Electric Power Co., Inc.	Mihama NPS	Unit 3	PWR	Completed	Completed	Under review	Under inspection
29		Ohi NPS	Unit 3	PWR	Completed	Completed	Completed	Under inspection
30			Unit 4	PWR	Completed	Completed	Completed	Under inspection
31		Takahama NPS	Unit 1	PWR	Completed	Completed	Not applied	Under inspection
32			Unit 2	PWR	Completed	Completed	Not applied	Under inspection
33			Unit 3	PWR	Completed	Completed	Completed	Completed
34			Unit 4	PWR	Completed	Completed	Completed	Completed
35	Chugoku Electric Power Co., Inc.	Shimane NPS	Unit 2	BWR	Under review	Under review	Under review	
36			Unit 3	Under construction	Not applied	Not applied	Not applied	
37	Shikoku Electric Power Co., Inc.	Ikata NPS	Unit 3	PWR	Completed	Completed	Completed	Completed
38	Kyushu Electric Power Co., Inc.	Genkai NPS	Unit 2	PWR	Not applied	Not applied	Not applied	
39			Unit 3	PWR	Completed	Completed	Completed	Under inspection
40			Unit 4	PWR	Completed	Completed	Completed	Under inspection
41		Sendai NPS	Unit 1	PWR	Completed	Completed	Completed	Completed
42			Unit 2	PWR	Completed	Completed	Completed	Completed

*1) Power reactors, whose decommissioning plans have been approved or whose decommissioning has been announced by the licensee, are excluded.

*2) Reviews concerning specialized safety facilities are excluded.

Changed in FY 2017

Figure 2-1 Status of the Reviews and Inspections of Commercial Power Reactors concerning Conformity to New Regulatory Requirements

2. Implementation of operational safety inspection, etc. of Commercial Power Reactors, etc.

In order to ensure the safety of commercial power reactors, the NRA periodically conducted quarterly operational safety inspections, primarily through nuclear safety inspectors stationed at NRA Regional Offices located near nuclear facilities. Taking into account the configuration of each facility, these inspectors made daily patrols of nuclear facilities, conducted interviews to ascertain the state of operations, and observed periodic tests.

In addition, operational safety inspection of important safety-related actions was conducted at Unit 3 of Takahama Nuclear Power Station.

Operational safety inspections of commercial power reactors conducted in FY 2017 revealed 11 cases of violating operational safety programs. (Excluding those under compilation as of the end of FY2017.)

Regarding other inspections relating to commercial power reactors (other than those based on the New Regulatory Requirements), pre-service inspections were conducted following renewal of equipment, and periodic facility inspections, etc. were also conducted with an interval determined by regulations concerning installation and operation of commercial power reactors. In FY 2017, 12 pre-service inspections and 2 periodic facility inspections were conducted.

Regarding misconduct relating to material data by Kobe Steel Ltd. (including affiliated companies), subsidiaries of Mitsubishi Materials Corporation, etc., the NRA is receiving reports from nuclear licensees, etc. Although safety problems have not been found so far, the NRA continues to pay close attention to the state of investigation by nuclear licensees, etc.

3. Implementation of Conformity Review to New Regulatory Requirements and Inspections of Nuclear Fuel Facilities

(1) Implementation of Conformity Review to New Regulatory Requirements of Nuclear Fuel Facilities

As for nuclear fuel facilities, since the enactment of New Regulatory Requirements in December 2013, applications for permission of change in facility operations at 20 facilities were submitted by 9 licensees by the end of FY 2017. Reviews were conducted based on "Conducting conformity reviews of facilities for handling nuclear fuel materials after the enactment of New Regulatory Requirements" (adopted on December 25, 2013, amended on June 1, 2016). In FY 2017, a total of 38 review meetings attended in principle by the NRA Commissioners were held.

In FY 2017, permission was granted to change the installation of STACY, the Static Experiment Critical Facility, and NSRR, the Nuclear Safety Research Reactor of the

Nuclear Science Research Institute, the Japan Atomic Energy Agency (hereinafter referred to as JAEA) on January 31, 2018. With respect to approval of designs and construction methods for Kyoto University's research reactor (hereinafter referred to as KUR) and Kyoto University Critical Assembly (KUCA), for which installation changes had been approved in FY 2016, the whole application was granted for KUR by July 27, 2017 and for KUCA by June 13, 2017.

Pre-service inspections and periodic facility inspections were conducted for KUR and KUCA, in which it was confirmed that construction had been undertaken according to authorized design and construction methods and that they conformed with the Ordinance on Technical Standards for the Capabilities of Research Reactors. Since KUCA was found to have passed the pre-service inspection and the periodic facility inspection on June 20, 2017, a certificate to indicate that it had passed pre-service inspections and another to indicate that it had passed periodic facility inspection were issued. KUR was found to have passed the pre-service inspection on August 24, 2017, and was accordingly granted a certificate. It was also found to have passed the periodic facility inspection on August 25, 2017, and accordingly granted another certificate.

As for the Japan Materials Testing Reactor (JMTR) at the Oarai Research and Development Center of JAEA, since it was decided to be decommissioned, the application for permission for installation change was withdrawn on December 5, 2017.

The decommissioning plans were approved for JRR-4 and TRACY of the JAEA on June 7, 2017.

The NRA prepared a draft review report on applications for change in nuclear fuel material processing business of GNF-Japan, JNFL's enrichment and waste disposal site, Mitsubishi Nuclear Fuel, and Tokai Works and Kumatori Works of Nuclear Fuel Industries, and heard opinions of the Minister of Economy, Trade and Industry. In accordance with the results of this process, license modification was approved at the 1st NRA Commission Meeting (April 5, 2017) for GNF-Japan; at the 8th NRA Commission Meeting (May 8, 2017) for JNFL's enrichment and waste disposal site; at the 47th NRA Commission Meeting (November 1, 2017) for Mitsubishi Nuclear Fuel (fuel material processing facilities); at the 56th NRA Commission Meeting (December 20, 2017) for Tokai Works of Nuclear Fuel Industries; and at the 75th NRA Commission Meeting (March 28, 2018) for Kumatori Works of Nuclear Fuel Industries.

Due to violations of the operational safety programs found in its reprocessing plant, etc., JNFL expressed at the 43rd NRA Commission Meeting (October 11, 2017) its intention to suspend preparation for the conformity review until the maintenance management system for facilities of JNFL could be established. Accordingly, the conformity review to the New Regulatory Requirements on Rokkasho reprocessing facility, etc. were temporarily stopped as of the end of March, 2018.

(2) Implementation of Other Inspections of Nuclear Fuel Facilities, etc.

As for nuclear fuel facilities, etc. regardless of the approval of conformity to New Regulatory Requirements in the review, periodic facility inspections were conducted annually, and pre-service inspections and facility inspections were conducted following renewal of equipment. In FY 2017, 11 pre-service inspections and 16 facility inspections were conducted.

○ Nuclear fuel facilities

No.	Applicant	Facility	New Regulatory Requirements of Nuclear Fuel Facilities			Pre-service inspection, etc.
			Permission for change in reactor installation	Approval of construction plan	Approval of operational safety program	
1	Japan Nuclear Fuel Limited	Reprocessing facility	Under review	Not applied	Under review	
2		MOX fuel fabrication facility	Under review	Not applied	Not applied	
3		Uranium enrichment facility	**Completed**	Not applied	Under review	
4		Waste interim storage facility	Under review	Under review	Under review	
5	Recyclable-Fuel Storage Company	Spent fuel interim storage facility	Under review	Under review	Under review	
6	Mitsubishi Nuclear Fuel Co., Ltd.	Uranium fuel fabrication facility	**Completed**	Under review	Under review	
7	Japan Atomic Energy Agency	Waste interim storage facility	Under review	Under review	Not applied	
8		Research and test reactor facility (JRR-3)	Under review	Not applied	Under review	
9		Research and test reactor facility (HTTR)	Under review	Under review	Under review	
10		Research and test reactor facility (radioactive waste disposal facility for common use)	Under review	Under review	Not applied	
11		Research and test reactor facility (NSRR)	**Completed**	Under review	**Completed**	
12		Research and test reactor facility (STACY)	**Completed**	Under review	**Partial completion *3**	
13		Research and test reactor facility (Joyo)	Under review	Not applied	Under review	
14		Research and test reactor facility (TCA)	Not applied	Not applied	Not applied	
15		Research and test reactor facility (FCA)	Not applied	Not applied	Not applied	
16	Toshiba Corporation	Research and test reactor facility (NCA)	Not applied	Not applied	Not applied	
17	Nuclear Fuel Industries, Ltd.	Uranium fuel fabrication facility (Tokai Works)	**Completed**	Under review	Under review	
18		Uranium fuel fabrication facility (Kumatori Works)	**Completed**	Not applied	Under review	
19	Global Nuclear Fuel Japan	Uranium fuel fabrication facility	**Completed**	Under review	Under review	
20	Kyoto University	Research and test reactor facility (KUR)	**Completed**	**Completed**	**Completed**	**Completed**
21		Research and test reactor facility (KUCA)	**Completed**	**Completed**	**Completed**	**Completed**
22	Kinki University	Research and test reactor facility (Kinki University Nuclear Reactor)	**Completed**	**Completed**	**Completed**	**Completed**
23	Japan Atomic Power Company	Category 2 waste disposal facility (trench disposal)	Under review		Not applied	

*1) Nuclear fuel facilities, whose the decommissioning plans have been approved or whose decommissioning has been announced by the licensee, are excluded.

*2) This shall not preclude implementation of activities other than "those that greatly increase facility risk or that reduce facility risk," only for 5 years. (Refer to "Policies on the application of New Regulatory Requirements to nuclear fuel facilities" enacted by the NRA Secretariat on November 6, 2013.)

*3) The part of Operational Safety Program not relating to facility operation was approved. (Approval for the part relating to facility operation was planned to be applied later.)

Changed in FY 2017

Figure 2-2 Status of the Reviews and Inspections of Nuclear Fuel Facilities, etc. concerning Conformity to New Regulatory Requirements

4. Implementation of Operational Safety and Other Inspections of Nuclear Fuel Facilities

(1) Implementation of Operational Safety and Other Inspections of Nuclear Fuel Facilities

In order to ensure the safety of nuclear fuel facilities, the NRA periodically conducted quarterly operational safety inspections, primarily through nuclear safety inspectors stationed at NRA Regional Offices located near nuclear facilities. In accordance with the configuration of each facility, these inspectors made daily patrols of nuclear facilities, conducted interviews to ascertain the state of operations and witnessed periodic tests.

Operational safety and other inspections of nuclear fuel facilities conducted in FY 2017 revealed violations of operational safety programs as follows: 3 cases at nuclear fuel facilities including the violation of JNFL's operational safety programs for its reprocessing plant concerning inflow of rainwater into the emergency power-supply building, one case at a research reactor facility, 4 cases at reprocessing facilities, and 2 cases at usage facilities.

Regarding misconduct relating to material data by Kobe Steel, Ltd. (including affiliated companies), subsidiaries of Mitsubishi Materials Corporation, etc., the NRA is receiving reports from nuclear licensees, etc. Although safety problems have not been found so far, the NRA continues to pay close attention to the state of investigation by nuclear licensees, etc.

(2) Implementation of On-Site Inspections of Nuclear Fuel Facilities and Others

Planned on-site inspections for users of nuclear fuel materials, etc. not subject to Article 41 of the Ordinance[27] were conducted at 15 plants.

5. Determining the Causes of and Countermeasures for Accidents and Failures in Nuclear Facilities

Article 62-3 of the Reactor Regulation Act requires nuclear licensees to report accidents and failures which occurred in nuclear facilities as stipulated in the NRA Ordinance (hereinafter referred to as "events reported based on the Act" in this item and in Section 1(8) of Chapter 3 hereof).

Concerning events reported based on the Act, a total of 4 events occurred in FY 2017; 2 events at commercial power reactors and 2 events at nuclear fuel facilities. The NRA received reports on these events from licensees and has been strictly checking on efforts being undertaken by licensees to ascertain causes and implement recurrence-prevention measures. (Events reported based on the Act related to Specified Nuclear Facility are listed in Section 1(1) of Chapter 3 hereof).

[27]Users of nuclear fuel materials and users of nuclear source materials, who have facilities not subject to any paragraph of Article 41 of the Enforcement Ordinance of the Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material, and Reactors

Events reported based on the Act are subject to evaluations conducted according to the International Nuclear and Radiological Event Scale (hereinafter referred to as “INES”). Of the 4 events that occurred in FY 2017, the one at Oarai Research and Development Center was determined as level 2 (incident), and the one at Kumatori Works of Nuclear Fuel Industries was evaluated as level zero (event with no safety significance). The other two are being evaluated as of the end of FY 2017. Of the three events that occurred in commercial power reactors and were under evaluation in FY2016, the one that occurred at Shimane Nuclear Power Station was evaluated as level 1 (anomaly). The other two events were determined as level zero (event with no safety significance).

At the 63rd NRA Commission Meeting (January 31, 2018), the NRA Secretariat proposed a policy for evaluating safety impact in addressing events reported based on the Act, in which not only apparent safety impact but also potential impact was taken into consideration; assessing causes of events, and the extent and scale of reasonably and concretely assumed influence of such impacts in the past and also in the future. After considering the lessons learned from past events on safety measures, it reported its ideas in an NRA Commission Meeting for preparing NRA’s action, which was approved there.

（1）Establishing Entry-Restricted Zones Associated with Leaks of Liquids in a Building for the Volume Reduction Processing Device of Radioactive Waste at Hamaoka NPS of Chubu Electric Power Co., Inc.

On May 2, 2017, Chubu Electric Power Co., Inc. reported that an entry-restricted zone had been set up in accordance with Operational Safety Programs after finding powdery deposits on the second basement floor of the building for the volume reduction processing device of radioactive waste at Hamaoka Nuclear Power Station of Chubu Electric Power Co., Inc. (hereinafter referred to as Hamaoka NPS) and that this fell under an event to be reported based on the Act. On November 2017, the licensee reported on the causes of and measures taken for this event. In response, the NRA has been examining details of the report as of the end of FY 2017.

Furthermore, on January 18, 2018, Chubu Electric Power Co., Inc. reported that an entry-restricted zone had been set up in accordance with Operational Safety Programs after finding granular deposits on the second floor of the building for the volume reduction processing device of radioactive waste at Hamaoka NPS and that this fell under an event reported based on the Act. As of the end of FY 2017, the licensee is investigating the cause of this event and its correlation with the event of finding deposits on the second basement floor of the same building that occurred on May 2 of the previous year.

(2) Establishing Entry-Restricted Zones, etc., Associated with Contamination of an Area in the Fuel Research Building at Oarai Research and Development Center of Japan Atomic Energy Agency

On June 7, 2017, the Japan Atomic Energy Agency reported that an entry-restricted zone had been set up in accordance with Operational Safety Programs in response to leakage of nuclear fuel material in Room 108 (within a controlled area) of the Fuel Research Building at Oarai Research and Development Center (in the north area) of Japan Atomic Energy Agency that occurred when a vinyl bag (containing powdery nuclear fuel material) in the storage container had broken during container inspection, causing unplanned exposure of workers to radiation. Since the exposure dose exceeded or could exceed the value of reporting criteria, the licensee reported that it fell under the incidents reported based on the Act.

In order to check the status of handling nuclear fuel material by the licensee based on the contents of the report, the NRA Secretariat conducted an on-site inspection of the Fuel Research Building at Oarai Research and Development Center (in the north area) on June 21, 23 and 30, in accordance with the provisions of Paragraph 1, Article 68 of the Reactor Regulation Act, and reported the results of the inspection at the 16th NRA Commission Meeting (June 21, 2017). The NRA Secretariat also reported the outline of the event and the result of assessing it as an event of INES Level 2 (abnormal event) at the 29th NRA Commission Meeting (August 2, 2017). As of September 29, 2017, the licensee reported on the causes of and measures taken for this event. At the 46th NRA Commission Meeting (October 25, 2017), the NRA determined that the investigation of causes and recurrence-prevention measures implemented by the licensee were not sufficient, and requested the licensee to amend the report before submitting it again.

An amended report on the causes of and measures taken for the event was submitted by the licensee on December 27, 2017. At the 67th NRA Commission Meeting (February 21, 2018), the NRA evaluated that the investigation of causes and recurrence-prevention measures being implemented by the licensee were proper, and instructed the licensee to continue implementing these measures without fail. Based on the lessons learned from this accident, the NRA partially revised the regulations concerning the use of nuclear fuel material, etc. in order to clearly stipulate that unsealed plutonium must be handled in airtight equipment. The revised regulations were enacted on March 2, 2018. In order that Operational Safety Programs of usage facilities should include measures to improve safety in their facilities by utilizing information on technical matters concerning the use of nuclear fuel materials obtained from other organizations, the NRA revised the review standards applicable to Operational Safety Programs of usage facilities, etc., and the revised standards took effect on February 21, 2018.

(3) Leak of Powdered Uranium Oxide in the Second Processing Building of Kumatori Works, Nuclear Fuel Industries, Ltd.

On August 10, 2017, uranium powder leaked in mixing room 2-2 of the second processing building (in a controlled area) of Kumatori Works, Nuclear Fuel Industry Co., Ltd. Since the licensee determined that the radioactivity of the uranium powder leaked exceeded 3.7×10^5 Becquerels, it reported to the NRA that this fell under an incident reported based on the Act.

A report on the causes of and measures to the event was submitted by the licensee on November 1, 2017. At the 48th NRA Commission Meeting (November 8, 2017), the NRA evaluated that the investigation of causes and recurrence-prevention measures implemented by the licensee were proper.

(4) Responses to Accidents and Problems in FY 2016

①Establishing entry-restricted zones associated with leaks of liquids in a waste-treatment building at Tokai No.2 Power Station (Japan Atomic Power Company)

On June 2, 2016, the Japan Atomic Power Company reported that an entry-restricted zone had been set up in accordance with Operational Safety Programs in response to the measured amount of radioactivity in leaked liquids inside a tank-vent processing equipment room on the first underground level of a waste-treatment building at Tokai No.2 Power Station of the Japan Atomic Power Company (hereinafter referred to as Tokai No. 2 Power Station) and that this fell under an event to be reported based on the Act.

A report on the causes of and measures to the event was submitted by the licensee on July 25, 2016 (amended report submitted on December 12 of the same year). At the 46th NRA Commission Meeting (October 25, 2017), the NRA evaluated that the investigation of causes and recurrence-prevention measures implemented by the licensee were proper.

②Corrosion of air-conditioning and ventilation ducts of the main control room of Unit 2 of the Shimane Nuclear Power Station (Chugoku Electric Power Co.)

On December 8, 2016, Chugoku Electric Power Co. reported that they had found corrosion (approximately 100 cm x approximately 30 cm) in a duct system through an inspection of air-conditioning and ventilation ducts in the main control room of Unit 2 of Shimane Nuclear Power Station, and that this fell under an event reported based on the Act.

An outline of this event was reported at the 48th NRA Commission Meeting (December 14, 2016) by the NRA Secretariat. At the 53rd NRA Commission Meeting (January 11, 2017), a report was also made by the NRA Secretariat on corrosion that was newly detected through inspections of parts resembling ducts. Accordingly, it was determined to

investigate facilities other than Unit 2 at the Shimane Nuclear Power Station.

At the 56th NRA Commission Meeting (January 18, 2017), it was decided to require the licensees installing nuclear commercial power facilities to conduct direct visual inspections of the ducts of facilities which is required to ensure maintain livable conditions in emergency and to submit a report of the results. Reports of plans and the results of inspections by the licensees are being received.

A report on the causes of and measures to the event was submitted by the licensee on March 9, 2017 (amended report submitted on November 27 of the same year). At the 56th NRA Commission Meeting (December 20, 2017) and the 63rd NRA Commission Meeting (January 31, 2018), the NRA evaluated that the investigation of causes and recurrence-prevention measures implemented by the licensee were proper.

③Damage to cylinder cooling water pumps attached to an emergency diesel generator of Unit 2 of Tsuruga Nuclear Power Station (Japan Atomic Power Company)

On February 3, 2017, the Japan Atomic Power Company reported that they had confirmed damage to cylinder cooling water pumps attached to a B-emergency diesel generator of Unit 2 of Tsuruga Nuclear Power Station, which had been shut down for Periodic Facility Inspection. It was determined that the emergency diesel generator did not maintain required safety function and that this fell under an event reported based on the Act.

A report on the causes of and measures to the event was submitted by the licensee on March 21, 2017 (amended report submitted on April 4 of the same year). At the 13th NRA Commission Meeting (June 7, 2017), the NRA evaluated that the investigation of causes and recurrence-prevention measures implemented by the licensee were proper.

6. Implementation of Review Concerning the Extension of Operation Period of Commercial Power Reactors

(1) Implementation of Review Concerning the Extension of Operation Period of Commercial Power Reactors

The operation period extension approval system approves the extension period during which a commercial power reactor can be operated only one time by up to 20 years as the upper limit, while a commercial power reactor can normally be operated for 40 years from the date when the operation was initiated. This requires conformity to additional safety standards during the extended period. On September 20, 2017, the NRA revised regulations concerning the installation and operation of nuclear commercial power reactors, and operational guidelines concerning applications for extension of operation period of nuclear commercial power reactors, etc. Through these revisions, the application term for extension of operation period, which started one year and three months before expiration of

the operation period and ended one year before that date, was changed, and the regulation on the starting time (one year and three months before expiration of the operation period) was deleted. In FY 2017, an application was submitted for Tokai Daini Power Station. Three review meetings were held to review this application during FY 2017.

(2) Implementation of Review Concerning Aging Management System for Commercial Power Reactors

The aging management system requires an assessment of degradation of equipment and structures and development of a long-term maintenance policy for commercial power reactor facilities that have been operated for more than 30 years. This takes place every 10 years and is reflected to the operational safety programs. On July 26, 2017, the Ordinance on the Installation and Operation of Commercial Power Reactors was revised. As for the procedures for approval concerning measures against aging of facilities in the 40th year after the start of operation, the revised Ordinance allows the licensee to submit a deterioration assessment report only once to prevent the overlapping of review content, attaching it to either an application for operation period extension or an application for change to the operational safety program concerning aging technology evaluation, if the licensee had integrally conducted deterioration evaluation.

In FY 2017, Applications were submitted by 2 licensees for 2 plants of 2 nuclear power stations, which are subject to evaluations on the assumption that they will remain in operation. The NRA approved applications for changes to the operational safety program concerning aging management system for Unit 4 of TEPCO's Fukushima Daini NPS (approved on August 16, 2017), and for Unit 3 of Hamaoka NPS (approved on August 16, 2017), which are subject only to evaluations on the assumption that the plants remain in a state of cold shutdown.

7. Study on Monitoring of Volcanic Activities

The NRA evaluates the results of volcanic activity monitoring undertaken by licensees. Once a change occurs in the condition where the possibility is considerably slim that volcanic activity cannot be accommodated in terms of the design and safety might be affected, it will take measures such as ordering the shutdown of nuclear reactors at an early stageThe NRA instructed the RSEC to examine and deliberate matters concerning monitoring of volcanic activities.

Upon receiving this instruction, the RSEC set up the Subcommittee of Volcano Monitoring on March 25, 2016.

In FY 2017, the 2nd meeting of the Subcommittee of Volcano Monitoring was held on November 1, 2017, and discussions were held on the following matters. The state of discussions given in this meeting was reported at a meeting of the RSEC held on March 30,

2018.

(1) Discussion on the Rough Standard for Making Judgments concerning Reactor Shutdown

Discussion was held at this meeting on the rough standard for making judgments concerning reactor shutdown, and it was decided that this matter would be discussed also in the following meetings, taking into consideration the latest knowledge obtained in foreign countries.

(2) Evaluations of the Results of Volcanic Monitoring by Licensees Installing Nuclear Power Reactors

Discussions were held on the evaluation by the NRA Secretariat of volcanic monitoring conducted at Sendai NPS by Kyushu Electric Power Company, and the results of the evaluation were reported.

8. Study on Ground Motions without Identification of Seismic Sources

Ground motions without identification of seismic sources (ground motions of Mw below 6.5) are considered design basis ground motions of particular importance for nuclear power stations throughout Japan on the basis of seismological investigation. Accordingly, at the 52nd NRA Commission Meeting (November 29, 2017) of FY 2017, the NRA set up the Study Team on Evaluation for Ground Motions without Identification of Seismic Sources to clearly show a method of determining such ground motions for common use.

The meetings of the Study Team on Evaluation for Ground Motions without Identification of Seismic Sources were held 3 times; its 1st meeting on January 25, 2018, its 2nd meeting on February 22, 2018, and its 3rd meeting on March 30, 2018. At the 1st meeting, the Study Team determined issues that should be considered in relation to the method of specifying ground motions without identification of seismic sources. At the 2nd meeting, opinions were heard on the status of efforts by licensees and case studies of other fields. Based on the findings at the previous meeting, discussions were held on determination of the standard response spectrum. At the 3rd meeting, findings at the 1st and 2nd meetings were reviewed, and discussions were held on correction of the observation records (hypocentral distance and seismic properties) and methods to check the appropriateness of the response spectrum of ground motions without identification of seismic sources.

9. Actions Taken for Decommissioning of the Prototype Fast Breeder Reactor Monju

In response to the recommendation given by the NRA on November 13, 2015 concerning the Prototype Fast Breeder Reactor Monju, on December 28, 2016, the

Minister of Education, Culture, Sports, Science and Technology reported that Monju would be transitioning to the stage of decommissioning, and that the JAEA should be directed and supervised appropriately to facilitate this transition. The Minister also requested to investigate initiatives so that a fast-tracked application for decommission plans of reactor Monju can be approved.

The decommissioning of Monju is tied to the following listed special factors: (i) the decommissioning stage will commence during construction, (ii) approximately five and a half years will be needed to complete removal of fuel assemblies from the reactor core because of poor experiences in such work, and (iii) this will be the first time for a sodium-cooled nuclear power reactor facility to be decommissioned in Japan. With this being the case, early reduction of risks necessitates the approval of a decommissioning plan with the fuel assemblies not yet removed from the reactor core, and actions are needed to enable the early commencement of steps for decommissioning under the supervision of the NRA. Accordingly, at the 72nd NRA Commission Meeting of FY 2017 (March 22, 2017), Ordinance for partial revision of the Ordinance on the Installation and Operations of reactors in the research and development phase was established. At the 5th NRA Commission Meeting (April 19, 2017), the policy on reviews for approval of the operational safety program at the stage of decommissioning of Monju and the policy on the reviews for approval of the decommissioning plan were determined.

In January 2017, the NRA set up the Safety Oversight Team for Prototype Fast Breeder Reactor Monju Decommissioning to check continuously the state of Monju and the actions carried out by the JAEA. Twelve meetings of the Team were held in FY 2017.

At these meetings, interviews were conducted to ascertain the state of study on problems to be solved for decommissioning of Monju, and the application for approval of the decommissioning plan, which was submitted by JAEA on December 6, 2017, was reviewed. At the 75th NRA Commission Meeting of FY 2017 (March 28, 2018), the decommissioning plan was approved.

１０. Actions taken for decommissioning of Tokai Reprocessing Plant

In a period from January 2016 to the end of March 2018, the NRA held a total of 20 meetings of the Safety Oversight Team in order to check continuously the status of implementation of vitrification for risk reduction within the Japan Atomic Energy Agency (JAEA)’s Nuclear Fuel Cycle Engineering Laboratories’ Reprocessing Plant (hereinafter referred to as “Tokai Reprocessing Plant”), safety of the facility, and the manners for ensuring safety in the decommissioning process.

As for decommissioning of the Tokai Reprocessing Plant, the Ordinance for partial revision of the Ordinance on the Business of Reprocessing Spent Fuel was established at the 72nd NRA Commission Meeting (March 22, 2017) to enable the early commencement

of steps for decommissioning under the supervision of the NRA. At the 5th NRA Commission Meeting (April 19, 2017), the policy on reviews for approval of the operational safety program at the stage of decommissioning of the Tokai Reprocessing Plant was determined, along with the policy on the reviews for approval of the decommissioning plan.

The Oversight Safety Team for Tokai Reprocessing Plant and Other Facilities is reviewing the approach to ensuring the safety of the Tokai Reprocessing Facility, and has approved the decommissioning plan submitted from JAEA on June 30, 2017, including the plan for vitrification which should be completed by the end of 2028, taking twelve and a half years.

１１．Thorough Explanation on Review Results

The results of the Conformity Review to New Regulatory Requirements are explained based on the requests from the local communities where nuclear power stations are located. In FY 2017, briefings on the results of reviews to permit a change in the installation of Units 3 and 4 of Ohi NPS were held at local government council meetings in Fukui Prefecture. The NRA made a video to explain the results of the conformity reviews for Units 3 and 4 of Ohi NPS to New Regulatory Requirements. The video was sent to Ohi Town, and also disclosed on the NRA website. Furthermore, briefings on the results of the conformity review of the Units 6 and 7 at Kashiwazaki Kariwa NPS to the New Regulatory Requirements were held at the Kashiwazaki City Council.

１２．Development of Guidelines concerning Evaluations for Safety Improvement and Appropriate System Operation

In FY 2017, notifications of evaluations for safety improvement were submitted for Unit 1 (notified on July 6, 2017) and Unit 2 (notified on September 25, 2017) of Sendai NPS, and for Unit 3 of Takahama NPS (notified on January 10, 2018). In accordance with the response policy approved at the 21st NRA Commission Meeting (July 5, 2017), five meetings were held on continuous betterment of evaluations for safety improvement of commercial nuclear power reactors. Through discussions on the reviews of description in the notifications of evaluations for safety improvement evaluations for Units 1 and 2 of Sendai NPS, requirements concerning betterment of safety improvement evaluations were identified, and they were approved at the 59th NRA Commission Meeting (January 17, 2018). On the basis of these requirements, actions taken by licensees are being reviewed.

Section３ Effective Cooperation for Ensuring the Compatibility of Safety and Nuclear Security

Initiatives are being undertaken to promote the sharing of information among offices/divisions, thereby ensuring effective coordination in terms of safety and nuclear

security.

Specifically, reviews of applications for approval to change the physical protection program were conducted within the section verifying nuclear security with reference to the "Requirements and Evaluation Points Concerning the Impact on Safety Facilities of Installing and Modifying Protection Systems and Equipment" which were formulated by the section verifying safety. Along with investigations of initiatives undertaken by the IAEA and the United States, examinations were also conducted on the internal rules and regulations in order to enable qualified staff members, including those engaged in review and inspection related to nuclear safety, to properly access documents related to nuclear material protection information. In addition, investigation was commenced on measures for high-level coordination among nuclear safety, nuclear security, and safeguards.

Section４ Continuous Improvement of Regulatory Systems concerning the Radiation Hazards Prevention Act

（1）Promoting Development of Regulatory Systems for Radiation Hazards Prevention

In response to the recommendation in the IRRS report, draft bills for the revision of regulatory requirements, which includes the revision of the Radiation Hazards Prevention Act based on the interim report of the Study Team on Review of Radioisotope use (interim report of Review of Regulatory Controls to Radioisotope use, decided in November 2016), was submitted by the NRA to the 193rd regular session of the Diet. The revised Act was established on April 7, 2017, and promulgated on April 14, 2017.

Under the revised Act, the revision of the Radiation Hazards Prevention Act has become effective in two stages in order to provide a preparatory period for regulated licensees: first stage starts within one year after the promulgation of the revised Act (described in Article 4 of the revised Act), and the second stage starts within three years from the promulgation of the revised Act (described in Article 5 of revision Act).

The revision of the Radiation Hazards Prevention Act according to Article 4 of the revised Act includes the obligation to report to the NRA, etc. in the case of an accident, and the addition of special cases concerning waste management, that is regarding radioactively contaminated substabces as those contaminated with nuclear fuel materials, etc., which is entrusted to licensed radioactive operators specified by the Reactor Regulation Act by users who hold the permission and who have notified. The revision of the Enforcement regulation of the Radiation Hazards Prevention Act accompanying the revision of Article 4 of the Revised Act includes the preparedness for emergency and improvement of operations for the preparation prevention of radiation hazards, etc.

On August 31, 2017, the Study Team on the Review of Regulatory Controls concerning Usage Facilities of radioisotope considered the requirements which should be included in subordinate orders and regulations in accordance with the revised Article 4 of the revised

Act. On September 6, 2017, the NRA decided the policy on special cases concerning waste management, which includes the way of thinking at the time when regarding radioactively contaminated substances, etc. which are entrusted for disposal of, as those contaminated with nuclear fuel materials, etc.

Accordingly, during the period from October 26 to November 24, 2017, the NRA requested public comments on these orders and regulations related to the revision according to Article 4 of the Revised Act. Taking these comments into consideration, the NRA decided and submitted the draft of a related Cabinet Order on December 6, 2017, and the Cabinet Order was promulgated on December 15, 2017. On December 13, 2017, the NRA also decided relevantregulations, public notices, interpretations of event reports, guides which should be included in the radiation hazards prevention program, on-site inspection guides for registered certification organization, standards for the review, such as operational rules for certification of registered certification organizations, etc. The relevant regulations and public notices were promulgated on January 5, 2018.

Classification of businesses		Example business descriptions
Permission and notification users	**Specific Permission users** (1,201) • Use of **unsealed RI** (storage capacity: greater than or equal to 100,000 times the lower activity limit) • Use of **sealed RI** (storage capacity: greater than or equal to 10 TBq) • Use of **radiation generating apparatuses**	• Radiation sterilization licensees (cobalt 60) • Manufacturers of radiopharmaceuticals (iodine 131, molybdenum 99) • Large-scale research institutes (cobalt 60, radiation generating apparatuses) • Hospitals which use gamma knives (cobalt 60) • Hospitals which use radiation generating apparatuses
	Permission users (2,253) • Use of **unsealed RI** • Use of **sealed RI** (Activity: greater than 1,000 times the lower activity limit)	• Non-destructive testing licensees (iridium 192) • Hospitals which use after-loading devices (iridium 192) • Universities which use unsealed radiation sources as reagents • Hospitals which use radiation sources for prostate cancer treatment (iodine 125)
	Notification users (497) • Use of **sealed RI** (Activity: above the lower activity limit and less than or equal to 1,000 times the lower activity limit)	• Users of Calibration radiation sources
Notification users of approved devices with certification label (4,929) • Use of **approved devices with certification label** (devices which were certified in advance to have been designed in a manner approved by Government or registered organizations)		• Users of ECD for gas chromatography
Permission for waste management licensees (7) • Disposal of radioisotopes, etc. as a business		• Japan Atomic Energy Agency • Japan Radioisotope Association
Notification dealers and notification lessors (476) • Sale and lease of radioisotopes as a business		• Dealers and lessors of approved devices with certification label

* Targets that are newly required to provide protective measures (only part of licensees for each category

Figure 2-3 Regulatory Targets under the Revised Radiation Hazards Prevention Act

In order to disseminate information on revision in accordance with Article 4 of the

revised Act to radioisotope users who hold the radioisotope who have notified, etc., the NRA held briefing sessions in Tokyo, Sendai, Nagoya, and Kyoto on and after February 1, 2018. The revision according to Article 5 of the Revised Act includes the requirement for licensees handling highly dangerous radioisotopes to provide protective measures for these materials to prevent theft. On October 20, 2017, the Study Team on Review of Regulatory Controls concerning Usage Facilities of radioisotopes considered the requirements which should be included in subordinate orders and regulations in accordance with Article 5 of the revised Act.

(2) Developing systems pertaining to the Act on Technical Standards for Prevention of Radiation Hazards

The Radiation Council, which is charged with incorporating uniform technical standards applicable to the prevention of radiation hazards into relevant statutes and regulations, has been established under the NRA.

Since a higher level of specialist knowledge than previously is required in formulating technical standards, it was decided that the scope of the jurisdictional responsibility of the Radiation Council should be expanded to investigate and deliberate technical standards relating to the prevention of radioactive hazards in order to facilitate the incorporation of technical standards into domestic laws and regulations by the relevant administrative bodies. Since the scope of the jurisdictional responsibility of the Radiation Council is set out in the Act on Technical Standards for the Prevention of Radiation Hazards (Act No. 162 of 1958), a draft revision of this Act was drawn up and submitted to the 193rd regular session of the Diet together with a draft revision of the Radiation Hazards Prevention Act. The revised Act was established on April 7, 2017, and promulgated on April 14, 2017.

Section 5 Rigorous and Proper Implementation of Regulations on Radiation Hazards Prevention Act

1. Implementation of Reviews and On-Site Inspections pertaining to the Radiation Hazards Prevention Act

To prevent radiation hazards due to the use of radioisotopes and other sources of radiation, the NRA has regulated the use, dealing, leasing, waste management, and other handling of radioisotopes, use of radiation generating apparatuses, and waste management and handling of objects contaminated with radioisotopes, based on the Radiation Hazards Prevention Act.

Based on recommendations issued by the IRRS mission carried out in January 2016, oversight of registered certification organization acting for the NRA in accordance with the Radiation Hazards Prevention Act has been reinforced. In addition, on-site inspections of registered certification organization have been conducted since FY 2016 in order to maintain and enhance their quality of operations and reliability of examinations.

(1) Radiation Control Status

The NRA issued a radiation control status report for FY 2016 (from April 1, 2016 to March 31, 2017) on the state of the storage and for disposal of radioisotopes and the state of management of occupational exposure of radiation workers, etc., which had been reported by the licensees regulated by the provisions of Article-42, paragraph 1, etc., of the Radiation Hazards Prevention Act.

The status of the storage and for disposal of radioisotopes at all sites during FY 2016 did not exhibit a particularly large variation, compared with the past situation.

The occupational exposure of individual workers at each site in FY 2016 were lower than the dose limits prescribed by the Act at all sites.

(2) Confirmation of the Causes and Countermeasures for Accidents and Failures Occurred in Sites Handling Radioisotopes, etc.

In cases where the events falling under items of Article 39 paragraph (1) of the Enforcement Regulation of the Prevention of Radiation Hazards Act (hereinafter referred to in this section as “event reported based on the Act”) have occurred, licensees handling radioisotopes are required to report to the NRA. In addition, Article 33 paragraph (3) of the Radiation Hazards Prevention Act requires licensees to submit a notification when taking emergency measures.

In FY 2017, there were 2 events reported based on the Act, and no emergency measures were taken. These cases were handled as described below.

In addition, INES-based evaluations are being conducted for these cases. For these 2 cases, both of which occurred in FY 2017, evaluations remain ongoing as of the end of FY 2017. For 4 cases that had occurred at the offices of locations where radioisotopes were handled in FY 2016, evaluations resulted in findings of level zero in each case (event with no safety significance).

(3) Leak of Radioisotope out of a Controlled Area at Tokyo Institute of Technology

On May 22, 2017, at the Ookayama Radiation Experiment Facilities of Radiation Research and Management Center, Tokyo Institute of Technology, inspection of the inside of pipes and drainage basins outside the building for the maintenance of drainage equipment revealed gaps at some joints connecting a drainage basin and a drainage pipe.

In order to investigate leakage from the gaps, measurement and analysis of the surrounding soil were carried out several times, and slight leakage of radioisotope (tritium) was found. On October 13, 2017, and it was reported that this fell under an event to be reported based on the Act.

The cause of this event was under investigation as of the end of FY 2017. Since the

concentration of leaked radioactivity was extremely low and accurate quantitative measurement is difficult, further analysis and evaluation are to be continued.

(4) Disappearance of Radioisotope at Shionogi & Co., Ltd.

On October 18, 2017, it was found that two dead mice, to which radioisotope(carbon 14) had been administered for experiments, were lost at the Pharmaceutical Research Center of Shionogi & Co., Ltd. After unsuccessful search efforts for these mice throughout the areas where they could possibly find, hearings with those concerned, and investigations on the possibility of discarding them as waste materials, it was reported that disappearance of radioisotope occurred and this fell under an event to be reported based on the Act, on December 21, 2017.

As of the end of FY 2017, the cause of the event has not been identified, and investigations for finding the cause are being continued. As a tentative measure to prevent recurrence, it was determined to re-educate employees on animal handling rules, provide a register for keeping or taking out animals, and continue examinations.

Chapter 3 Oversight of Efforts to Decommission Reactors of TEPCO's Fukushima Daiichi NPS

○ Summary of Chapter 3

(Oversight of Efforts to Decommission Reactors of TEPCO's Fukushima Daiichi NPS)

After conducting a careful examination of applications for approval of changes to the "Implementation Plan Pertaining to Specified Nuclear Facilities at the Fukushima Daiichi NPS" (hereinafter referred to as the "Implementation Plan") submitted by TEPCO, the NRA approved 29 changes in total in this fiscal year.

The state of compliance with the approved Implementation Plan of TEPCO has been supervised in daily inspection conducted by regional safety inspectors, operational safety inspections, pre-service inspections, welding inspections, and periodic facility inspections, etc.

(Measures for Mid-term Risk Reduction)

In February 2015, the NRA developed "Measures for Mid-term Risk Reduction at TEPCO's Fukushima Daiichi NPS," (hereinafter referred to as the "Risk Map") which are being revised periodically. At its last revision done in March 2018, the concept of the Risk Map was changed by including significant targets for carrying through decommissioning Fukushima Daiichi NPS. The NRA confirmed the installation of the Unit 3 reactor building cover and the fuel removal facility, and also reflected it on the Risk Map in this fiscal year.

(Analysis of TEPCO's Fukushima Daiichi NPS Accidents)

Thorough analysis of the accident is a priority matter under the jurisdiction of the NRA, and therefore validation from a technical point of view is crucial. At the NRA Commission Meeting in March 2013, the NRA decided to set up the "Study Committee on Analysis of TEPCO's Fukushima Daiichi NPS Accidents" to determine technical issues, and meetings of the Committee have been held since May 2013. In particular, regarding seven items, which were defined as the problems to be solved in the National Diet of Japan Fukushima Nuclear Accident Independent Investigation Committee, and on which empirical investigation was required of regulatory bodies, the NRA conducted technical analyses using plant data and analyses of on-site investigations. The NRA's opinions were finalized in the "analysis of TEPCO's Fukushima Daiichi NPS accidents interim report," which was presented at the NRA Commission Meeting in October 2014.

In FY 2017, radiation dose distribution and dose reduction in the Fukushima Daiichi NPS buildings and on the Unit 3 operating floor were presented at a conference of the Atomic Energy Society of Japan.

(Radiation Monitoring after the TEPCO's Fukushima Daiichi NPS Accident)

The NRA engaged in the post-accident radiation monitoring of the TEPCO's Fukushima Daiichi NPS based on the "Comprehensive Radiation Monitoring Plan" (established at the Monitoring Coordination Meeting on August 2, 2011, finally revised on April 28, 2017) by carrying out general environmental monitoring throughout Fukushima Prefecture and monitoring of the waters around the TEPCO's Fukushima Daiichi NPS and of the Tokyo Bay, and released the analysis results of the monitoring every month.

Section 1 Oversight of Efforts to Decommission Reactors of TEPCO's Fukushima Daiichi NPS

(1) Approval and Inspections of the Implementation Plan Pertaining to Specified Nuclear Facilities at the Fukushima Daiichi NPS

In order to employ appropriate management methods in accordance with the state of the facility, the NRA designated the Fukushima Daiichi NPS a "Specified Nuclear Facility" in November 2012, and indicated to TEPCO measures which should be taken in order to secure the nuclear power reactor facilities and protect specified nuclear fuel material. An application for the approval of the Implementation Plan was received, and approval was granted in August 2013 with indicating some points of concern.

From April 1, 2017 to March 31, 2018, 29 changes to the Implementation Plan were approved. The state of compliance with the approved Implementation Plan of TEPCO has been supervised in daily inspections conducted by regional safety inspectors, 4 operational safety inspections, 31 pre-service inspections, and 12 welding inspections in this fiscal year. Moreover, the NRA also supervised TEPCO's works by conducting periodic facility inspections, focusing on significant equipment for maintaining the performance of the facility.

(2) Treatment of Contaminated Water in Buildings

The NRA believes that contaminated water retained in buildings (hereinafter referred to as stagnant water) should be treated promptly in order to reduce the risk of leakage of stagnant water. From the standpoint of protection against tsunami, the NRA has indicated that it is more important to eliminate risks posed by stagnant water itself rather than to prevent the intrusion of tsunami water into the site.

Accordingly, as the schedule for measures to reduce stagnant water was presented by TEPCO at a meeting of the Commission on Supervision and Evaluation of the Specified Nuclear Facilities (hereinafter referred to as "Supervision and Evaluation Commission"), requests have been made for an acceleration of the targeted date for the completion of the treatment of stagnant water (2020), the implementation of measures to control radioactive dust (hereinafter simply referred to as dust) for the performance of work, and the early elimination of contaminated water in condensers. The NRA received report that removal of contaminated water in the condensers of reactors of Units 1 to 3 was completed in December 2017 from TEPCO.

(3) Measures to Restrain the Inflow of Groundwater into Buildings

The NRA considers sub-drains, which pump up groundwater around buildings, one of the main measures to restrain the inflow of groundwater into reactor buildings. The NRA also has discussed increasing the capacity of sub-drains and accelerating the process of

constructing tanks, in meetings with TEPCO and the Supervision and Evaluation Commission. Based on these discussions, an application to approve changes to the Implementation Plan for the expansion of water treatment equipment, including sub-drains and the installation of catchment tanks and sample tanks, was made on June 23, 2017 and was approved on February 2, 2018.

Discussions on safety associated with the installation of a land-side impermeable wall were carried out under the Supervision and Evaluation Commission. After verifying that the installation of the impermeable wall will not increase the risk of leakage of stagnant water through an unexpected lowering of the level of groundwater around buildings, the NRA received an application for approval of change to close a land-side unfrozen part from TEPCO, on June 26, 2017. The NRA approved the application on August 15, 2017.

(4) Starting operation of the ninth storage facility for radioactive solid waste

The NRA received an application from TEPCO to approve changes to the Implementation Plan to install the ninth storage facility for solid radioactive waste (hereinafter referred to as "Ninth Storage Facility") to secure the storage capacity of radioactive solid waste, rubble, etc. The application was approved on July 17, 2015.

The construction of the Ninth Storage Facility proceeded and was completed on February 1, 2018.

(5) Installing fuel handling machine to remove fuel from the Unit 3 spent-fuel pool

With respect to the installation of fuel handling machine to remove fuel from the Unit 3 spent-fuel pool, the plan is to carry out the work remotely with the use of a crane due to thehigh radiation dose rate. However, bolt-fastening work and other such actions will involve elements of manned work. For this reason, in the Supervision and Evaluation Commission the NRA undertook discussions on measures to reduce dose levels on the operating floor where manned work will be performed and measures to manage dose levels to which workers will be exposed during their performance of work, before the installation of the equipment. In FY 2014, an application for approval to change the Implementation Plan was received. A check of dose-reduction measures through the installation of shielding undertaken when installing fuel handling machine was conducted. In FY 2016, checks were made in the Supervision and Evaluation Commission to determine whether the dose rate on the operating floor had improved sufficiently so that manned work can be performed, whether newly installed shielding will not affect fuel in the fuel pool as a result of slippage caused by earthquakes, and whether safety functions will work correctly even if an operator makes an operational error. After confirmed that TEPCO had dealt with these issues, the NRA approved the application on April 13, 2017.

(6) Rubble removal on the north side of the operating floor of the Unit 1 reactor building

The roof and the overhead crane of the Unit 1 reactor building collapsed onto the operating floor of the building due to a hydrogen explosion. On the Unit 1 operating floor, the collapsed roof which remained connected was uplifted from the north side towards the south side. The investigation on the roof collapsed to the north side was then completed.

The NRA received an application for approval to change the Implementation Plan concerning the removal of rubble on the north side of the Unit 1 operating floor on September 27, 2017. In meeting with TEPCO and the Supervision and Evaluation Commission, checks were conducted on measures to prevent scattering of dust generated by work and measures to manage dose levels to which workers will be exposed during the performance of their work. With respect to the countermeasures against dust scattering, the NRA confirmed that anti-scattering agents will be periodically sprayed over the entire rubble on the operating floor of the Unit 1, water will be sprayed when unexpected dust scattering occurs, and dose level control measures will be taken through shielding and access control. The NRA approved the application on January 18, 2018.

(7) Revision of the Measures for Mid-term Risk Reduction

The NRA developed the Risk Map in February 2015, for the purpose of setting a target related to measures at TEPCO's Fukushima Daiichi NPS.

Subsequently, the Risk Map has been periodically revised. In FY 2017, at the 68th NRA Commission Meeting (February 28, 2018), the concept was revised by including significant targets for carrying through decommissioning Fukushima Daiichi NPS. The NRA also confirmed the installation of Unit 3 reactor building cover and the fuel removal facility. As a result, the Risk Map (March 2018 version) was revised at the 69th NRA Commission Meeting (March 7, 2018) (Figure 3-2)

From a standpoint of international public relations, an English version of the Risk Map was also prepared, and published on the NRA website.

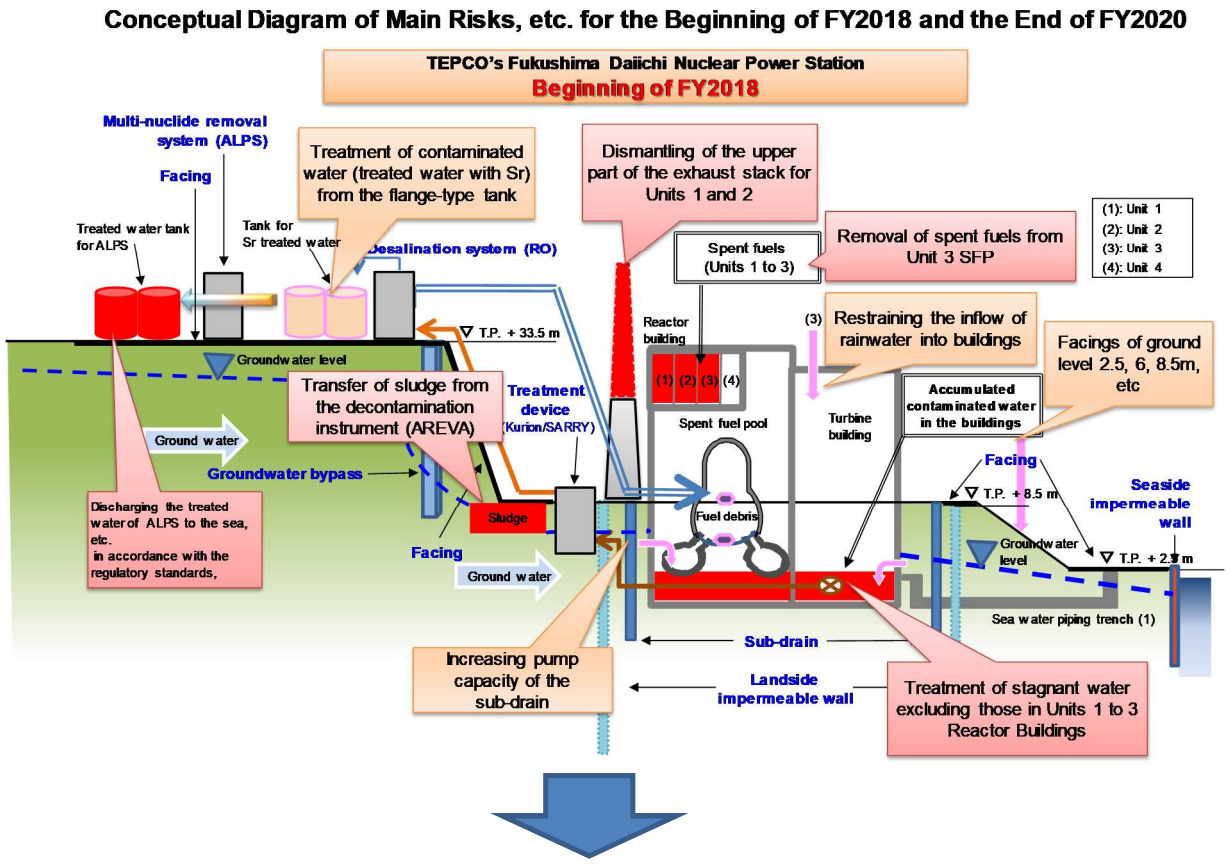


Figure 3-1. Image of major risks at the beginning of FY 2018 and the end of FY 2020

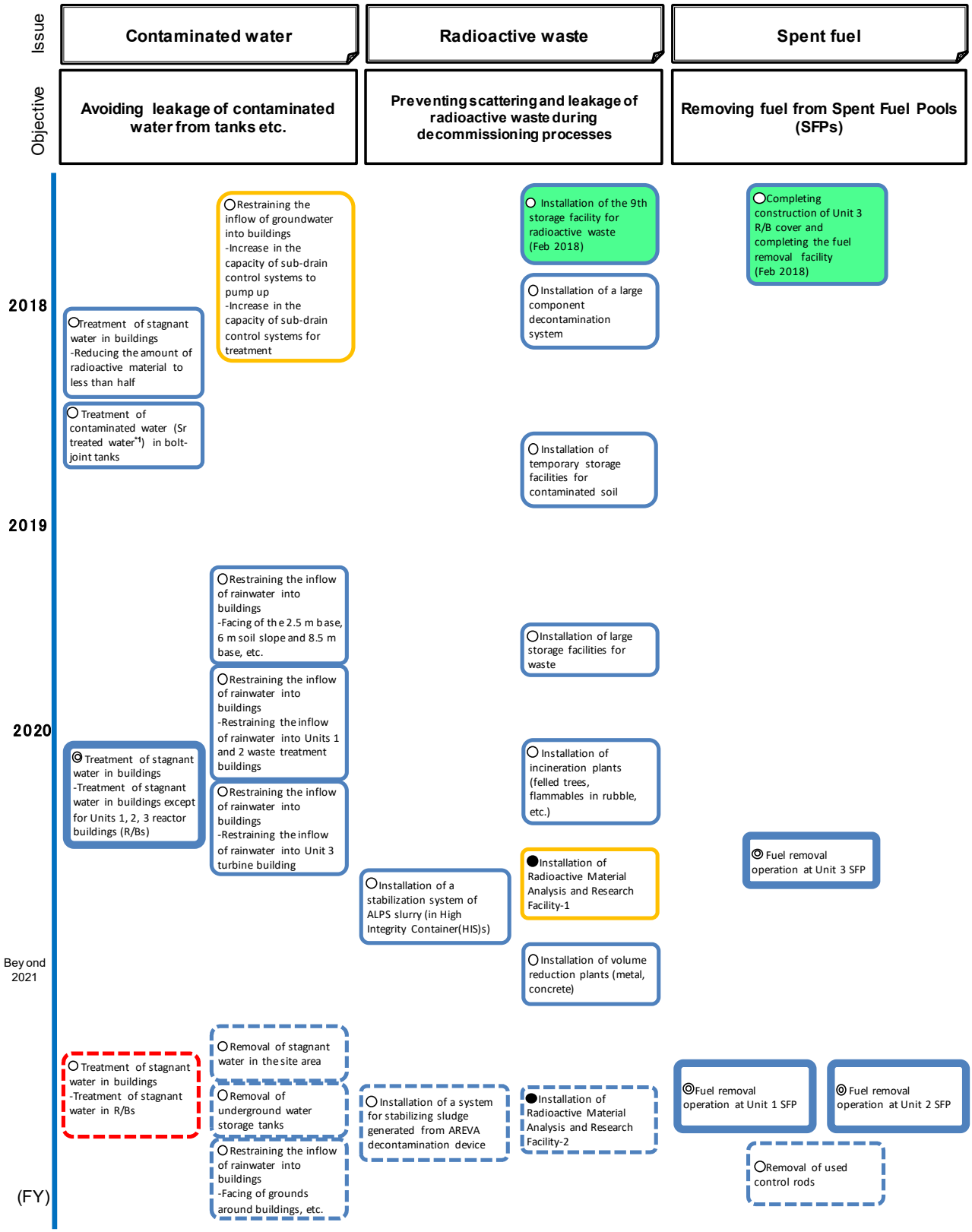
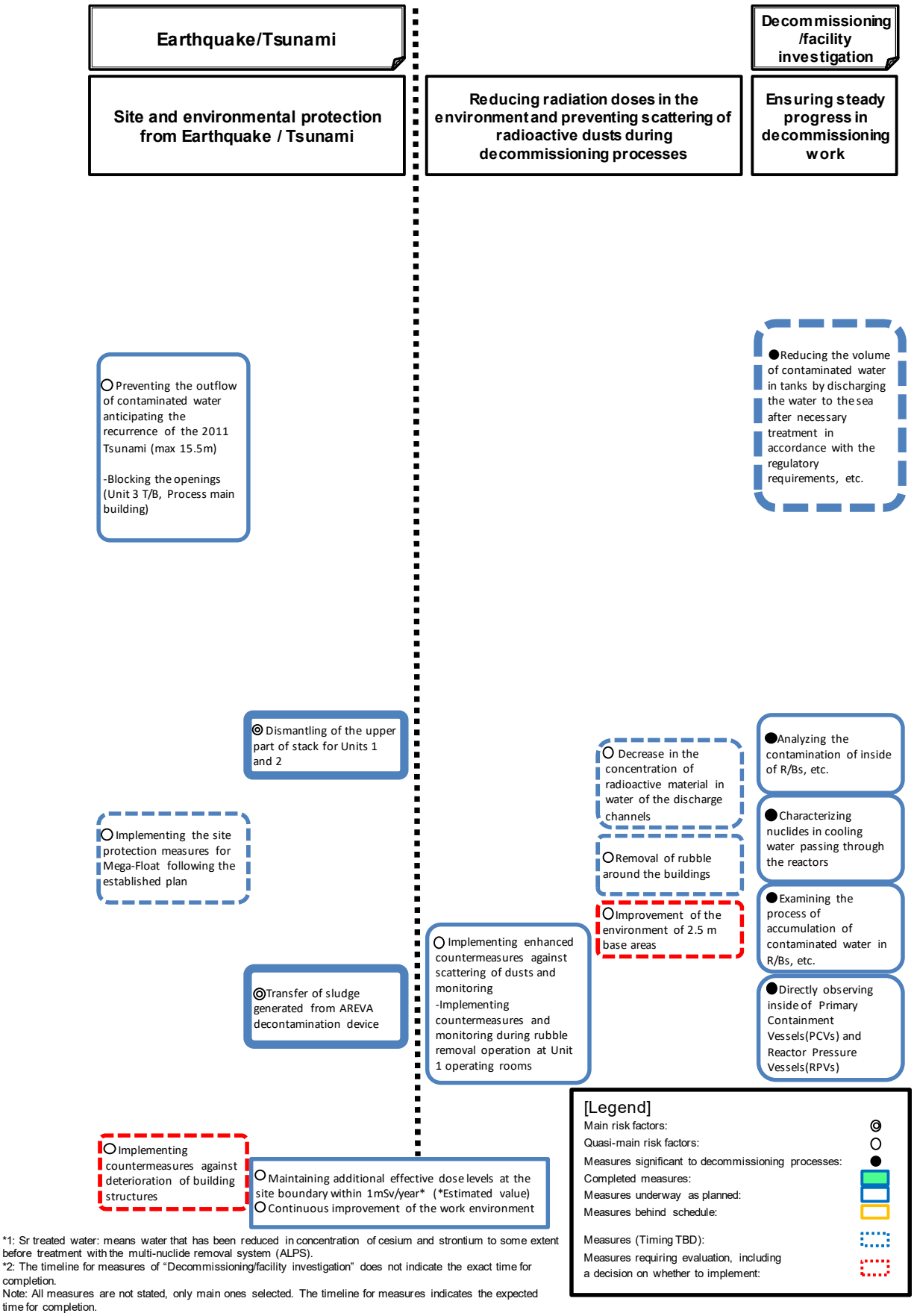


Figure 3-2. Measures for Mid-term Risk Reduction at TEPCO's Fukushima Daiichi NPS (March 2018 version)



*1: Sr treated water: means water that has been reduced in concentration of cesium and strontium to some extent before treatment with the multi-nuclide removal system (ALPS).
*2: The timeline for measures of "Decommissioning/facility investigation" does not indicate the exact time for completion.
Note: All measures are not stated, only main ones selected. The timeline for measures indicates the expected time for completion.

(8) Confirmation of the Causes and Countermeasures for Accidents and Failures occurred in TEPCO's Fukushima Daiichi NPS and Confirmation of Recurrence Prevention Measures

In FY 2017, one incident was reported based on the Reactor Regulation Act occurred at TEPCO's Fukushima Daiichi NPS.

On November 2, 2017, TEPCO confirmed a failure in the speed governor of the emergency diesel generator (A) at Unit 6 of Fukushima Daiichi NPS. It was determined that the emergency diesel generator was not equipped with sufficient function to ensure security, and that this fell under an incident reported based on the Reactor Regulation Act. The NRA Secretariat checked the state of the site at TEPCO's Fukushima Daiichi NPS and confirmed that there was no failure other than the speed governor in the emergency diesel generator and that there had been no impact on the environment.

In this fiscal year, the NRA received 4 reports from TEPCO pertaining to a declaration of deviation from limiting condition of operation (LCO), which is established in Volume 1 of Chapter III of the Implementation Plan (see Table 4). Upon receiving this report, the NRA conducted an inspection according to the provisions of paragraph 1 of Article 68 of the Reactor Regulation Act and verified that necessary measures had been taken.

Table 4. Report on a declaration of deviation from LCO in FY 2017

Report receipt date and time	Description
July 5	The level of stagnant water in an electric manhole in the Unit 1 turbine building exceeded the water level of a sub-drain pit near the building.
August 3	The water level of a sub-drain pit near the Unit 4 became lower than the level of stagnant water in the Unit 4 reactor building and the waste treatment building
September 28	There were errors in setting of the water level indicators at 6 new sub-drain pits around the buildings at Units 1 to 4.
November 20	When system A of the gas management equipment of the Unit 2 reactor containment vessel was stopped for work, the system B also stopped accidentally.

Section２ Analysis of TEPCO's Fukushima Daiichi NPS accidents

（1）Continuous accident analysis

The thorough analysis of the accident at TEPCO's Fukushima Daiichi NPS is a priority matter under the jurisdiction of the NRA and therefore validation from a technical point of view is crucial.

At the 34th NRA Commission Meeting of FY 2012 (March 27, 2013), the NRA decided to set up the "Study Committee on Analysis of TEPCO's Fukushima Daiichi NPS Accidents" to determine technical issues. The Committee consisted of Commissioner Fuketa (at that time), external experts, officials of the NRA Secretariat, officials of the Japan Nuclear Energy Safety Organization (at that time), and officials of the JAEA. Meetings of the Committee have been held since May 2013.

（2）Efforts including information dissemination on analysis of accidents

The NRA proceeded with consideration by means of discussions by the Study Committee and on-site investigations of TEPCO's Fukushima Daiichi NPS. This included 5 Study Committee meetings and 4 on-site investigations in FY 2013 and one Study Committee meeting and 5 on-site investigations in FY 2014. The "analysis of TEPCO's Fukushima Daiichi NPS accidents interim report" was presented at the 31st NRA Commission Meeting of FY 2014 (October 8, 2014), and released as the "NRA Report." An English version of this report was prepared and sent to IAEA, OECD/NEA and other international organizations.

The interim report contained analyses by use of plant data, analyses of on-site investigations carried out with regard to seven items, which were defined as the problems to be solved in the National Diet Investigation Commission Report, and pointed out in the reports by the Accident Investigation and Verification Committee at TEPCO's Fukushima Daiichi NPS. For the individual items, the NRA's opinions were finalized.

In FY 2017, radiation dose distribution and dose reduction in the Fukushima Daiichi NPS buildings were presented at a conference of the Atomic Energy Society of Japan.

Section３ Implementation of Radiation Monitoring

（1）Implementation of radiation monitoring of land and sea areas in response to the TEPCO's Fukushima Daiichi NPS Accidents

The NRA engaged in the post-accident radiation monitoring of the TEPCO's Fukushima Daiichi NPS based on the "Comprehensive Radiation Monitoring Plan" (established at the Monitoring Coordination Meeting on August 2, 2011, finally revised on April 28, 2017) by carrying out the general environmental monitoring throughout Fukushima Prefecture and the monitoring of the waters around the TEPCO's Fukushima Daiichi NPS and of the Tokyo Bay, and released the analysis results of the monitoring each month.

Based on the review of environmental radiation monitoring carried out at the 55th NRA Commission Meeting of FY 2015 (February 10, 2016), detailed monitoring of the difficult-to-return zone was conducted and results were released at the 59th NRA Commission Meeting (January 17, 2018).

①Identifying long-term distribution of radioactive substances in Fukushima and its neighboring prefectures

The NRA implemented the airborne monitoring in Fukushima and neighboring prefectures. In February 2018, the NRA published the air dose rate map as of September 25, 2017 in the 80 km zone from TEPCO's Fukushima Daiichi NPS, as well as the map as of November 16, 2017, in Fukushima and its neighboring prefectures. The NRA also published the output report of the "project of the outsourcing fee for the measurement investigation of radioactive materials in FY 2016 (the aggregation of distribution data of radioactive materials along with the TEPCO's Fukushima Daiichi NPS accident)" in August 2017 and posted the measurement results, such as the distribution of air dose rate by vehicle-borne survey and the deposition amount of radioactive cesium in soil in this report.

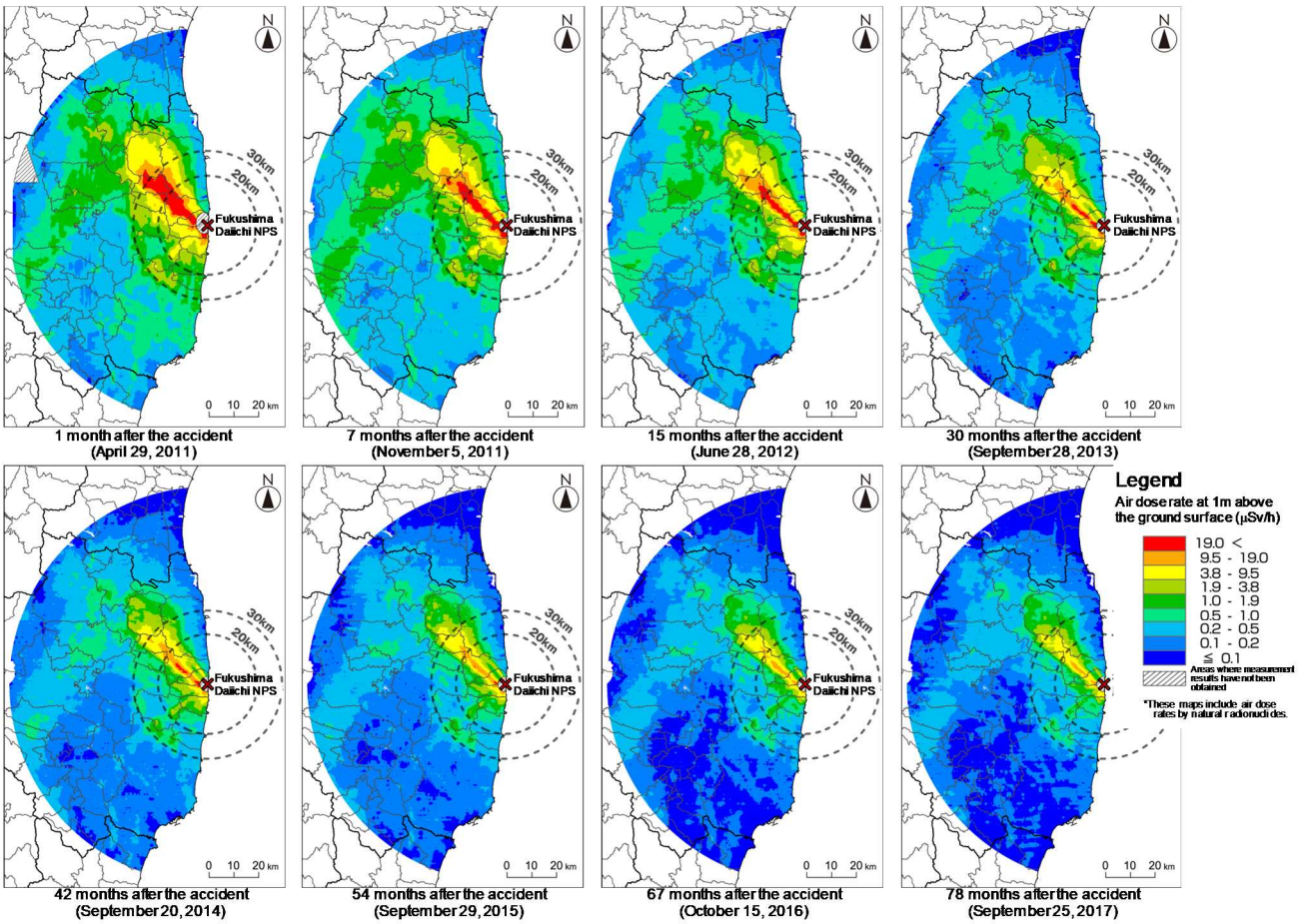


Figure 3-3. Changes in the air dose rate map within the 80 km zone

②Measuring the air dose rates in Fukushima and its neighboring prefectures by monitoring posts

At the request of local governments, the air dose rates are measured continuously with about 700 units of portable monitoring posts and about 3,000 units of real-time dose measuring systems installed at public locations, such as schools in Fukushima and its neighboring prefectures. The results are announced on the NRA website in real time. At the 74th NRA Commission Meeting of FY 2017 (March 20, 2018), the results of monitoring in Fukushima Prefecture were organized, and based on the opinions from Fukushima Prefecture and its municipalities, the placement of real-time dose measuring systems was decided to be reviewed as follows.

1. With respect to the real-time dose measuring systems located outside the municipalities, including Zones under Evacuation Orders or Zones where Evacuation Orders have been Lifted, those located at points where air dose rates are sufficiently low and stable will be removed from those with the lowest readings.
2. If there is a request from a municipality regarding any change in the order of removal, etc., it will be discussed separately.
3. The removed real-time dose measuring systems are effectively utilized by transferring the equipment to facilities in municipalities that include Zones under Evacuation Orders or Zones where Evacuation Orders have been Lifted with the needs of installing monitoring posts.

③Sea Area Monitoring

Continuing from FY 2016, relevant organizations cooperated to implement the monitoring based on the “Implementation Guides on Sea Area Monitoring,” which was a part of the Comprehensive Radiation Monitoring Plan. The NRA collected seawater and sediment from near, coast, offshore, and open ocean of the TEPCO’s Fukushima Daiichi NPS and from the Tokyo Bay, and analyzed the radioactivity in those samples.

In addition, experts from the IAEA environment laboratories visited Japan in October 2017, and in cooperation with the NRA Secretariat, collected seawater and sediment in the sea near the TEPCO’s Fukushima Daiichi NPS, in order to carry out inter-laboratory comparisons of the analysis results.

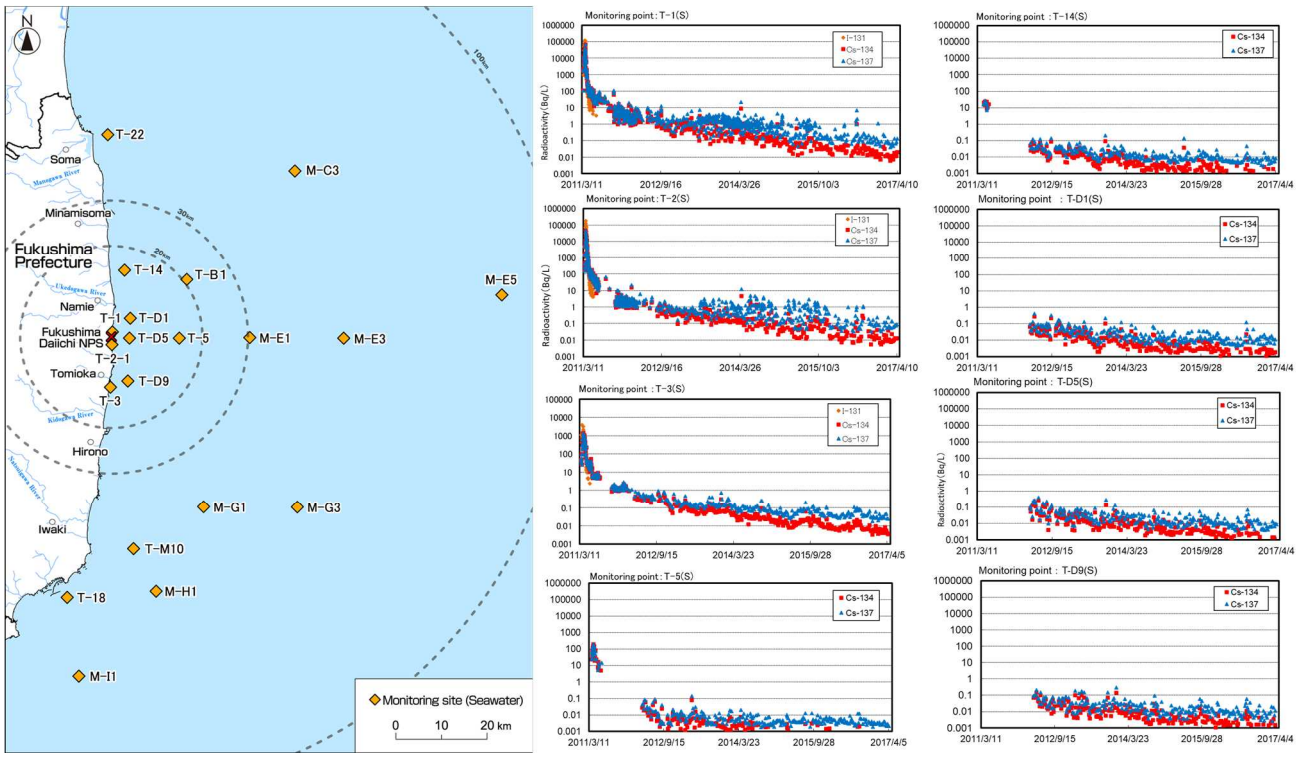


Figure 3-4. Changes in the radioactive concentration at monitoring survey sites

Chapter 4 Establishing Technical and Human Resource Foundations for Ensuring Nuclear Safety

○ Summary of Chapter 4

(Continuous improvement of regulatory requirements based on the latest scientific and technological knowledge)

Based on the knowledge gained through safety research and reviews, etc., ordinances pertaining to toxic gas protection, measures against high-energy arcing fault (HEAF), and countermeasures for pyroclastic fall, installation of an alternate circulating cooling systems of containment vessels was revised and regulatory requirements have been continuously improved.

Discussions on regulatory requirements for core internals waste have been continually carried out since FY 2014. With respect to the radiation protection standards after closure of the disposal facility, an outline of regulatory requirements and assessment guidelines are to be formulated in the future by employing the concept of ALARA (As Low As Reasonably Achievable).

(Accumulation of the latest scientific and technological knowledge through implementation of safety research)

The latest scientific and technical knowledge was accumulated through planning, implementation, and evaluation of safety research projects based on the "Basic Policy on Safety Research by the NRA," personnel exchange with the JAEA Nuclear Safety Research Center, participation in international joint research projects of OECD/NEA and IAEA, and collection and analysis of trouble information in Japan and overseas. Accumulated knowledge was published through academic journals, proceedings for international conferences, and academic conference presentations.

(Securing and establishing development mechanism for personnel resources for nuclear regulations)

Public recruitment of personnel, mainly targeting those expected to be in charge of reviews and inspection for safety regulations, nuclear emergency preparedness, safety research, and other duties, was carried out, and experienced persons were employed. In order to secure personnel who are expected to take an important role in future administrations for nuclear regulations, proactive new graduates' recruitment were conducted and employed utilizing the NRA original employment examinations.

The human resource development for officials of the NRA has strengthened and enhanced. Various training programs including practical training using plant simulators to improve the ability to respond to severe accidents, etc. have continued to be developed in the NRA Human Resource Development Center. These training programs were then implemented in a systematic way.

In addition, in order to appropriately cope with the new regulatory system due to the revised Reactor Regulation Act, the qualification system for obtaining a job position that requires highly specialized knowledge and experience in 5 fields; namely, nuclear inspection, nuclear safety review, safeguards inspection, emergency preparedness, and regulation for radiation, was introduced in July 2017. The new education and training system corresponding to this qualification system was also developed.

Section１ Persistent improvement of regulatory requirements based on the latest scientific and technological knowledge

１. Persistent improvement of regulatory requirements

(1) Reviewing regulatory requirements

After the accident at TEPCO's Fukushima Daiichi NPS, the NRA enforced the New Regulatory Requirements with regard to commercial power reactors in July 2013 and with regard to facilities for handling nuclear fuel materials in December 2013. These were based on the lessons learned from the accident, the latest technical knowledge, and overseas regulation trends, including regulatory requirements issued by international organizations such as the IAEA. These requirements (including interpretation and guidelines) are to be continuously studied based on the latest scientific and technological knowledge.

①Revising regulations pertaining to protection from toxic gas and formulating evaluation guidelines

Based on the results of the "Meeting on Evaluating the Habitability of a Nuclear Power Plant Control Room During a Postulated Hazardous Chemical Release," a framework on regulatory requirements concerning the protection of staffs of nuclear facilities from toxic gas was summarized at the 19th NRA Commission Meeting of FY 2016 (July 6, 2016). At the 37th NRA Commission Meeting of FY 2016 (October 19, 2016), discussions were held and public commenting procedures were carried out on the revision of ordinances pertaining to protection from toxic gas and formulation of relevant assessment guidelines, which were then promulgated and put into effect on May 1, 2017.

②Revising ordinances on standards and formulating assessment guidelines for high-energy arcing fault (HEAF) events

The Secretariat of the NRA, having engaged in research on high-energy arcing faults (hereinafter referred to as "HEAF"), learned that shortening the duration of continuous arcing can mitigate the impact of explosions attributed to arcing and can prevent fires.

In order to reduce risks from HEAF events, regulatory requirements were examined for revision, based on the use of acquired knowledge. At the 62nd NRA Commission Meeting of FY 2016 (February 22, 2017), discussions were held on revised ordinances on standards for HEAF and assessment guidelines concerning electrical panel designs. After public commenting procedures were carried out, they were promulgated and put into effect on August 8, 2017.

③Revising ordinances pertaining to evaluation of the concentration of pyroclastic fall and formulating guidelines

In order to incorporate the findings and the latest knowledge concerning pyroclastic fall

into regulatory activities, the NRA decided to set up the “Study Team on Evaluation for Pyroclastic Fall” at the 61st NRA Commission Meeting of FY 2016 (February 15, 2017) to start discussions.

The Study Team held three meetings, and a framework of regulations was presented at the 25th NRA Commission Meeting (July 19, 2017). The NRA requested for public comments on proposed revisions to ordinances based on this framework. Then, the revised ordinances were promulgated and put into force on December 14, 2017.

④Incorporating into ordinances knowledge of assessing Units 6 and 7 of Kashiwazaki Kariwa NPS

At the 41st NRA Commission Meeting (October 4, 2017), it was agreed that the following measures will be incorporated into regulatory requirements additionally as technical knowledge obtained through the conformity review on the permit to change the reactor installation of Units 6 and 7 of Kashiwazaki Kariwa NPS: measures to prevent overpressure damage while maintaining confinement function of containment vessels, measures to prevent adverse effects arising from water vapor generated from spent fuel storage tanks, and measures to ensure habitability of nuclear power plant control rooms. At the 44th NRA Commission Meeting (October 18, 2017), the proposed revisions to ordinances were discussed. After public commenting procedures were carried out, revised ordinances were promulgated and put into force on December 14, 2017.

⑤Investigation in connection with standards applicable to dry casks for storage and transportation

With respect to spent fuel storage in a nuclear power station, the NRA had decided to review standards for earthquake resistance to encourage the use of casks for storage and transportation which satisfy strict requirements. At the 61st NRA Commission Meeting of FY 2016 (February 15, 2017), it was decided that the “Study Team on Dry Casks for Storage and Transportation” would be established to commence investigations.

The Study Team held three meetings, and at the 43rd NRA Commission Meeting (October 11, 2017), a framework for regulations was presented.

Based on this, the Secretariat of the NRA has been discussing the revisions to ordinances.

⑥Study on formulation of guidelines on human and organizational factors

Based on the Suggestion on "Consideration of human and organizational factors" by the IRRS mission, the Secretariat of the NRA has decided to develop guidelines on assessing human and organizational factors in the design of reactor control rooms, etc., guidelines on safety culture, and guidelines on cause analysis. At the 15th NRA Commission Meeting

(June 14, 2017), the establishment of the "Study Team on Consideration of Human and Organizational Factors for the Regulation" was agreed upon, and subsequently the Study Team has studied the contents of guidelines on safety culture, cause analysis, etc.

⑦Examining the revision of the Guideline for Assessments of Impacts of Tornados to Nuclear Power Stations

The Japan Meteorological Agency upgraded the old Fujita Scale for estimating the wind speed of tornadoes and other turbulent winds based on the damage to structures and formulated Japan Enhanced Fujita (JEF) Scale. Assessments of tornadoes and other turbulent winds based on this scale began in April 2016.

The Secretariat of the NRA is also considering future measures based on the discussions at the 21st and the 30th Technical Information Committee Meetings (October 19, 2016 and February 21, 2018, respectively).

(2) Utilization of codes and standards

The regulatory requirements based on the Reactor Regulation Act have established required performance levels. After conducting technical evaluations, the NRA is to apply the codes and standards of the Atomic Energy Society of Japan (AESJ), the Japan Society of Mechanical Engineers (JSME), the Japan Electric Association (JEA), and other organizations as concrete detailed specifications that fulfill the performance levels.

①Conducting technical evaluations of codes and standards

In order to conduct technical evaluations of the 2012 version of and 2013 and 2014 supplements to the Codes of Nuclear Facilities for Power Generation: Rules on Fitness-for-Service for Nuclear Power Plants developed by JSME and other standards related to the Rules on Fitness-for-Service for Nuclear Power Plants, a survey was conducted on how other countries are handling the issues that had been extracted by the "Study Team on Technical Evaluation of Fitness-for-Service," and discussions were held on the ways to deal with those issues as in FY 2016.

2. Development of regulations on disposal of radioactive waste in decommissioning

In order to develop regulatory requirements for disposal of radioactive wastes of core internals with relatively high radioactive concentration, which is generated by decommissioning and operation of nuclear facilities, discussions have been conducted in "The Study Team on the Regulation of Radioactive Waste in Decommissioning" since FY 2014 (10 meetings were held in FY 2017).

In the "Regulatory policy on intermediate depth disposal" compiled in August 2016, a study on standards for radiation protection after the closure of the disposal facility, which is specific to radioactive waste disposal, was proposed and was carried out in FY 2017. As

a result of the study, the concept of ALARA based designing process was set to be incorporated into the standards for radiation protection after closure of the disposal facility, and regulatory requirements and related assessment guidelines are to be formulated based on this concept in the future.

Section２ Accumulation of the latest scientific and technological knowledge by implementation of safety research

１． Promotion of safety research

（1） Proactive implementation of safety research

The NRA has been implementing safety research projects based on the “Basic Policy on Safety Research by the NRA” (the NRA Meeting decision on July 6, 2016) and the “Fields of and Policy on the Implementation of Safety Research to be Promoted (for safety research to be conducted for and after FY 2017)” (the NRA Meeting decision on July 13, 2016). In addition, the outcome of safety research has been released through the “NRA Technical Reports,” which finalize the technical knowledge and the experimental data to be used for judgment of regulatory requirements, various guidelines, and examinations and inspections.

In FY 2017, 30 safety research projects in 13 research fields were conducted. As a result of these safety research projects, 12 papers have been posted in journals, 2 proceedings for international conferences have been published, and 32 academic conference presentations have been made as of the end of March 2018.

（2） Formulation of safety research policy

The NRA reviewed safety research for and after FY 2018 based on the “Basic Policy on Safety Research by the NRA” and formulated the “Fields of and Policy on the Implementation of Safety Research to be Promoted (for safety research to be conducted for and after FY 2018)” at the 21st NRA Commission Meeting (July 5, 2017).

（3） Evaluation of safety research and steady implementation of improvements

The NRA approved the results of the ex-post evaluation of 20 safety research projects in FY 2016 and the results of the intermediate evaluation of 2 safety research projects, whose research period is at least 5 years and for which a certain period has passed since the previous intermediate evaluation, at the 63rd NRA Commission Meeting (January 31, 2018).

The Secretariat of the NRA reported on the results of the annual evaluation of safety research projects at the 68th NRA Commission Meeting (February 28, 2018).

（4） Participation in international joint research project activities

The Secretariat of the NRA has participated in international joint research projects in

collaboration with the Japan Atomic Energy Agency (JAEA) Nuclear Safety Research Center, and has been carrying out mutual personnel exchange with JAEA Nuclear Safety Research Center in order to develop personnel with high levels of expertise.

In FY 2017, the Secretariat of the NRA participated in 21 international joint research projects of OECD/NEA and IAEA, and 10 working groups and senior expert meetings which fall under the umbrella of OECD/NEA CSNI to collect technical knowledge, including the latest trends in each research field.

In addition, as a personnel exchange, the Secretariat of the NRA has dispatched 13 personnel to the JAEA Nuclear Safety Research Center, from which it has accepted 3 personnel. At the same time, 2 joint research projects were launched in collaboration with the JAEA Nuclear Safety Research Center in FY 2017 in accordance with the Joint Research Implementation Rules established in April 2017, to promote exchanges of personnel through joint research.

2. Collecting and analysis of domestic and international trouble information

In order to incorporate necessary findings into the regulatory requirements, the NRA continues to collect the latest knowledge and screens the information on accidents and problems occurring in Japan and overseas.

(1) Collecting and analysis of domestic and international trouble information

Information was collected from the international organizations and other countries through the cooperation channel with them, as well as from public information. Primary screening (131 cases) and secondary screening (4 cases) have been conducted.

(2) Incorporating collected and analyzed information into regulatory system

The NRA and the Secretariat of the NRA held 5 times of the Technical Information Committee Meetings (April 10, June 6, October 25, December 18, and February 21) which discussed whether the information extracted from the secondary screening should be incorporated into the regulatory requirements. It was confirmed that none of the latest knowledge collected during FY 2017 should be taken into the requirements. In addition, the case of possible functional failure of residual heat removing (RHR) pumps due to steam void, for which regulatory measures were determined to be necessary before FY 2017, was discussed at the meetings. As a result, the division in charge should consider the details of regulatory actions. At the exchange meeting with CNO on March 28, discussions were conducted on establishing a place to discuss the specific technical matters under the experts between regulatory authorities and licensees.

With respect to the results of screening, matters to be incorporated into regulatory requirements are reported directly to the NRA. The other matters are reported to the NRA

(October 18) after receiving advice from the RSEC and the NFSEC (June 20, January 29, and March 30), which consist of outside experts. If the NRA decides to incorporate those reported matters into the regulatory requirements, the NRA Secretariat will draft the additional regulatory requirements.

Section３ Securing and establishing development mechanism for personnel resources for nuclear regulations

１． Securing personnel resources

(1) Securing personnel resources with experience

The NRA made public offerings for experienced persons (who have worked in other sectors including the private), mainly targeting personnel expected to be in charge of reviews/inspections for safety regulations, nuclear emergency preparedness disaster management, safety research, and other duties. As a result, the NRA employed 34 persons by April 1, 2018.

(2) Securing new graduates

In order to attract large numbers of promising qualified personnel, the NRA actively carried out a campaign for recruitment such as presentations on the activities/missions of the NRA Secretariat emphasizing the importance of regulations for nuclear safety.

For recruitment of new graduates, the NRA made good use of the “Nuclear Engineering Workers’ Employment Examination” (corresponding to the examination for non-career positions), which is the NRA original examination to proactively employ graduates majoring in nuclear engineering, and carried out open recruitment for research staff in charge of technical research. Through such efforts, the NRA ensured 25 young personnel for FY 2018 (4 for career positions, 15 for non-career positions, 3 through the Nuclear Engineering Examination, 3 for researchers’ examination) who are expected to take important roles in future administrations for nuclear regulations.

Consequently, there were 984 employees as of April 1, 2018 and the ratio of employees to the prescribed number of personnel at the NRA Secretariat attained 95.8%.

Table 5. Situation of securing personnel resources from FY 2013 to FY 2017

(Unit: persons)

	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Total
Experienced personnel	32	57	52	44	34	219
New graduates	33	22	19	19	25	118
Total	65	79	71	63	59	337

(3) Efforts concerning the program of NRA human resource development

In order to broadly secure personnel and develop human resources engaged in nuclear safety and regulations aiming at steadily improving nuclear regulations, the NRA launched The subsidy program for Human Resource Development for Nuclear Regulations. This program has been carried out in collaboration with universities and other institutions since FY 2016. A total of 18 projects, with the 5 newly adopted projects and the 13 continuing projects adopted in FY 2016, some of which would be conducted by universities, have been adopted in FY 2017.

2. Development of training system

(1) Developing qualifications, and education and training systems coping with the new inspection system

The NRA has started discussions on the establishment of a framework for developing and qualifying inspectors since last fiscal year to adequately address the issues identified through the IRRS, such as enhancing inspector training, and with the Basic Policy of Development of NRA Officials (commission decision on June 25, 2014). In July, 2017, the "Instructions pertaining to appointment to positions that require advanced knowledge and experience" (hereinafter in this section referred to as "Instructions on Appointment Qualifications) were established as the NRA Chairman's instructions concerning the qualifications that must be possessed by a person appointed to a position requiring advanced professional knowledge and experience. The qualification system to maintain and improve scientific and technical expertise of persons in those positions was introduced. The qualifications was granted one by one. (Figure 4-1) With respect to education and training courses on basic qualifications based on the Instructions on Appointment Qualifications, the curriculum has been developed with an aim to start in FY 2018.

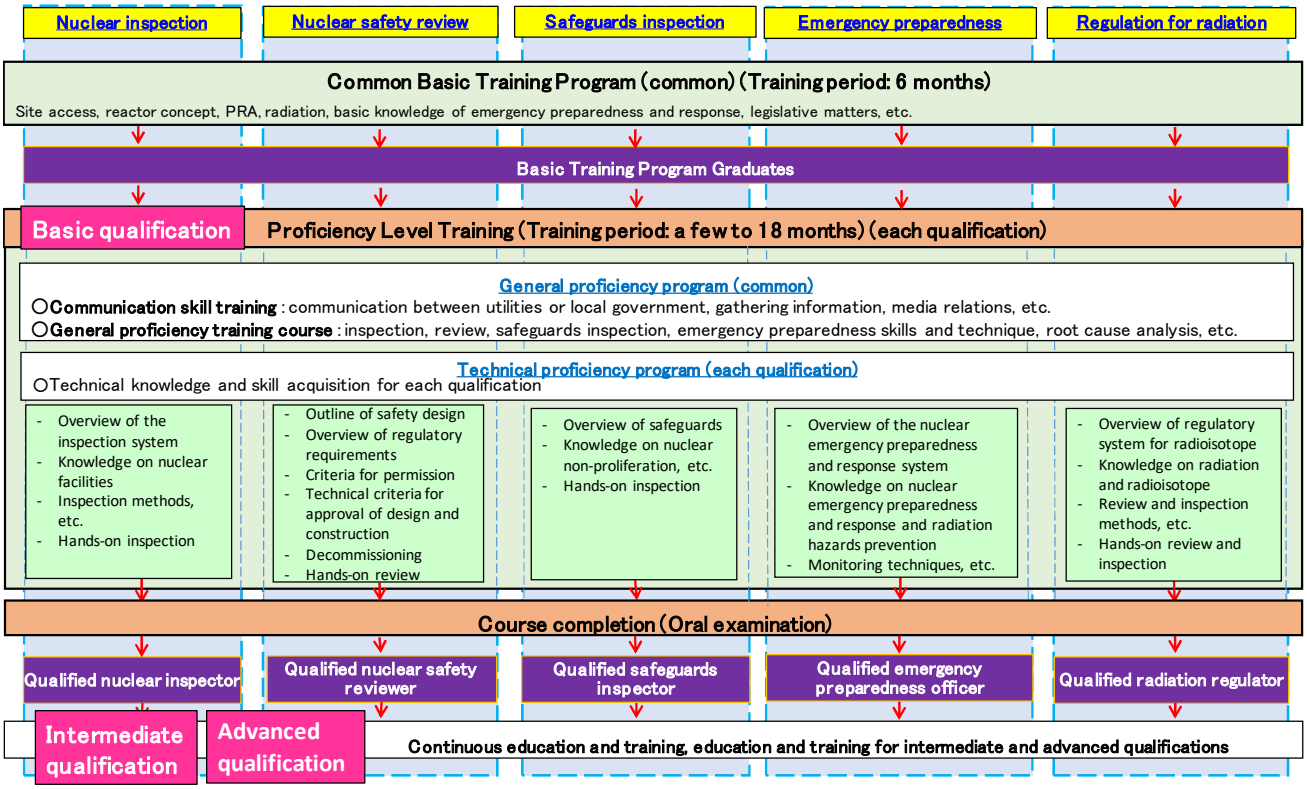


Figure 4-1. Image of education and training courses

3. Competence management

(1) Operating the competence management system and enhancing training contents

A trial run of the competence management system for inspectors based on the use of career maps for competence management had been undertaken since FY 2016. From FY 2017, the target personnel were expanded and a trial run of the competence management system for all personnel started. The results of this trial will be utilized for making future training plans.

In light of having introduced the qualification system for inspectors and based on the findings of the trial run of the competence management system for inspectors, discussions have begun on the treatment of inspectors' qualifications in the competence management system and on improving the existing standard carrier maps. Based on the results of these discussions, the improvement of the operation of the competence management system will be studied so that it will be consistent with the qualification system.

4. Knowledge management

(1) Promoting knowledge transfer and knowledge management

With regard to knowledge management in which advanced knowledge is systematically handed down from experienced personnel to younger personnel, the "Knowledge Management Guidelines" (decision by Director of the NRA Human Resource Development Center on April 27, 2017), which stipulates concrete knowledge management methods, were established for identification, collection, and sorting of the knowledge to be transferred, taking into consideration the examples of the IAEA and NRC. In addition, E-learning related to knowledge management was provided to personnel to further promote knowledge transfer and knowledge management in the NRA.

Continuing from FY 2016, seminars and workshops for personnel were also held 19 times with the aim of sharing past administrative experience and advanced technical knowledge with young personnel.

Chapter 5 Enhancement of Nuclear Security and Steady Implementation of Safeguards

○ **Summary of Chapter 5**

(Reinforcing Nuclear Security Measures)

With regard to the recommendations and suggestions provided through the IAEA's International Physical Protection Advisory Service (IPPAS) Mission, the NRA, in consultation with the relevant ministries and agencies, is making efforts for continuous improvements including revision of relevant ordinances. In addition, Japan made a request for an IPPAS Follow-up Mission to the IAEA, and the IAEA in turn replied that it would be ready to carry out the mission around the fall of 2018.

The system to determine the trustworthiness of persons started its operation on November 1, 2017, following the NRA's approval of the change of the security plan on October 31, 2017 submitted by licensees of commercial power reactors and of reprocessing operations who were subject to this system.

Physical protection inspections, the state of efforts for introducing the trustworthiness check system and physical protection measures, including the ones forcyber security were examined.

(Safeguard efforts)

The report on 2016 safeguard activities in Japan, which was produced by the IAEA, concluded that all nuclear materials in Japan remained in peaceful activities.

As for Units 1 to 3 at Fukushima Daiichi NPS, to which entry is difficult and where normal inspections cannot be carried out, necessary measures were undertaken through continuous discussions with the IAEA, such as installation of new monitoring equipment near the Unit 3 spent fuel pool in which removal of spent fuel was scheduled.

Following the IAEA's efforts to maintain efficient and effective safeguards with its limited resources, necessary investigations and discussions were conducted with the IAEA regarding facility-specific safeguards methods applied to each nuclear facility in Japan. In addition, through participation in various international conferences on safeguards, education of human resources in charge of safeguards, and support for technical development of safeguards, the NRA promoted the understanding of the international community on Japan's safeguard efforts and contributed to enforcement and streamlining of international safeguards.

In order to ensure that registered bodies for processing information and for inspecting safeguards which play a part in the safeguards system in Japan carry out their operation appropriately, necessary guidance and supervision were conducted.

Section 1 Reinforcing Nuclear Security Measures

1. Response to Challenges regarding Nuclear Security

(1) Responding to the recommendations and suggestions provided through the IAEA's IPPAS mission

Following the recommendations and suggestions provided through the IAEA's International Physical Protection Advisory Service (IPPAS) Mission conducted in FY 2014, the NRA, in consultation with the relevant ministers and agencies, is making efforts for continuous improvements, including revision of relevant ordinances.

In response to the decision at the 53rd NRA Commission Meeting of FY 2016 (January 11, 2017), Japan made a request for the IPPAS Follow-up Mission to the IAEA, and the IAEA in turn replied that it would be ready to carry out the mission around the fall of 2018.

Currently, preparations are underway in coordination with the IAEA and relevant ministries and agencies for hosting the Follow-up Mission.

(2) Sustainable effort to foster nuclear security culture of NRA officials

Based on the "NRA's Core Values and Principles", the "Code of Conduct on Nuclear Security Culture" was defined in the 50th NRA Commission Meeting of the FY 2014 (January 14, 2015) as a guideline aimed to foster and maintain nuclear security culture in the NRA as a regulatory body to nuclear security. The NRA has continuously made effort for fostering nuclear security culture in the NRA since FY 2016 through seminars and workshops for NRA officials.

(3) Review of the security plan in line with the introduction of insider threat countermeasures

The trustworthiness check system is one of the countermeasures against insider threats at nuclear facilities. The trustworthiness check system is to review individuals' personal history and other information, and based on the results of the review, to restrict the access to critical zones to those whose trustworthiness is determined.

In the IAEA's Nuclear

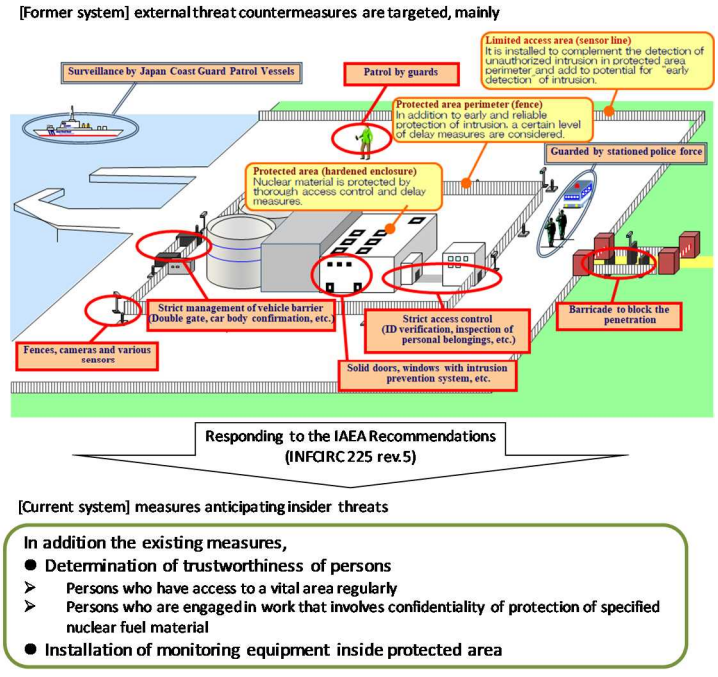


Figure 5-1. Overview of strengthening countermeasures against internal threats

Security Recommendations on the Physical Protection of Nuclear Material and Nuclear Facilities (INFCIRC/225; hereinafter referred to as "Nuclear Material Physical Protection Recommendations"), determining trustworthiness of persons is recommended. The fifth revision of the Nuclear Material Physical Protection Recommendations (INFCIRC/225/Rev.5) recommends national governments to decide the targets and the methods of trustworthiness checks.

Based on the Nuclear Material Physical Protection Recommendations, the NRA introduced the trustworthiness check system to certain types of nuclear facilities by revising the ordinances and issuing the notification and operational guidelines in September 2016. As the NRA approved the change of the security plan on October 31, 2017, submitted by licensees of power reactors and of reprocessing operations who were subject to the system, the system started its operation from the next day.

Regarding the installation of surveillance devices in the protected areas, which were introduced in line with the trustworthiness check system, procedures to review the changes of the security plan filed by the targeted licensees by September 20, 2017, were carried forward.

(4) Review of nuclear security during transportation

The "Ordinance on the Shipment of Nuclear Fuel Material Outside of Factory or the Power Reactor Facilities" defines the requirement for measures to lock under seal shipping containers in which specifie nuclear fuel material is stored. The "Ordinance on Arrangement of Shipment of the Specified Nuclear Fuel Material" stipulates that a person responsible for the transport of such nuclear fuel material shall be clarified before transport begins. It also requires that an agreement shall be reached among concerned parties before being confirmed by the NRA. The NRA confirmed the required arrangements had been made in accordance with the relevant ordinances. The NRA also dispatched its personnel to Sandia National Laboratories in the U.S. for the conference on the Japan-U.S. Nuclear Security Working Group (NSWG) established after the Nuclear Security Summit and exchanged views with the U.S. and relevant ministries and agencies on nuclear security measures during transport.

(5) Activities of the Cyber Security Support Team

In order to provide support for further reinforcing computer security measures in the NRA and licensees, the Cyber Security Support Team was established in February 2017. In FY 2017, the Team provided licensees with support such as giving technical advice and information at the review of the security plan and physical protection inspections to contribute to further strengthening computer security measures. In addition, the Team

gathered and analyzed the latest information on cyber security threats on a daily basis to support computer security efforts in the NRA.

2. Implementation of Physical Protection Inspections of Nuclear Material

(1) Strict implementation of physical protection Inspections of Nuclear Material

The NRA approved of the security plan with which licensees and their employees must comply for the protection of specified nuclear fuel material and conducted inspections (hereinafter referred to as "physical protection inspections") to evaluate the compliance status of the licensees with the security plan.

In FY 2017, 74 changes to the security plan were approved. In the physical protection inspections, the state of efforts before the launch of the trustworthiness check system and computer security measures and other protective measures were strictly and appropriately evaluated.

In addition, based on the importance of information system security at nuclear facilities, the "Guidelines for Nuclear Facility Information System Security Measures" were developed in March 2018, which serve as a useful reference when licensees seek to improve information system security measures continuously.

(2) Efforts to enhance training on physical protection of nuclear material

In FY 2017, in addition to ensuring the system effectiveness concerning detection and delay of, and response to intruders in the events related to the physical protection of nuclear material, physical protection exercised were further upgraded by grasping the impact on the safety of nuclear facilities and incorporating the collaboration between the NRA and licensees into the exercises.

Based on the results of the physical protection exercises, NRA's Nuclear Emergency Initial Response Manual was revised to incorporate physical protection incidents in the situations under the classifications of "Information Gathering" and "Alert", and at the 45th NRA Commission Meeting (October 23, 2017), the revised procedure was approved as an initial response in the event of physical protection incidents.

Section 2 Safeguards efforts

(1) Steady implementation of safeguards efforts in Japan

In Japan, limiting the use of nuclear power to peaceful purposes is a fundamental policy that is manifested in the Atomic Energy Basic Act. Japan has accordingly signed on to the Treaty on the Non-Proliferation of Nuclear Weapons and concluded a safeguards agreement (Japan-IAEA Safeguards Agreement)[28] with the IAEA based on this treaty.

[28] An agreement concluded by and between the Japanese government and the IAEA on the implementation of the provisions of Article 3(1) and (4) of the Treaty on the Non-Proliferation of Nuclear Weapons.

Bilateral nuclear agreements to promote cooperation concerning the peaceful use of nuclear power have also been concluded. By complying with these international commitments in good faith, Japan is demonstrating to the international community that it is limiting its use of nuclear power to peaceful purposes.

The NRA will implement the prescribed regulatory controls in Japan and coordinate on operations with the IAEA and other organizations in Japan and overseas in order that Japan can fulfill its obligations under these international commitments and maintain the trust to Japan by the international community as pertains to the peaceful use of nuclear power.

①Fulfilling the Japan-IAEA Safeguards Agreement

i. Permission for the use of safeguarded materials and approval of provisions for accounting and control

As a general rule under the Japan-IAEA Safeguards Agreement, all nuclear materials in Japan are subject to this agreement. Thus, even if nuclear fuel materials not subject to safety controls are used, they will be subject to permission (approval) to use as safeguarded materials. In FY 2017, there were 42 cases in which permission (approval) to use a safeguarded material was granted and 300 cases in which a notification of change was submitted. In order to ensure proper accounting for and controlling of safeguarded materials in Japan, users of these materials and nuclear power licensees are obligated to prescribe their provisions of accounting and safeguarded materials. In FY 2017, authorization (approvals) was granted to the provisions in 45 cases and changes were authorized (approved) in 87 cases.

In light of optimizing the regulations concerning users of safeguarded materials, the Reactor Regulation Act and the ordinances pertaining to the use of safeguarded materials (Ordinance of the Prime Minister's Office No. 50 of 1961) were partially revised and enforced on July 10, 2017. This revision was made to ensure the transfer and acceptance of a small amount of nuclear fuel material between or from users of safeguarded materials, or import and export of a small amount of these materials by such users, in cases where there is succession of a position through mergers or divisions of corporations that are the users of these materials, or by inheritance.

ii. Accounting reports, providing design information of facilities, and other reporting, and applications based on the Additional Protocol

Accounting for nuclear materials is an important basic step in Safeguards. The users of safeguarded materials and licensees are obligated to report inventory and inventory changes of nuclear materials to the NRA in accordance with the Reactor Regulation Act. The NRA shall compile submitted data into an accounting report after having the data processed by the Nuclear Material Control Center, which has been designated as a

registered information processing body under the Reactor Regulation Act, and submit this report to the IAEA on a timely basis through the Foreign Ministry. In FY 2017, 2,088 parties were subject to this accounting report. The number of each accounting report is shown in the Table 6.

In addition, the NRA provided design information relating to facilities subject to the Safeguards Agreement and other information required to implement safeguards, and submitted a declaration based on the Additional Protocol[29] to the IAEA through the Foreign Ministry.

Table 6. Number of accounting reports for FY 2017

(From April 1, 2017 to March 31, 2018)

Type	No. of cases
Inventory change reports	781
Material balance reports	390
Physical Inventory Listings	3988
Nuclear fuel material management reports	3493

iii. Verification activities

The IAEA conducts on-site verification activities, including inspections of facilities, based on information submitted by Japan. These on-site verification activities are carried out in the presence of officials of an organization, which is designated by the national government or the NRA, after going through communications and adjustments by the NRA. For the most part, these inspections are conducted by Nuclear Material Control Center, which has been designated as a designated organization for safeguards inspections under the Reactor Regulation Act, in conjunction with inspections of safeguards implemented according to instructions issued by the NRA. Design information of facilities is verified together with on-site inspections conducted by the NRA itself. On-site complementary access under the Additional Protocol is carried out by the NRA and the Foreign Ministry. Table 7 shows a record of on-site verification activities in FY 2017.

Table 7. Record of on-site verification activities carried out in FY 2017

(From April 1, 2017 to March 31, 2018)

Type	Nuclear Regulation Authority	Nuclear Material Control Center	Ministry of Foreign Affairs

[29]An additional protocol to an agreement concluded by and between the Japanese government and the IAEA regarding the implementation of provisions as provided for in Article 3(1) and (4) of the Treaty on the Non-Proliferation of Nuclear Weapons.

Safeguards inspections	14 person-days	1697 person-days	
Design Information Verification	85 person-days		
Complementary access	28 person-days		22 person-days

iv. Coordination for facilitating implementation of safeguards

The NRA has been holding meetings with the IAEA with the attendance of relevant domestic organizations for the purpose of sharing information on the state of facilities, investigating issues that arise when safeguards are implemented and making adjustments, in order to facilitate the implementation of safeguards. In FY 2017, 11 task force meetings in total, focusing on specified facility groups, were held to carry out necessary investigations and adjustments. A general conference of task forces was then held on December 5, 2017, to summarize the activities. In accordance with the results of this process, reports and discussions were made at a conference of a Japan-IAEA safeguards joint committee held by the Foreign Ministry and the IAEA on March 15, 2018, which was attended by the Deputy Secretary-General in Charge of the IAEA Department of Safeguards.

v. Treatment of safeguards equipment in terms of safety regulations

In order to prevent occurrence of safety problems due to safeguards equipment installed in nuclear power facilities in line with the implementation of the Japan-IAEA Safeguards Agreement, adjustments were made concerning the management responsibility and the treatment of said equipment to facilitate a close collaboration among the IAEA, licensees, and relevant departments.

vi. IAEA's Safeguards Conclusions

The IAEA draws a conclusion on safeguards based on the evaluation of all information obtained through safeguards activities carried out every year by States to the Safeguards Agreement and reports this conclusion at a meeting of the IAEA's Board of Governors in June of the following year. For Japan, the IAEA found no indication of the diversion of declared nuclear material from peaceful nuclear activities and no indication of undeclared nuclear material or activities. On this basis, the IAEA concluded that all nuclear material remained in peaceful activities (Broader Conclusion). Accordingly, this Broader Conclusion has been adopted continuously since the results of the implementation of

safeguards in 2003 were obtained[30].

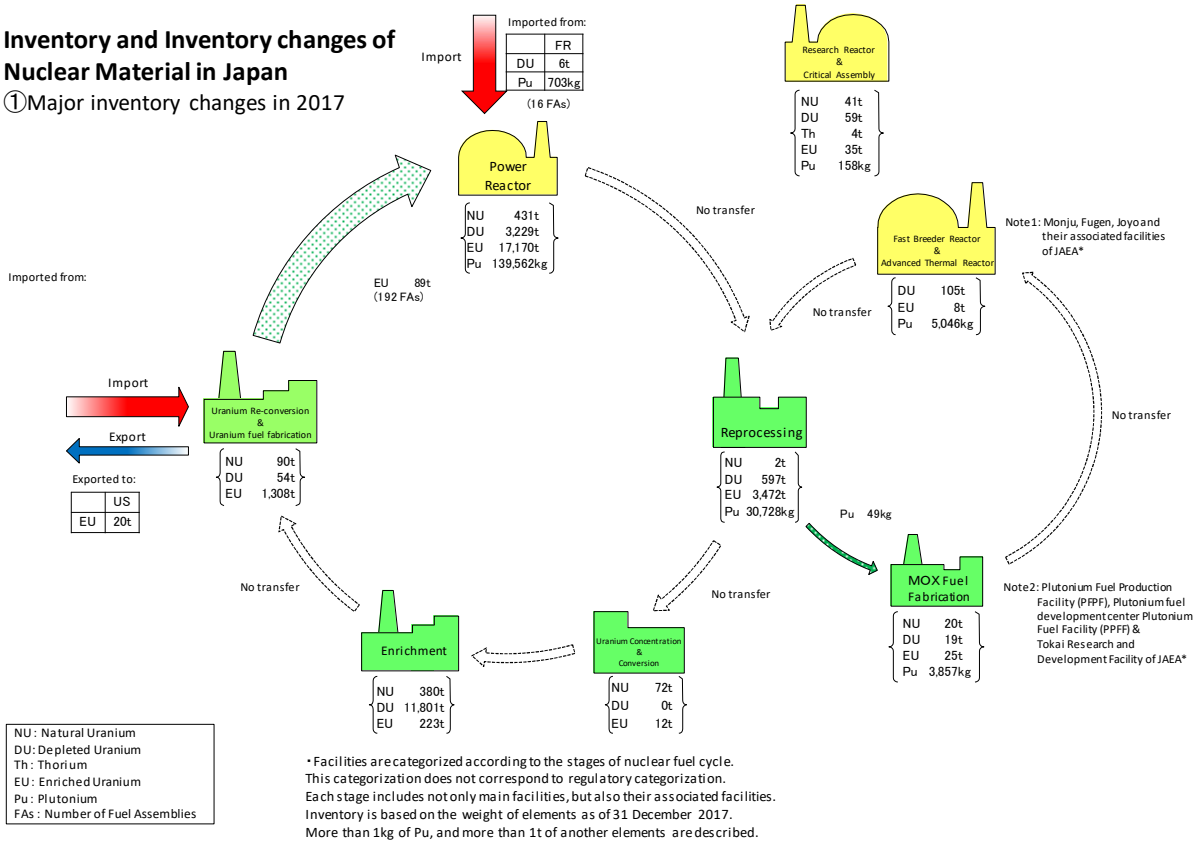


Figure 5-2. Inventory and Inventory changes ofNuclear Material in Japan

②Fulfilling bilateral nuclear agreements

i. Procedures relating to safeguarded materials in accordance with bilateral nuclear agreements

With the coming into effect of the Japan-India Nuclear Agreement on July 20, 2017, Japan has partially revised related ordinances and notifications in order to manage materials subject to said Agreement as safeguarded materials. Japan has concluded bilateral nuclear agreements including said Agreement with 14 countries and one international organization and has undertaken commitments to use nuclear source material, nuclear fuel material, and moderator material which have been transferred under these agreements, and nuclear fuel material produced as a result of using these transferred materials for only mutually peaceful purposes and to carry out procedures applicable to items subject to these agreements. In accordance with these agreements, the NRA processed 29 cases of verification pertaining to the management of the nationality of nuclear materials transferred from a party and 12 cases to a party of these agreements. In addition, with the

[30] https://www.nsr.go.jp/data/ 000195268.pdf
https://www.iaea.org/sites/default/files/statement_sir_2016.pdf

support of the Nuclear Material Control Center, the NRA reported 13 cases of inventory listing in FY 2017.

(2) Safeguards at Fukushima Daiichi NPS (TEPCO)

Normal on-site verification activities have been carried out for all nuclear materials in reactors other than Units 1 to 3 at Fukushima Daiichi NPS. Normal inspections cannot be carried out for Units 1 to 3 reactors, due to the difficulty of entering these reactors. Therefore, through consultations with the IAEA and relevant domestic organizations, the NRA has introduced a full-time monitoring system based on the use of surveillance cameras and radiation monitors and special additional verification activities which are to be applied only within this NPS site. Thus, the NRA established a framework to allow the IAEA to verify that no undeclared nuclear material has been moved within Units 1 to 3. In FY 2017, a study was conducted on installing a camera near the Unit 3 spent fuel pool to continuously monitor its fuels removal. The camera installation was completed in January 2018.

At the Fukushima Task Force meeting, it was agreed to carry out the technical examination of safeguards measures applicable to molten fuel in the reactor cores of Units 1 to 3.

(3) Investigation on new safeguards inspection items

In order to maintain efficient and effective safeguards with limited resources while utilizing the experience of safeguards implementation and new techniques, the IAEA has decided to formulate a "State Level Safeguards Approach" for each country taking into account the state of nuclear activities and technical capacities of member states. Following the establishment of this approach for Japan, it was agreed to continuously study and discuss the facility-specific safeguards approach applicable to each nuclear facility in Japan at the Working Groups of Joint Committee Meeting under the Japan-IAEA Safeguards Agreement.

(4) Information transmission and human resource development concerning safeguards activities in Japan

①Asia-Pacific Safeguards Network (APSN)

An annual conference of the Asia-Pacific Safeguards Network (APSN) was held from October 30 to November 2, 2017 in Pusan, South Korea, with participation of 13 member countries, 1 observer country, the IAEA, and the European Safeguards Research and Development Association (ESARDA). In order to promote the sharing of information between authorities for safeguards in each country in the Asia-Pacific region and the IAEA, the NRA described the experience of introducing safeguards, the Additional Protocol, and

integrated safeguards activities to TEPCO's Fukushima Daiichi NPS.

②Proactive transmission of information

In order to directly transmit information on safeguards activities in Japan to the international community, an English-language description of Japanese safeguards was posted to the NRA website at the end of March 2016. In FY 2017, the contents were updated, expanded, and supplemented with a link to the APSN website, in order to strengthen the transmission of information.

In safeguards training courses held by ESARDA in Ispra, Italy, in April 2017 and by the JAEA in Tokaimura, Ibaraki Prefecture, in December 2017, lecture on activities in Japan was delivered to officials in charge of safeguards from attending countries.

③Support for the implementation of safeguards by the IAEA and foreign countries

The technical development required for the implementation of safeguards by the IAEA has been conducted by the key IAEA member states. Japan has proactively contributed to the reinforcement of international safeguards. Specifically, Japan has helped reinforce the technical capacity of the IAEA and other member states to implement safeguards through a framework that includes Japan Support Programme for Agency Safeguards (JASPAS). The program covers a lot of ground, including participation in the IAEA Network Laboratories for Safeguards Analysis, which analyzes environmental samples obtained by IAEA inspectors, and providing training opportunities to IAEA inspectors and officials of member states. The NRA has made overall coordination to the support program and provided the necessary funds. 23 tasks are being carried out as of the end of March 2018.

④Support for safeguards education for officials of the Iranian Government

As part of Japan's cooperation to support efforts under the Joint Comprehensive Plan of Action on Iran's nuclear issue (JCPOA), which was adopted in October 2015, training programs on safeguards were organized for Iran by the Integrated Support Center for Nuclear Nonproliferation and Nuclear Security (ISCN) of JAEA, and sponsored by the IAEA. In the training, education and training support were provided to officials in the safeguards division of the Atomic Energy Organization of Iran, by providing Japan's views on information provision under the comprehensive safeguards agreement and the Additional Protocol, and on information provision to the IAEA.

(5) Guidance and supervision the designated organization for information processing and for implementing safeguards inspections and associated activities under the Reactor Regulation Act

As the designated organization for information processing and for implementing safeguards inspections and associated activities under the Reactor Regulation Act

(hereinafter referred to as the “designated organization”), Nuclear Material Control Center is required to carry out its operation in an appropriate manner. The NRA is to periodically conduct on-site inspections based on the Reactor Regulation Act, in order to ensure the proper performance of the work by the designated organization. In FY 2017, the state of implementing information security measures and of constructing and operating management system was confirmed based on the inspection plan prepared in advance.

Chapter 6 Enhancement and Reinforcement of Radiation Protection Measures and Crisis Control System

○ Summary of Chapter 6

(Enhancement of Radiation Protection Measures)

The law was revised in April 2017 in order to expand the scope of the jurisdictional responsibility of the Radiation Council, which is charged with uniformization of technical standards applicable to the prevention of radiation hazards, to include the investigation and deliberation of technical standards. In said Council, the "Summary of the basic concepts of radiation protection" was compiled and suggestions on the way to protect the lens of the eye from radiation were proposed to the relevant administrative agencies. In addition, discussions were held on the way to incorporate the 2007 Recommendation of ICRP into domestic systems.

The Nuclear Emergency Response Guidelines were enhanced by, for example, proactively incorporating the latest international knowledge. The EAL (emergency action levels) for commercial power reactors and nuclear fuel facilities were examined and the Nuclear Emergency Response Guidelines were revised on July 5, 2017.

As a research project, the "Radiation Safety Research Promotion Project" was launched in FY 2017, aiming at systematically and effectively promoting investigative research constituting the basis of regulatory controls of radioisotopes.

With respect to radiation monitoring, drill trainings concerning the emergency monitoring center were conducted and also the measurement system, such as effective emergency monitoring, were enhanced and reinforced. In FY 2017, the Regional Offices for Radiation Monitoring were integrated into the NRA Regional Offices, and Senior Specialists for Radiation Monitoring were deployed. In addition, the emergency monitoring systems at calling ports of nuclear powered warships have been enhanced by increasing the number of Senior Specialists for Environmental Radioactivity Surveys of Nuclear Powered Warships.

(Enhancement and Reinforcement of Crisis Control System)

In order to improve nuclear emergency preparedness and response based on the experience and lessons learned from TEPCO's Fukushima Daiichi NPS accident, it is important that a crisis control system in an emergency is developed in preparation for accidents as well as that the central government, local governments, and licensees endeavor to reinforce their emergency response capabilities in normal times.

The NRA set up the Emergency Preparedness and Response Office in the Secretary-General's Secretariat of the NRA Secretariat in line with reorganization in July 2017. Personnel who can respond to emergencies promptly and are engaged in efforts to strengthen organizational emergency response preparedness in normal times were placed. In order to reinforce emergency response capabilities of the NRA, the Emergency Preparedness and Response Office made efforts to prepare a manual to respond to nuclear emergency, implement and evaluate drills and exercises, extract and improve issues obtained through drills, and reinforce the communication network equipment and system. In addition, Emergency Drills by licensees and their evaluation were enhanced for improving emergency response capabilities of licensees. Through strengthening and maintaining a day-or-night-duty system, all possible initial response measures, such as information dissemination, in the event of an accident and trouble in nuclear facilities were made possible. Also, this system allows for consistent response in the process of investigating causes of accidents and trouble to preventing recurrence after initial response in collaboration with the Nuclear Regulation Department.

Section１ Enhancement of Radiation Protection Measures

１. Enhancing the functions of the Radiation Council

The Radiation Council, which is charged with incorporating uniform technical standards applicable to the prevention of radiation hazards into relevant statutes and regulations, has been established under the NRA.

Since a higher level of specialist knowledge than previously is required in formulating technical standards in recent times, the “Act on Technical Standards for the Prevention of Radiation Hazards” (Act No. 162 of 1958) was revised to expand the scope of the jurisdictional responsibility of the Radiation Council to include investigation and deliberation of technical standards relating to the prevention of radioactive hazards (promulgated and enforced on April 14, 2017).

In FY 2017, general meetings and sub-committee meetings were held 7 times each under the enhanced Radiation Council to discuss the following issues, and the Radiation Council compiled the “Summary of the basic concepts of radiation protection” and made suggestions on the way to protect the lens of the eye from radiation to relevant administrative agencies.

- Summary of the basic concepts of radiation protection
- Follow up on the radiation protection standards established in relation to the TEPCO's Fukushima Daiichi NPS accident
- Procedures to incorporate the 2007 Recommendation of ICRP into domestic systems
- Examination concerning radiation protection of the lens of the eye (conducted at the Subcommittee on Radiation Protection of the Lens of the Eye)

２. Continuous improvement of Nuclear Emergency Response Guidelines

Under The Act on Special Measures Concerning Nuclear Emergency Preparedness (Act No. 156 of 1999; hereinafter referred to as “Nuclear Emergency Act”), the NRA shall prescribe Nuclear Emergency Response Guidelines in order to ensure smooth implementation of measures to deal with nuclear disasters by licensees, the national government, and local governments. The NRA endeavors to strenghten the guidelines to have the latest international knowledge proactively incorporated and also have determination criteria used in the formulation of EPR plans maintained in an optimal state at all times. On March 22, 2017, the guidelines were revised, incorporating protective measures in an emergency of nuclear fuel facilities and others. Along with the revision of the guidelines, the enforcement order of the Nuclear Emergency Act pertaining to the requisite of relevant prefectural governors in the vicinity with whom discussions are required when formulating and revising a nuclear licensee EPR plan was revised (promulgated and enforced) on July 7, 2017. At the same time, a notification to designate target prefectures was established in accordance with the revised provisions.

In FY 2017, a revision of emergency action levels (EAL) for commercial power reactors and EAL settings for nuclear fuel facilities were examined at the “Meeting for the Review of the Emergency Action Level (EAL),” which were held three times. Based on the results of the meetings, the Nuclear Emergency Response Guidelines and relevant ordinances were revised on July 5, 2017. The revised guidelines and ordinances were promulgated on August 1 and enforced on October 30, 2017.

In order to develop medical treatment systems in a nuclear emergency -consisting of Advanced Radiation Emergency Medical Support Center, Nuclear Emergency Medical Support Center, Nuclear Emergency Core Hospital, Nuclear Emergency Medical Cooperative Institutions, and other such entities - efforts to collaborate closely with the Secretariat of the NRA and a total of five facilities are promoted: the National Institutes for Quantum and Radiological Science and Technology (National Institute of Radiological Sciences), which have been collectively designated an Advanced Radiation Emergency Medical Support Center by the NRA; and Hirosaki University, Fukushima Medical University, Hiroshima University, and Nagasaki University, each of which has been designated an Advanced Radiation Emergency Medical Support Center and Nuclear Emergency Medical Support Center by the NRA. These organizations have pursued the establishment of a nuclear emergency medical network for medical treatment systems in a nuclear emergency through collaboration among national and regional conferences on promoting medical treatment and have worked to develop and reinforce an environment for the provision of education and training. In November 2017, the NRA Committee members visited Hirosaki University, Fukushima Medical University, Hiroshima University, and Nagasaki University and exchanged opinions with concerned parties.

In addition, issues regarding "Facility Requirements to Medical Institutions for Nuclear Emergency" were extracted and the review was considered based on the secretariat meetings of each support center and the confirmation of the current state of five facilities.

3. Promotion of safety research on radiation protection

In FY 2017, the “Radiation Safety Research Promotion Project” was launched, aiming at systematically and effectively promoting investigative research constituting the basis of regulatory controls of radioisotopes.

This project is composed of the “Radiation Safety Research Program” and the “Radiation Protection Research Network Program.” With respect to the Radiation Safety Research Program in FY 2017, public recruitment was conducted in accordance with the 5 priority reseaech area including “Application of the new dose limit for the lens of the eye,” and 11 research projects including 8 projects on priority reseaech area were adopted. As regards the Radiation Protection Research Network Program, 2 projects were adopted, for which the National Institutes for Quantum and Radiological Science and Technology and

Osaka University serve as research representatives. A research promotion committee was set up as the project implementation system to select tasks and manage progress, and the project had been promoted.

The evaluation committee was held in February 2018. Adopted projects were evaluated by external experts.

In addition, 2 themes; namely, “Practical radiation management on scientific basis” and “Practical skills for protection of the public in nuclear and radiation emergencies,” were set as priority research area for FY 2018 in December 2017. Public recruitment started in January 2018, and the preparation for FY 2018 projects was promoted.

4. Enhancement of radiation monitoring

(1) Enhancement of emergency monitoring systems in areas where nuclear facilities are located

The Nuclear Emergency Response Guidelines stipulate that the level of emergency will be determined in accordance with the situation of the affected nuclear facility to implement preventive protective measures. In particular, emergency measures or measures at early-stage following the release of radioactive materials; for instance, evacuation or temporary relocation, will be decided and conducted appropriately based on the actual measurement values of the emergency monitoring. Based on these guidelines, the NRA made every effort to enhance and reinforce effective emergency monitoring and measurement system, such as having Senior Specialists for Radiation Monitoring stationed on Regional Offices to take control of the monitoring of the vicinity of nuclear facilities in an emergency.

In April 2017, the NRA set up the Regional Offices for Radiation Monitoring in Miyagi, Osaka, and Shimane. In July 2017, the NRA merged the Regional Offices for Radiation Monitoring and the NRA Regional Offices due to reorganization of the Secretariat of the NRA, and deployed Senior Specialists for Radiation Monitoring in place of Regional Officers for Radiation Monitoring.

Efforts have been made to improve the operations of the “Emergency radiation monitoring information sharing and announcement system,” which facilitates the integration, prompt sharing among concerned parties, and public disclosure of the results of emergency monitoring. This system was used in various training activities, including the FY 2017 Nuclear Energy Disaster Prevention Drill.

(2) Reinforcement of emergency monitoring system at ports of call of nuclear powered warships

Senior Specialists for the Environmental Radioactivity Surveys of Nuclear Powered Warships were placed in Sasebo City, Nagasaki in June 2017 and in Uruma City, Okinawa

in March 2018 to reinforce the emergency monitoring systems at ports of call of nuclear powered warships.

(3) Reinforcement of emergency response through training activities

"Monitoring task training" and "Drill training concerning emergency monitoring center" were conducted for local governments' staffs to improve effectiveness of emergency monitoring by local governments.

(4) Radiation monitoring of Nation-wide Environment

①Environmental radioactivity level research (conducted since FY 1957)

In the 47 prefectures throughout Japan, the NRA has collected environmental samples, such as atmospheric suspended dust, fallout, and soil for radioactivity analysis. The results of measurement by FY 2016 were put into a database to be published. Furthermore, radiation dose rate is continuously measured at 297 monitoring posts throughout Japan to open the measured data on the NRA website.

②Oceanic environmental radioactivity comprehensive evaluation survey [program] (conducted since FY 1983)

In order to investigate the impact of radiation on areas in the vicinity of nuclear power plants and nuclear fuel reprocessing facilities and the level of environmental radiation in Japan, the NRA has continued provision of financial support for the analysis of radioactivity in seawater of the surrounding sea (16 sea areas around Japan) and for radioactivity measurement conducted by prefectures where nuclear facilities are located or neighboring prefectures (24 prefectures). The measurement results for FY 2016 were put into a database to be opened on the NRA website.

③Radiation monitoring in the vicinity of nuclear power plants (subsidies issued since FY 1974)

Financial support by the NRA was provided for the development of facilities necessary for radiation monitoring and radioactivity measurement implemented by prefectures where nuclear facilities are located or neighboring prefectures (24 prefectures). In addition, the measured results reported by those local governments were put into database sequentially to be published.

④Monitoring of the impact of nuclear events overseas

In order to evaluate the impact of a nuclear test conducted by North Korea on September 3, 2017, the monitoring was reinforced with the cooperation of local governments and other relevant organizations in accordance with instructions issued by the Deputy Chief

Cabinet Secretary on the same date. The results were opened on the NRA website.

With regard to the impact of radioactive substances on Japan when nuclear power related events occur abroad, the NRA established a monitoring post in Tsushima and on Yonaguni Island so that the state of air radiation dose rate can be grasped more precisely. Its operation started in February 2018, and the measured values can be checked on the NRA website.

⑤Training for the monitoring personnel of local governments (implemented since FY 1990)

"Environmental radioactivity analysis training" was conducted for local governments' staffs to improve radioactivity analysis skills of local governments.

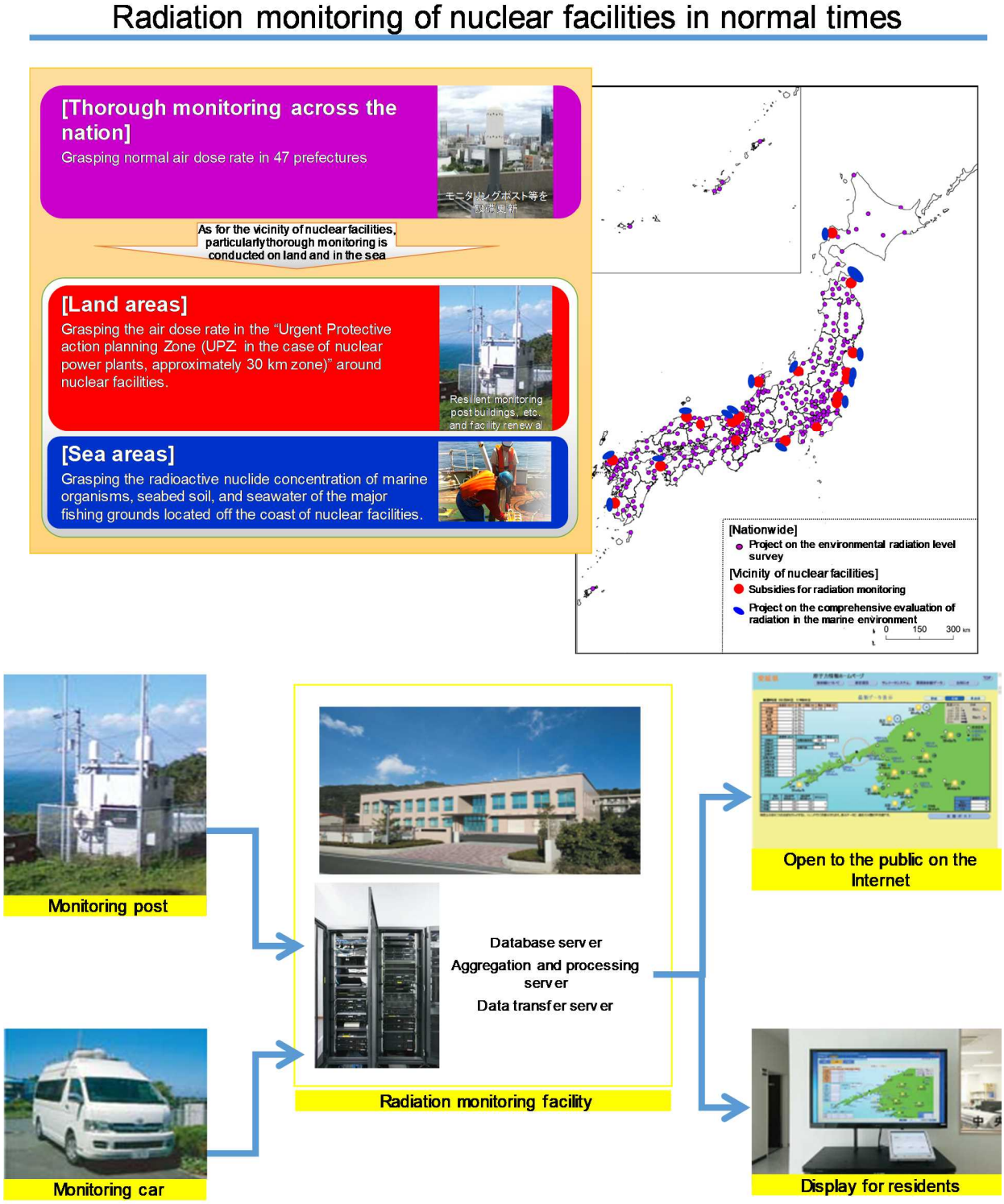


Figure 6-1. Radiation monitoring of nuclear facilities in normal times

(5) Radiation survey concerning ports of call of nuclear powered warships

The NRA periodically analyzes radiation in three ports, Yokosuka, Sasebo, and Kinnakagusuku Ports, where the United States nuclear powered warships make port calls. The NRA also measures air dose rate and collects seawater to analyze radiation in cooperation with related organizations such as the Japan Coast Guard, during entry, visit, and exit of nuclear powered warships. Results are published on the NRA website daily, and the results for FY 2016 were transferred to a database for publication.

(6) Investigation on technical matters relating to monitoring

The NRA held meetings of the "Technical Study Team on Environmental Radiation Monitoring," which is engaged in continual studies on technical matters relating to monitoring, in June, October, and December 2017 and March 2018 and discussed monitoring in normal times, radiation measurement method series, and quality assurance of monitoring.

With respect to monitoring in normal times, discussions were held on reviewing the "Environmental Radiation Monitoring Guidelines" which were compiled by the former Nuclear Safty Commission based on the experience of TEPCO's Fukushima Daiichi NPS accident and the latest knowledge.

The revision of the "Environmental γ-ray Measuring Method by Continuous Monitor," radiation measurement method series 17 was discussed and the Secretariat of the NRA revised the said measurement method on December 26, 2017 based on the discussions by the study team. In addition, discussions were made on the revised "Method on γ-ray Spectrum Analysis using a Germanium Semiconductor Detector in an Emergency," radiation measurement method series 29. The said measurement method was revised on March 27, 2018 based on the discussions by the study team.

Quality assurance of radiation monitoring (environmental dose, individual dose) was studied from the technical viewpoint in accordance with the IRRS. Overseas surveys were carried out and it was found that with regard to the environmental radiation measurement, the competence of analyzers should be verified by proficiency tests. Furthermore, the JAB (Japan Accreditation Board) has been examining an accreditation system for individual dosimeter measurement service.

5. Participation in International Meetings

Policies of protection against radiation and nuclear emergency preparedness have been discussed at the ICRP, the IAEA, and other international forums based on the results of the latest investigations and research. The outcomes of such discussions are being incorporated into statutes and regulations by countries.

In addition to collecting information on the latest knowledge concerning radiation protection at meetings organized by international organizations, the NRA has participated in the following meetings held by the IAEA and others in order to ensure that Japanese opinions are heard in discussions.

Table 8. Participation in Meetings held by the IAEA, etc.

Name of conference	Date	Major agendas
IAEA Radiation Safety Standards Committee (RASSC) meetings	June 12-14, 2017 (42nd)	· Outline of the 7th RASSC activities (2014-2017) Safety guide (application of the concepts of exclusion, exemption, and clearance)
	November 14-15, 2017 (43rd)	· Safety guide (Radiation safety of X-ray generators and radiation sources used for inspections and for non-medical human imaging) · 7th RASSC self-assessment report and issues of the next term
IAEA Emergency Preparedness and Response Standards Committee (EPReSC) meetings	June 6-8, 2017 (4th)	・ Current efforts concerning emergency preparedness and response in Japan (presentation)
	November 7-9, 2017 (5th)	· 1st EPReSC (2015-2017) self-assessment report and issues of the next term
4th International Symposium on the System of Radiological Protection of ICRP and 2nd European Radiological Protection Research Week (ERPW)	October 10-12, 2017	・ State of progress of issues concerning radiological protection in various expert committees of ICRP · Recent outcomes of research projects in Europe

Section 2 Enhancement and Reinforcement of Crisis Control System

1. Reinforcement of emergency response

In order to reinforce the emergency response capabilities, the NRA set up the Emergency Preparedness and Response Office in the Secretariat of Secretary-General's Secretariat of the NRA Secretariat and was engaged in the following activities.

(1) Development of response manual to nuclear emergency

The NRA made efforts to establish and reinforce the infrastructure for smooth and accurate countermeasures in emergency. The NRA, thus, revised the "NRA EPR plan" and the "NRA initial response manual," and cooperated in the amendment of the "Nuclear Emergency Response Manual" in accordance with the revised Nuclear Emergency Response Guidelines, etc. In FY 2017, following an operational change by the Japan Meteorological Agency regarding Nankai Trough earthquake information, the NRA discussed its measures to be taken, and the results of discussions were incorporated in various initial response manuals.

On September 3 and 4, 2017, the NRA participated in the Nuclear Energy Disaster Prevention Drill for FY 2017 which was carried out jointly by the national government, local governments, and licensees at Genkai NPS in accordance with the Nuclear Emergency Preparedness Act. The effectiveness of disaster-prevention systems and evacuation plans to be implemented in the relevant organizations in a complex disaster situation were verified.

(2) Preparation of manuals to respond to crisis other than nuclear disasters

The NRA has prepared manuals relating to crisis management in order to respond to a variety of events including not only nuclear disasters but also large-scale natural disasters. In addition, the NRA cooperated in revising the Basic Disaster Management Plan as well as participated in emergency drills and exercises hosted by the relevant ministries and agencies to contribute to the smooth and precise implementation of emergency responses by the whole government.

The NRA also checked provisions and plans taking occasions of various exercises (i.e. gathering exercises in emergency, setting-up exercise of the Emergency Response Headquarters) and endeavored to ameliorate services continuity plans responding to emergency cases, such as Tokyo Inland Earthquake and new strains of influenza.

In addition, the Secretariat of the NRA has reported the impact on nuclear facilities at the meeting of emergency response team which is to be assembled by the government as an initial response system for emergency situations. In FY 2017, given the occurrence of a space vehicle event (ballistic missile), nuclear tests, and natural disasters, the Secretariat of the NRA responded a total of 12 times.

(3) Function enhancement of disaster prevention drills

In order to improve emergency preparedness and response, the NRA has extracted issues relating to decision making based on lessons learned through Nuclear Energy Disaster Prevention Drills and carried out tabletop exercises for emergency response targeting mainly the NRA members and top officials of the NRA Secretariat who are to make decisions in an emergency. In FY 2017, 4 tabletop exercises in total were carried out, including those relating to off-site response.

The NRA also participated in Emergency Drills by licensees as in FY 2016, seeking further improvement of emergency preparedness and response such as a smoother approach to sharing information with the plant team of the NRA's Emergency Response Center (hereinafter referred to as "ERC") and immediate situational response centers for nuclear facilities. In FY 2017, function teams other than the ERC plant team also conducted drills in collaboration with Emergency Drills by licensees to improve the abilities of personnel in charge in each function team and extract and improve issues.

2. Reinforcement of licensees' emergency preparedness and response

(1) Enhancement of evaluation of Emergency Drills by licensees

The NRA has been holding the Debriefing Session of Emergency Drills by licensees (hereinafter referred to as "briefing sessions") and evaluating drills conducted by licensees since FY 2013.

The briefing session concerning commercial power reactors was held on June 16, 2017. At the session, the NRA evaluated that improvements were still needed to the following issues: sharing of information, the degree of difficulty, and diversification of the exercise scenario, even as it evaluated that PR activities showed some improvement from FY 2016. In addition, the briefing session concerning nuclear fuel facilities was held on June 23, 2017; it was decided that a similar evaluation to commercial power reactors shall be implemented for nuclear fuel facilities on a trial basis from FY 2017.

In FY 2017, a training scenario development working group was set up under the briefing sessions. In order to improve the ability to respond flexibly to the accident situation through Emergency Drills by licensees, the following were facilitated: development of drilling scenarios that lead to the improvement of judgment ability of leaders of the emergency response room at the power plant or of on-site response capabilities; implementation, evaluation, and improvement of drills based on those scenarios. Based on the drilling scenarios developed in the working group, training for improving judging ability of leaders was carried out in 3 licensees and training for improving on-site response capabilities was conducted in 2 licensees, both on a trial basis.

○Record of Emergency Drills by Nuclear Operators at commercial power reactors in FY 2017

№	Implementation date	Nuclear facility	
1	July 13, 2017	Shikoku Electric Power Co., Inc.	Ikata NPS
2	August 29, 2017	Hokkaido Electric Power Co., Inc	Tomari NPS
3	September 12, 2017	The Kansai Electric Power Co., Inc.	Ohi NPS, Takahama NPS
4	October 3, 2017	Kyushu Electric Power Co., Inc.	Sendai NPS
5	November 29, 2017	TEPCO Holdings, Inc.	Fukushima Daiichi NPS
6	December 4, 2017	Kyushu Electric Power Co., Inc.	Genkai NPS
7	December 7, 2017	Chubu Electric Power Co., Inc.	Hamaoka NPS
8	December 12, 2017	The Chugoku Electric Power Co., Inc.	Shimane NPS
9	December 20, 2017	The Japan Atomic Power Company	Tsuruga NPS
10	January 19, 2018	The Kansai Electric Power Co., Inc.	Mihama NPS
11	February 2, 2018	TEPCO Holdings, Inc.	Fukushima Daini NPS
12	February 6, 2018	Tohoku Electric Power Co., Inc.	Onagawa NPS
13	February 14, 2018	Hokuriku Electric Power Company	Shika NPS
14	February 21, 2018	The Japan Atomic Power Company	Tokai Power Station, Tokai Daini Power Station
15	March 2, 2018	TEPCO Holdings, Inc.	Kashiwazaki Kariwa NPS
16	March 9, 2018	Chubu Electric Power Co., Inc.	Hamaoka NPS
17	March 20, 2018	Tohoku Electric Power Co., Inc.	Higashidori NPS

○Evaluation indicators of Emergency Drills by Nuclear Operators at commercial power reactors in FY 2017

Category	№	Indicator
Information sharing and notification	1	Information sharing between immediate situational response centers (headquarters of licensees) and the ERC plant team
	2	Appropriate notification (Prompt preparation and transmission of notification)
	3	Operation of communication device
	4	Use of plant information displaying system
Efforts to improve Emergency Drills by Nuclear Operators	5	Degree of difficulty of scenario
	6	Diversification of scenario
	7	PR activities i) Responding to the press in line with the ERC PR team, ii) Participation of outsiders such as news reporters, iii) Participation of outsiders such as PR staff of other licensees, iv) Holding a mock press conference, v) Information transmission using information transmission tools
	8	Backup support activities i) Support activities between licensees, ii) linkage with the backup support bases, iii) linkage with support organizations for nuclear emergency situations
	9	Inspection of drills i) Visit to other licensees, ii) Receiving visitors to its own training, iii) Accepting peer reviews

* Personnel of the NRA Secretariat participate in various drills as members of the ERC plant team, staff dispatched from the ERC to an immediate situational response center, or staff dispatched to an emergency response room; some personnel evaluate the state of emergency drills by licensees.
(In addition to members of the ERC plant team, members of other function teams also participate in drills at Genkai, Shika, and Higashidori NPSs)

Figure 6-2. Record of Emergency Drills by Licensees at commercial power reactors in FY 2017

(2) Improvement of emergency preparedness and response through Emergency Drills by licensees

The NRA participated in Emergency Drills by licensees as in FY 2016, seeking further improvement of emergency preparedness and response such as a smoother approach to sharing information with the ERC plant team and immediate situational response centers for nuclear facilities. In FY 2017, function teams other than the ERC plant team also conducted drills in collaboration with Emergency Drills by licensees to improve the abilities of personnel in charge in each function team and extract and improve issues. (Repetition of 1 (3) in Section 2 of Chapter 6)

(3) Collaboration with relevant ministries and agencies pertaining to nuclear emergency preparedness

Based on the provisions of the Basic Disaster Management Plan, the NRA holds meetings of the Central Liaison Council for Nuclear Disasters, which consists of relevant ministries and agencies, licensees, and the Federation of Electric Power Companies of Japan, in order to discuss the cooperation in emergency responses and necessary supports at local sites. In FY 2017, discussions were held on the way to run the Council for constructing effective cooperation. Even in locations where nuclear power plants are

located, the NRA holds meetings of the Local Liaison Councils for Nuclear Disasters, which consist of local branch bureaus and departments of the member ministries and agencies of the Central Liaison Council located in a given area, the prefectural police headquarters responsible for the area (if necessary, prefectural police headquarters of an area which becomes a wide-area evacuation site for the given area), the fire department, the Regional Coast Guard Headquarters (Coast Guard Office responsible for the given area, as necessary), the SDF, and licensees. In FY2017, a total of 17 meetings were held to strengthen cooperation among related organizations.

3. Reinforcement of communication network equipment and systems

In order to further enhance the crisis control system in communication network equipment, vulnerability assessment of crisis control communication network equipment was conducted utilizing external experts. Matters that need to be addressed based on the assessment results were incorporated in the specifications of the communication network equipment renewal that is scheduled in FY 2018. In addition, against the backdrop of growing tension in Northeast Asia, satellite phones, which allow communication between the Secretariat of the NRA and licensees even when communication network equipment becomes unusable, were developed in preparation for unforeseen circumstances.

With respect to “Emergency radiation monitoring information sharing and announcement system”, together with functional improvement, such as adding a function to collect and disclose monitoring data of nuclear powered warships, security reinforcement including vulnerability inspection and countermeasures was carried out. The NRA examined system functions and system operation methods to prepare for the development and operation of a subsequent system scheduled in FY2020, and summarized the results as a development policy.

References

Reference１ Ensuring Trust in Nuclear Regulatory Administration (Sections 1, 2, and 4 of Chapter 1)

１． Terms of Office of the Chairman and Commissioners

	From September 19, 2012 to September 18, 2014	From September 19, 2014 to September 18, 2015	From September 19, 2015 to September 21, 2017	From September 22, 2017
Chairman	Shunichi Tanaka	Shunichi Tanaka	Shunichi Tanaka	Toyoshi Fuketa
Commissioner (Substitute for the Chairman)	Kunihiko Shimazaki	Toyoshi Fuketa	Toyoshi Fuketa	Satoru Tanaka
Commissioner (Second substitute for the Chairman)	Toyoshi Fuketa	Satoru Tanaka	Satoru Tanaka	Shinsuke Yamanaka
Commissioner (Third substitute for the Chairman)	Kayoko Nakamura	Kayoko Nakamura	Akira Ishiwatari	Nobuhiko Ban
Commissioner (Fourth substitute for the Chairman)	Kenzo Oshima	Akira Ishiwatari	Nobuhiko Ban	Akira Ishiwatari

(As of March 31, 2018)

２． Establishment of the NRA and organizational changes

○September 19, 2012: The NRA was established

○March 1, 2014: Japan Nuclear Energy Safety Organization (JNES) was abolished and integrated into the NRA

○October 14, 2014: Director General for Nuclear Disaster Management was placed in the Cabinet Office

Officials belonging to the NRA were primarily appointed as concurrent officials of the

Office for the Nuclear Emergency Preparedness, Cabinet Office. To reinforce the nuclear emergency response system, changing the appointment scheme, full-time officials were assigned to the Cabinet Office.

3. Breakdown of FY2017 budget of the NRA (after revision)

	Item	FY2017 budget amount (after budget revision)(millions of yen)
General account	Shared NRA costs	4,154
	Costs of ensuring nuclear safety	4,445
	Radioactivity investigation and research costs	1,625
Special account for energy measures	Costs of power-usage measures	1,048
	Costs of nuclear safety regulatory measures	21,824
	Administrative handling costs	22,683
	Disbursements	0.27
	Reserve funds	100
Special account for reconstruction after the Great East Japan Earthquake	Costs of policies for environmental conservation and restoration	3,206
Total		59,085

4. Organization of the NRA

The Secretariat of the NRA is responsible for the organization's administrative affairs, and the NRA Human Resource Development Center is responsible for human resources development and training activities.

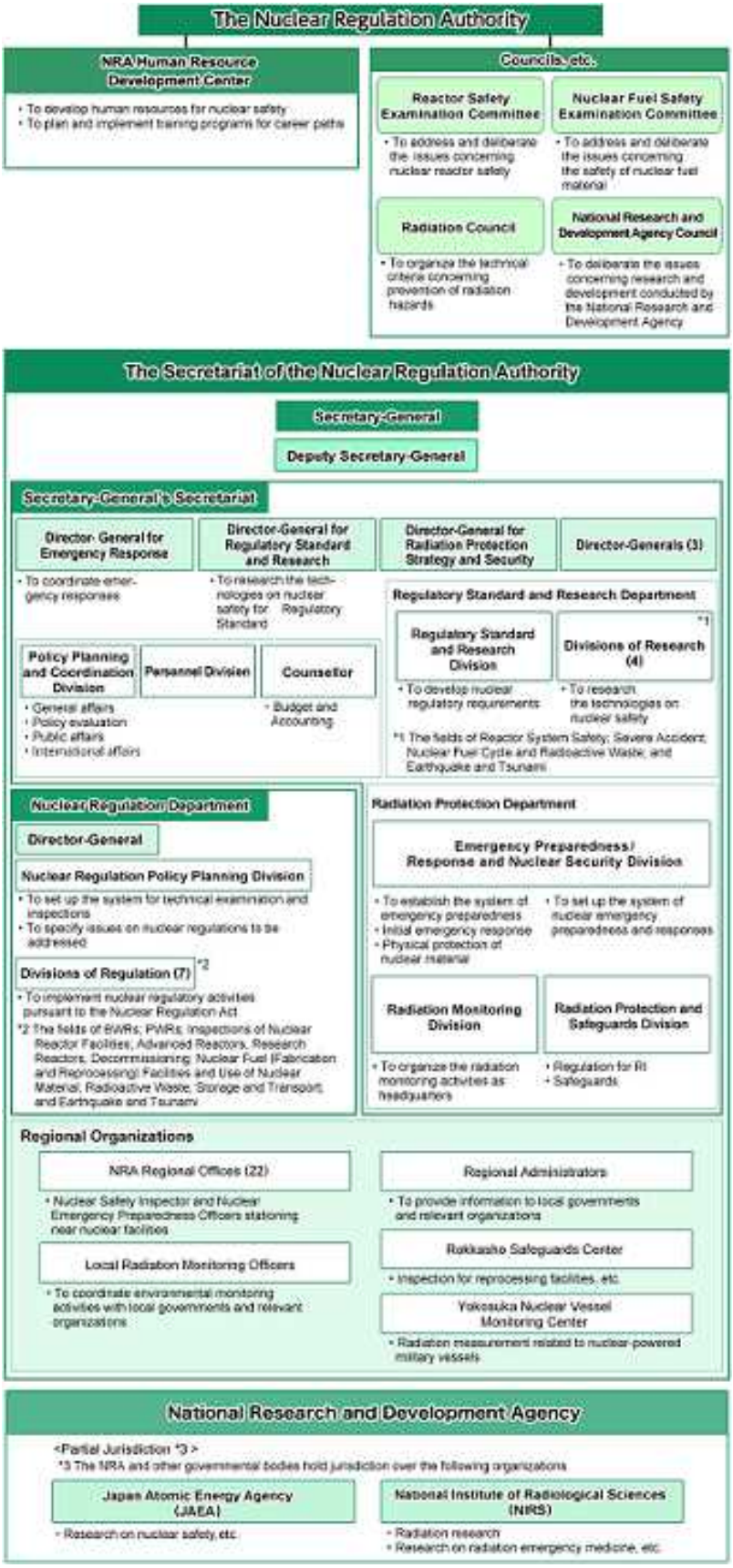


Figure (i) Organizational structure of the NRA (Before July 2017)

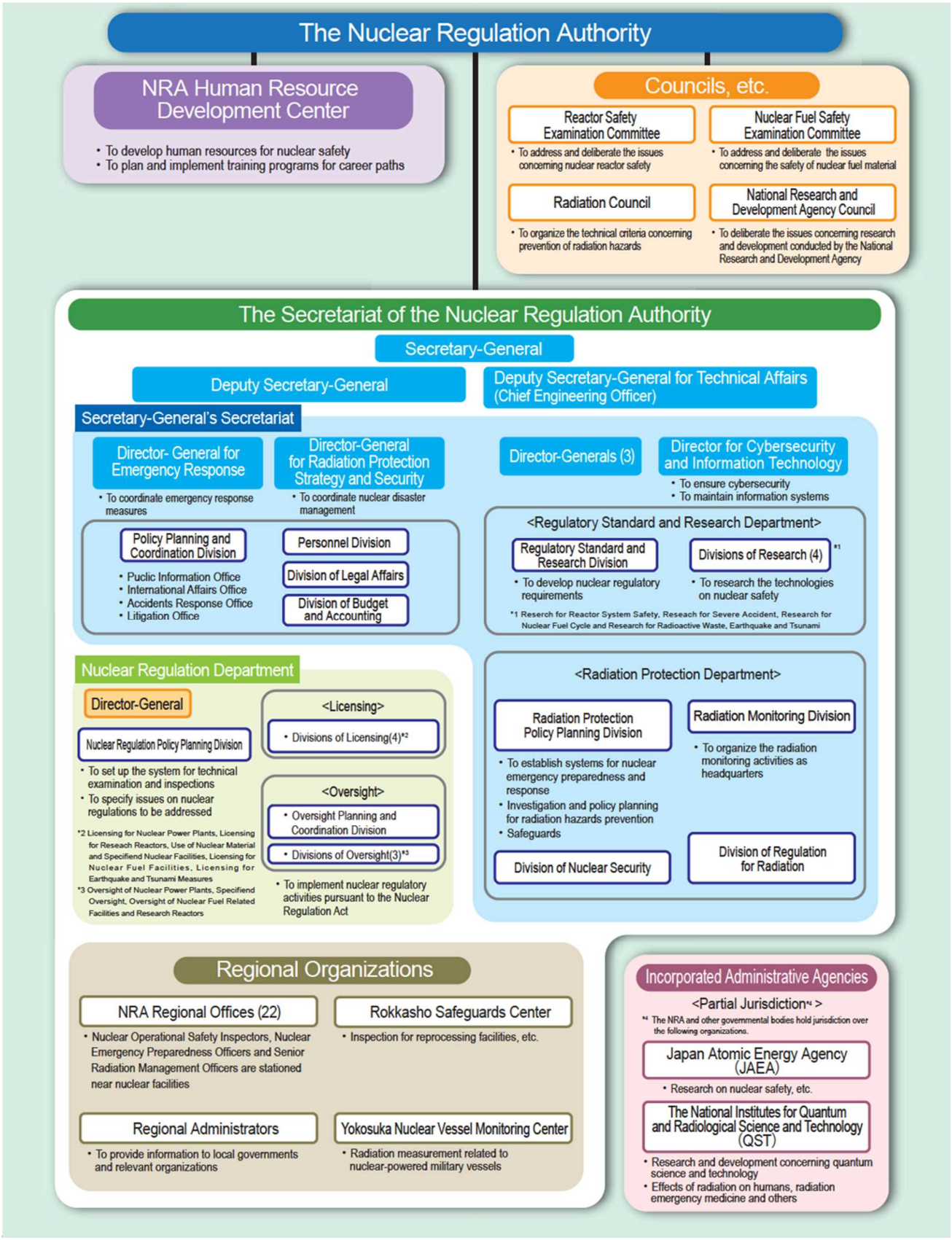


Figure (ii) Organizational structure of the NRA (From July 2017 to the end of March 2018)

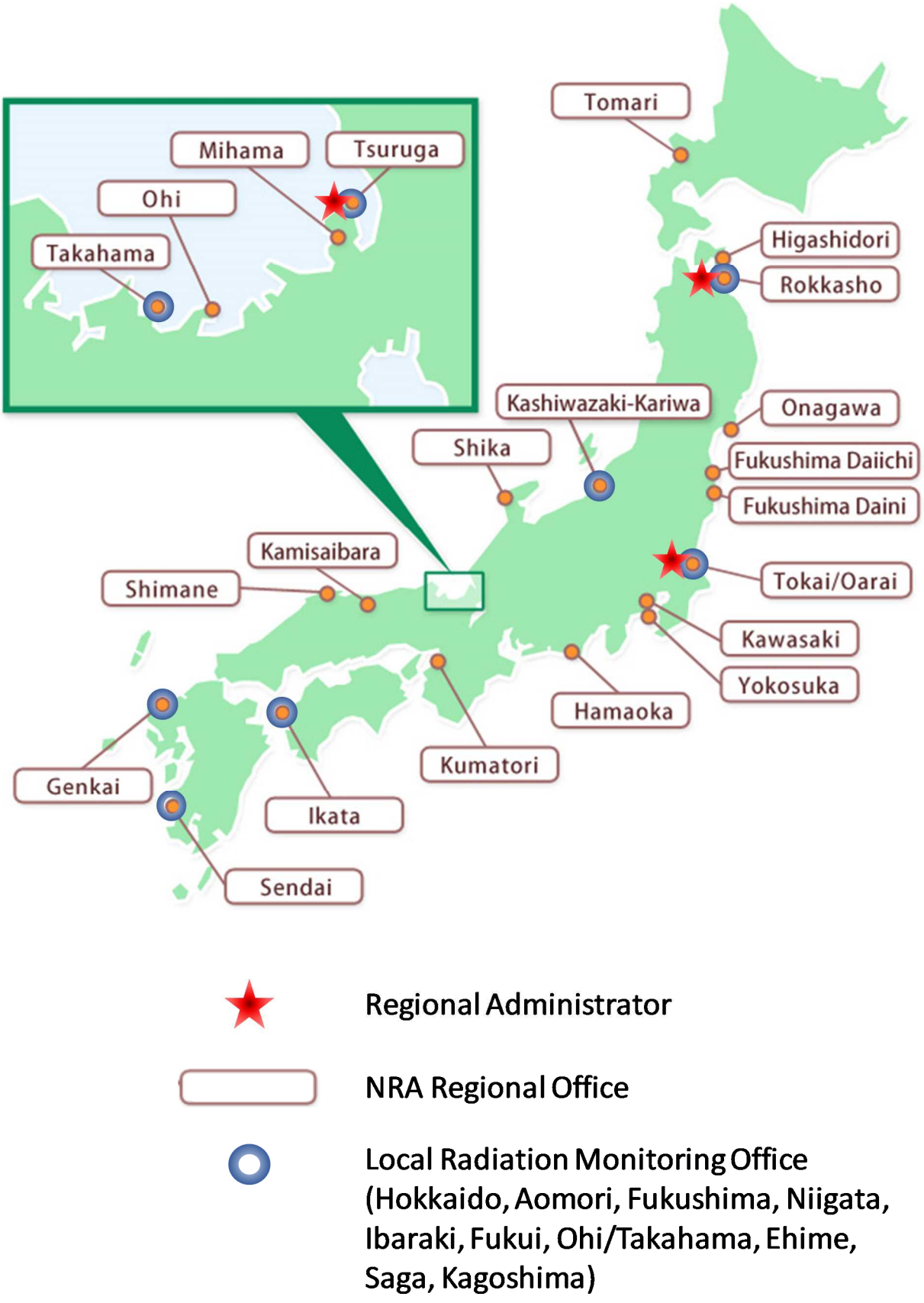


Figure (iii) Organizational structure of NRA Regional Offices

5. NRA's Core Values and Principles

(determined on January 9, 2013 by the NRA)

Bearing in mind that:
- The NRA was established to absorb and learn the lessons of the Fukushima Daiichi nuclear accident of March 11, 2011;
- Such nuclear accidents should never be allowed to happen again;
- Restoring public trust, in Japan and abroad, in the nation's nuclear regulatory organization is of utmost importance and;
- The nuclear safety system and management must be rebuilt on a solid basis, placing the highest priority on public safety and a genuine safety culture;

Determined that:
- Everyone involved in nuclear activities must have a high degree of responsibility and ethical values and seek to achieve the highest levels of global safety;

We hereby solemnly pledge our full commitment and unwavering efforts to the foregoing.

Mission
Our fundamental mission is to protect the public and the environment through rigorous and reliable regulation of nuclear activities.

Guiding Principles for Activities
We in the NRA and its supporting Secretariat shall perform our duties diligently acting in accordance with the following principles.

(1) Independent Decision Making
We shall make decisions independently, based on the latest scientific and technological information, free from any outside pressure or bias.
(2) Effective Actions
We shall discard the previous ineffective approach to regulatory work and stress the importance of a field-oriented approach to achieve genuinely effective regulations.
(3) Open and Transparent Organization
We shall ensure transparency and appropriate information disclosure on regulations, including the decision making process. We shall be open to all opinions and advice from Japan and the international community and avoid both self-isolation and self-righteousness.
(4) Improvement and Commitment
We shall be diligent in learning and absorbing the latest regulatory know-how and best practices, enhancing individual capacity, and performing our duties, mindful of the highest ethical standards, a sense of mission, and rightful pride.
(5) Emergency Response
We shall be ready to swiftly respond to all emergencies, while ensuring that in 'normal' times a fully effective response system is always in place.

6. Code of Conduct on Nuclear Security Culture

(determined on January 14, 2015 by the NRA)

The Nuclear Regulation Authority (NRA) recognizes that it is the responsibility of everyone involved in nuclear activities to establish and maintain a positive nuclear security culture.

The NRA has therefore decided to establish a code of conduct to foster and continually enhance its own nuclear security culture.

On this basis, the NRA is committed to take action to enhance nuclear security culture throughout Japan.

Code of Conduct

1. Recognizing Threat

The NRA and its Secretariat shall recognize that nuclear security threat exists at all times and constantly bear in mind the importance of nuclear security.

2. Interface with Safety

Nuclear security and safety do not exist independently and measures for security and safety are mutually dependent on each other and could negatively affect on another. We shall make all possible efforts for the harmonization of both measures and senior management shall be responsible for providing the most appropriate solution in cases of conflicts.

3. Responsibilities of Senior Management

Senior management shall demonstrate their commitment to nuclear security and shall make an assessment on how a positive nuclear security culture is developed within the NRA. In addition, senior management shall make a continuous effort to foster the positive culture through setting up concrete goals and measuring the achievement.

4. Capacity Building and Self-improvement

Nurturing competent staff is the responsibility of an organization, and the NRA shall provide capacity building programs on nuclear security.
We shall have a ‘questioning attitude’ towards nuclear security issues at all times and strive to improve our effectiveness.

5. Confidentiality and Communication

While strictly observing confidentiality of nuclear security information, we shall proactively communicate with relevant stakeholders, as necessary, with a view to fostering a positive nuclear security culture in Japan.

7. Statement on Nuclear Safety Culture

(determined on May 27, 2015 by the NRA)

Safety shall be given the overriding priority in the utilization of nuclear energy. Safety culture is recognized as continued practices with mindful awareness of this principle. It is the duty of everyone involved in nuclear energy to foster safety culture.

Recognizing its importance, the Nuclear Regulation Authority (NRA) has developed the code of conduct on safety culture taking due account of the lessons learned from the accident at the Fukushima Daiichi Nuclear Power Station of Tokyo Electric Power Company, Inc. The NRA will take the initiative in acting based on it.

Thereby, the NRA will strive for raising awareness of the importance of safety culture among everyone involved in nuclear energy and hence contributing to fostering safety culture in Japan.

Code of Conduct

1. Priority to safety

In lucid recognition that absolute safety is not achievable and the possibility of a serious accident remains, the overriding priority shall be placed on safety for "protecting people and the environment".

2. Decision-making taking into account the risks

Decision shall be made in an independent and objective manner taking due account of the risks. Anyone who makes a decision is responsible for explaining logically the rationale of the decision while clarifying its own roles, responsibilities, and authority.

3. Fostering, sustaining and strengthening safety culture

Managers shall take the initiative in fostering the attitudes and actions that place the overriding priority to safety in their respective organizations. For sustaining and further strengthening safety culture, they shall also be vigilant to any early warning signs of decline in safety culture and shape and enhance the working environment so that the staff can maintain high morale.

4. Maintaining high level of expertise and organizational learning

Recognizing the importance of scientific and technical expertise for safety, each organization shall collect and analyze the latest information in Japan and overseas on regulatory activities, operating experience, and others to feedback the findings in its activities. Managers shall shape and enhance the working environment to promote such organizational learning.

5. Effective communication

Open and frank discussion in the workplace shall be the basis in the pursuit of safety. Managers shall create such working environment and promote active discussion in their respective organizations. Adequate communication shall be pursued both within the organization and with stakeholders for enhancing transparency and building trust by taking the initiative in information disclosure and exchange of a wide range of opinions.

6. Questioning attitude

All the personnel shall always have one's own "questioning attitude" without complacency whether there are any weaknesses that may affect safety, as well as whether there is any room for further improvement, and thereby identify safety issues.

7. Rigorous and prudent decisions and agile actions

In response to any challenges to ensuring safety, all the staff shall make conservative decisions for safety taking into account even the worst-case scenario, and take necessary actions with agility.

8. Harmonization with nuclear security

It is necessary to recognize that nuclear safety and security activities do not exist independently, namely complement each other and interfere with each other. All the personnel involved in nuclear safety and security activities shall respect each other's way of thinking and make efforts for harmonizing both activities. Senior managers shall take responsibility to select the most appropriate solution.

8. Actual record of the NRA Commission Meeting

(From April 1, 2017 to March 31, 2018)

Number	Date	Main topics
1	4.5	・Permission for change in reactor installation of Units 1 and 2 at Sendai NPS (Kyushu Electric Power Company), designated as Specialized Safety Facilities (draft) ・Permission for change in nuclear fuel material processing business of GNF-Japan (processing facility) (draft) ・Partial revision of the Ordinance on Standards Applicable to the Positioning of, Structure of, and Equipment at Commercial Power Reactors and Auxiliary Facilities Pertaining to protection from toxic gases ・Report of business trip to the Seventh Review Meeting of the Contracting Parties to the Convention on Nuclear Safety
2	4.12	・Enactment of the "Act for Partial Revision of the Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material, and Reactors in order to reinforce safety measures in nuclear use" and future actions ・Results of site inspections for users of nuclear fuel materials in FY2016 ・Implementing "Radiation Safety Research Program Fund in FY2017" ・Formulating of the Joint Research Implementation Rules ・The framework of the NRA Annual Report for FY2016 and future plan (draft)
3	4.14	・Kyushu Electric Power Company's new approach on safety improvements, items requiring improvement, and so forth
4 *1	4.17	・Selection of the Radiation Council members ・Selection of members of the Reactor Safety Examination Committee and the Nuclear Fuel Safety Examination Committee ・Selection of commissioners for emergency response measures
5	4.19	・Draft of the review report on application for change in nuclear fuel material processing business of JNFL's enrichment and waste disposal site (draft) ・Establishment of the policy on reviews for approval of the decommissioning plan of Prototype Fast Breeder Reactor Monju and the Nuclear Fuel Cycle Engineering Laboratories (reprocessing facility) ・Evaluation of "public effective doses near the nuclear facility at the time of accident" in a decommissioning plan of reactors and approval of the decommissioning plan (draft) ・Results of inspections on nuclear material physical protection in FY2016 and prioritized inspection items in FY2017 ・Results of the Seventh Review Meeting of to the Convention on Nuclear Safety
6	4.26	・Direction for reviewing a construction plan relating to Specialized Safety Facility ・Analysis on the Kumamoto Earthquake ・Evaluation on accidents, failures, or other actions of radioisotope licensees (draft) ・Outline of the results of the Advisory Group on Nuclear Security (AdSec), IAEA

7	5.10	・Requesting public comments for the rules (draft) for development of NRA regulations related to partial implementation of the Act for partial revision of the Act on the Regulation of Nuclear Source Material, Nuclear Fuel, Material and Reactors in order to reinforce safety measures in nuclear use ・Operational safety inspections in the fourth quarter of FY2016 and the revision of the guidelines for operational safety inspection at nuclear fuel facilities, etc. ・Outline of the results of General Conference of the Western European Nuclear Regulators Association (WENRA)
8	5.17	・Permission for change in nuclear fuel material processing business of JNFL's enrichment and waste disposal site (processing facility) (draft) ・Reviewing and establishing Emergency Action Level (EAL) and requesting public comments ・Requesting public comments for cabinet order (draft) for partial revision of the ordinance for enforcement of the Act on Special Measures Concerning Nuclear Emergency Preparedness and notification (draft) of the designation of subject prefectures based on the provision of Article 2-2 of the Act on Special Measures Concerning Nuclear Emergency Preparedness ・Results of annual evaluation of safety research projects in FY2016
9	5.23	・Opinion exchange between the NRA and Japan Radioisotope Association (JRIA)
10	5.24	・Permission for change in reactor installation of Units 3 and 4 at Ohi Power Station (KEPCO) (draft) ・Appointment of the Radiation Council members (draft) ・Appointment of commissioners for emergency response measures (draft) ・Procedures of requesting public comments for the draft rule for partial revision of the Ordinance on the Installation and Operations of Commercial Power Reactors regarding procedures for application of aging management (draft) ・NRA Annual Report for FY2016 (draft) ・Outline of the results of the conference of International Nuclear Regulators Association (INRA), etc.
11 *2	5.24	・Dicision on the formal objection to the approval of the construction plan for Unit 4 at Takahama NPS (KEPCO) and to the approval of the construction plan for Unit 3 at Ikata NPS (Shikoku Electric Power Company)
12	5.31	・Achievements of Nuclear Energy Disaster Prevention Drill in FY2016 ・Results of the FY2016 on-site inspections of designated bodies for information processing and designated bodies for safeguards inspections, and approval of change in operational rules of designated bodies for information processing ・Violation of operational safety programs for operational limit of the stand-by gas treatment system in Unit 4 at Hamaoka NPS ・Arbitrary decisions in the fourth quarter of FY2016
13	6.7	・Draft of the review report on application for change in reactor installation of Units 3 and 4 at Takahama NPS (KEPCO) (draft) ・Approval for decommissioning plans of TRACY (Transient Experiment Critical Facility) and JRR-4 nuclear reactor facility at JAEA Nuclear Science Research Institute (draft) ・Evaluation of the report received from Japan Atomic Power Company on bending of a cylinder cooling water pump attached to a B emergency diesel generator of Unit 2 of Tsuruga NPS and measures to be taken (draft) ・Appointment of members of the Reactor Safety Examination Committee and the Nuclear Fuel Safety Examination Committee (draft) ・Outline of the results of Committee on the Safety of Nuclear Installations (CSNI), OECD/NEA
14	6.7	・KEPCO's new approach on safety improvements, items requiring improvement, and so forth

15	6.14	・Notification of partial revision of items specified as safeguarded materials based on the ordinance for partial revision of the ordinance on the use of safeguarded materials and the provisions of the Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material, and Reactors (draft) ・Regulatory measures based on the safety research relating to the assessment of the possibility of volcanic activity ・Results of FY2016 on-site inspections for registered certification organizations, etc. ・Directions for reviewing guidelines relating to cause analysis and the safety culture at commercial power reactors and other facilities ・Cabinet Order for partial revision of the NRA Organization Order (draft)
16	6.21	・Results of efforts to improve the reliability of review documents pertaining to the conformity of Units 6 and 7 at Kashiwazaki Kariwa NPS to New Regulatory Requirements ・Report based on the Act on the case where workers were contaminated by leaked nuclear fuel materials in JAEA's Fuel Research Building at Oarai Research and Development Center ・Cabinet order and establishment of ordinance for partial implementation of the act for partial revision of the Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material, and Reactors in order to reinforce safety measures in nuclear use (draft) ・Partial revision of the Ordinance on Standards Applicable to the Positioning of, Structure of, and Equipment at Commercial Power Reactors and Auxiliary Facilities and requesting public comments on the revision ・Results of written examinations for chief engineers of reactors
17	6.27	・Actions taken for conformity review of Japan Atomic Power Co. to New Regulatory Requirements
18	6.28	・Situation of conformity review to New Regulatory Requirements of commercial power reactors ・Situation of conformity review to New Regulatory Requirements of facilities for handling radioisotopes ・Permission for change in reactor installation of Units 3 and 4 at Takahama NPS (KEPCO) (draft) －Installation of permanent DC power supply facility (third system) at the station－ ・Approval of the decommissioning plan of Unit 1 at Ikata NPS (Shikoku Electric Power Company) (draft) ・Cabinet order for partial revision of the ordinance for enforcement of the Act on Special Measures Concerning Nuclear Emergency Preparedness and notification (draft) of the designation of subject prefectures based on the provision of Article 2-2 of the Act on Special Measures Concerning Nuclear Emergency Preparedness ・NRA opinions on the "Basic Policy for Nuclear Energy" ・Examination on the review of application procedures for approval of operation period extension ・Results of selection of programs for the NRA human resource development
19 *3	6.29	・Selection of expert commissioners of the Radiation Council
20	6.29	・Opinion exchange between the NRA and National Institutes for Quantum and Radiological Science and Technology (QST)

21	7.5	・Results of the on-site inspection relating to the case where workers were contaminated by leaked nuclear fuel materials in JAEA's Fuel Research Building at Oarai Research and Development Center (North district) (report) ・Revision of the Nuclear Emergency Response Guidelines and NRA's Ordinance in line with the review and establishment of Emergency Action Level (EAL) (draft) ・Fields of and Policy on the Implementation of Safety Research to be Promoted (for safety research to be conducted during and after FY2018) ・Results of the implementation of Safeguards Activities in Japan in 2016 and publication of "Safeguards Statements for 2016" of IAEA ・Actions taken for the notification of evaluations for improving safety improvement of commercial power reactors (draft) ・Partial revision of materials of the 18th NRA Commission Meeting in FY2017
22	7.10	・Opinion exchange with executives of Tokyo Electric Power Company Holdings, Inc.
23	7.12	・NRA opinions on the plan of Nuclear Energy Disaster Prevention Drill for FY2017 ・Revision of Measures for Mid-term Risk Reduction at TEPCO's Fukushima Daiichi NPS (ver. July 2017) (draft) ・Additional appointment of experts for the Committee on Radioactive Waste Issues of the Specified Nuclear Facilities (draft) ・Current status and action plans for the decommissioning of Tokai Reprocessing Facility (JAEA) (draft) ・Basic concept of performance requirements of research reactors with S-class earthquake resistance facilities against volcano and tornado in accordance with the importance ・Development of a qualification system for inspectors, etc.
24	7.12	・Hokkaido Electric Power Company's new approach on safety improvements, items requiring improvement, and so forth
25	7.19	・Partial revision of the Ordinance on Technical Standards for Commercial Power Reactors and Auxiliary Facilities Pertaining to high-energy arcing fault (draft) ・Results of investigating evaluations on the impact of pyroclastic fall deposits on commercial power reactor facilities and action plans ・Report on the results of the Debriefing Session of Emergency Drills by licensees and requesting public comments on the revision of the Viewpoints to be checked for Nuclear Licensee EPR plan (rules) ・Results of adopting Radiation Safety Research Program Fund in FY2017
26	7.26	・Partial revision of the Ordinance on the Installation and Operations of Commercial Power Reactors regarding procedures for application of aging management (draft) ・Implementation of procedures of public comments on the draft rule for partial revision of the Ordinance on the Installation and Operations of Commercial Nuclear Power Reactors regarding procedures for applying for operation period extension (draft) ・Evaluation of reports received from JAEA on imperfect management of inspection records at the Reactor Decommissioning R&D Center (Fugen)
27	7.31	・Regulatory requirements for mid-depth disposal
28	7.31	・Shikoku Electric Power Company's new approach on safety improvements and items requiring improvement and so forth

29	8.2	・Second report based on the Act on the case where workers were contaminated by leaked nuclear fuel materials in JAEA's Fuel Research Building at Oarai Research and Development Center (North district) and a provisional evaluation according to INES ・Investigation results regarding the emergence of discoloration and rust in the lower plenum of the storage building for vitrified canisters in the waste control facility of JNFL (results of an investigation into the number one storage zone and final investigation report) ・Operational safety inspections in the first quarter of FY2017 ・Consultation and report at the Radiation Council (report) ・Request for the implementation of a follow-up mission of the IAEA's Integrated Regulatory Review Service (IRRS) (draft)
30 *4	8.3	・Application for approval of changes of the Nuclear Material Physical Protection Program in light of the introduced system to determinate trustworthiness of persons
31	8.4	・Comments of external experts on NRA's Administrative Review
32	8.23	・Performance evaluation of the National Institutes for Quantum and Radiological Science and Technology (draft) ・Revision of "NRA's Code of Conduct for Emergency" relating to the provision of arbitrary decision on an emergency monitoring implementation plan ・Policy evaluation of implementation measures for FY2016 and FY2017
33	8.30	・Opinion exchange with executives of Tokyo Electric Power Company Holdings, Inc. ・Performance evaluation of JAEA (draft) ・Partial revision of the Ordinance on Standards Applicable to the Positioning of, Structure of, and Equipment at Commercial Power Reactors and Auxiliary Facilities (draft)－Measures pertaining to functions of confining radioactive materials of fuel cladding materials at the time of earthquake－
34 *5	8.30	・Draft of the review report on items relating to the installation of Specialized Safety Facility in the application for change in reactor installation of Unit 3 at Ikata NPS (Shikoku Electric Power Company) (draft)
35	9.6	・Conformity review of Kashiwazaki Kariwa NPS (TEPCO Holdings) to New Regulatory Requirements (Follow-up of the discussion on August 30) ・Draft of the review report on application for change in reactor installation of Unit 3 at Ikata NPS (Shikoku Electric Power Company) (draft) ・Framework on system of "policy on special cases concerning waste disposal" in Radiation Hazards Prevention Act ・Priority measures of the NRA for FY2018 and direction of responses to the items pointed out in public process
36	9.6	・Tohoku Electric Power Company's new approach on safety improvements, items requiring improvement, and so forth
37	9.13	・Conformity review of Kashiwazaki Kariwa NPS (TEPCO Holdings) to New Regulatory Requirements (Follow-up of the discussion on September 6) ・Policy concerning explanation of the results of the conformity review of Units 6 and 7 at Kashiwazaki Kariwa NPS to New Regulatory Requirements at the NRA's commission meeting ・Revision of the Viewpoints to be checked for Nuclear Licensee EPR plan (rules) ・Directions for reviewing the NRA's requirements to appoint council members (draft) ・Report of the 16th Reactor Safety Examination Committee, the 1st Subcommittee of Reactor Safety Examination, and the 15th and 16th Nuclear Fuel Safety Examination Committees (Action plan for an IRRS mission)

38	9.20	・Conformity review of Kashiwazaki Kariwa NPS (TEPCO Holdings) to New Regulatory Requirements (Opinion exchange with its executives) ・Draft of the review report on application for change in nuclear fuel material processing business of Mitsubishi Nuclear Fuel Company , Ltd. (draft) ・Partial revision of the Ordinance on the Installation and Operations of Commercial Power Reactors regarding procedures for applying for operation period extension (draft) ・Unauthorized sale of radioisotopes on the Internet ・Partial revision of the interpretation of the Ordinance on Technical Standards for Commercial Power Reactors and Auxiliary Facilities (draft) and requesting public comments on the revision －Evaluation on the retention of kinetic function－ ・Partial revision of the Ordinance on the Installation and Operations of Commercial Power Reactors and requesting public comments on the revision－Measures pertaining to the development of the system at the time of the occurrence of effect of volcanic activities－
39	9.22	・Appointment of commissioners who assume the duties of NRA Chairman as substitutes
40	9.27	・Requesting public comments on the review report on application for change in reactor installation of Units 6 and 7 at Kashiwazaki Kariwa NPS (TEPCO Holdings) ・Arbitrary decisions in the first quarter of FY2017 ・Outline of IAEA General Conference, International Nuclear Regulators Association (INRA), and other meetings
41	10.4	・Requesting public comments on the review report on application for change in reactor installation of Units 6 and 7 at Kashiwazaki Kariwa NPS (TEPCO Holdings) ・Permission for change in reactor installation of Unit 3 at Ikata NPS (Shikoku Electric Power Company) (draft)
42	10.4	・Chugoku Electric Power Company's new approach on safety improvements, items requiring improvement, and so forth
43	10.11	・Violation of operational safety programs confirmed at JNFL's reprocessing facilities and measures to be taken ・JNFL's direction of measures regarding the conformity review of Rokkasho reprocessing facilities to New Regulatory Requirements ・Sixth National Report of the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management ・Results of re-evaluation of important facilities for safety in connection with the withdrawal of application for permission to operate processing business in the number three development office for plutonium fuel at JAEA's Nuclear Fuel Cycle Engineering Research Institute ・Thinking on regulatory requirements for spent fuel storage in the premises of nuclear power plants regarding dry casks for storage and transportation ・Requesting comments for the draft of the revision of related Cabinet Order, Ordinance and Guideline pertaining to the formulation and publication of the Forword Planning of the Decommissioning Policy
44	10.18	・Development of the Nuclear Emergency Initial Response Manual (draft) ・Partial revision of the Ordinance on Standards Applicable to the Positioning of, Structure of, and Equipment at Commercial Power Reactors and Auxiliary Facilities and requesting public comments on the revision (draft)－Incorporation of technical knowledge obtained through the conformity review of Units 6 and 7 at Kashiwazaki Kariwa NPS to New Regulatory Requirements－ ・Requesting public comments on the draft of cabinet order for partial revision of the ordinance for enforcement of the Act on the Prevention of Radiation Hazards due to Radioisotopes, etc. (draft) ・Report on the recent meetings of the Reactor Safety Examination Committee and the Nuclear Fuel Safety Examination Committee

45 *6	10.23	・Initial response in the event of a physical protection incidents ・Policy direction regarding approval for changes in physical protection caused by decommissioning of nuclear power plants
46	10.25	・Evaluation of the report on the radioactive exposure of workers due to leaking of nuclear fuel materials in JAEA's Fuel Research Building at Oarai Research and Development Center (north district) and measures to be taken ・Evaluation of the report received from Japan Atomic Power Company on the establishment of entry-restricted zones associated with leaks of liquids inside a tank-vent processing equipment room on the first underground level of a waste-treatment building at Tokai Daini Power Station (draft) ・Requesting public commentson the draft of cabinet order for partial revision of the ordinance for enforcement of the Act on the Prevention of Radiation Hazards due to Radioisotopes, etc. (draft)
47	11.1	・Permission for change in nuclear fuel material processing business of Mitsubishi Nuclear Fuel Company , Ltd. (processing facility) (draft) ・Improvement of the NRA Management System ・Review on the five years of the NRA ・Outline of the results of meetings of the International Commission on Radiological Protection (ICRP)
48	11.8	・Evaluation of the report on the leak of powdered uranium at Kumatori Works of Nuclear Fuel Industries, Ltd. and measures to be taken (draft) ・The review report concerning application for change in reactor installation of JAEA's Nuclear Science Research Institute(change of STACY (Static Experiment Critical Facility) and other facilities)(draft) ・Revision of the "Concept on New Regulatory Requirements applicable to commercial power reactors" (draft)
49	11.15	・Draft of the review report on application for change in nuclear fuel material processing business of Nuclear Fuel Industries, Ltd. Tokai Works (processing facility) (draft) ・Partial revision of the interpretation of the Ordinance on Technical Standards for Commercial Power Reactors and Auxiliary Facilities (draft) －Evaluation on the retention of kinetic function － ・Site visits by commissioners and exchange of opinions with local parties concerned (draft) ・NRA's responses to the data alteration problem of Kobe Steel, Ltd. ・Initial response on the release of the "information related to a Nankai Trough Earthquake" ・Operational safety inspections in the second quarter of FY2017
50	11.22	・Revision of related Cabinet Order, Ordinance and Guideline pertaining to the formulation and publication of the Forward Planning of the Decommissioning Policy ・Approval standards of decommissioning plans of research reactors and usage facilities ・Revision of the requirements for appointment of council members (draft) ・Situation of conformity review to New Regulatory Requirements of commercial power reactors ・Situation of conformity review to New Regulatory Requirements of facilities for handling radioisotopes ・Outline of the results of the fifth meeting of Japan-France Regulatory Authorities Meeting
51	11.22	・Hokuriku Electric Power Company's new approach on safety improvements, items requiring improvement, and so forth

52	11.29	・Partial revision of the Ordinance on the Installation and Operations of Commercial Power Reactors (draft) －Measures pertaining to the development of the system at the time of the occurrence of effect of volcanic activities－ ・Partial revision of the Ordinance on Standards Applicable to the Positioning of, Structure of, and Equipment at Commercial Power Reactors and Auxiliary Facilities(draft) －Incorporation of technical knowledge obtained through the conformity review of Units 6 and 7 at the Kashiwazaki Kariwa NPS to New Regulatory Requirements－ ・Partial revision of the Ordinance on Standards Applicable to the Positioning of, Structure of, and Equipment at Commercial Power Reactors and Auxiliary Facilities and requesting public comments on the revision －Prevention of leakage of radiation to outside of the controlled areas due to internal overflows－ ・The Study Team on Evaluation for Ground Motions without Identification of Seismic Sources (draft)
53	12.6	・The review report concerning application for change in reactor installation of JAEA's Nuclear Science Research Institute (change of NSRR and other facilities) (draft) ・Establishment of the cabinet order for partial revision of the ordinance for enforcement of the Act on the Prevention of Radiation Hazards due to Radioisotopes, etc. (draft) ・Partial revision of the Ordinance on Technical Standards for Commercial Power Reactors and Auxiliary Facilities (draft) and requesting public comments on the revision－Structure and strength of Specialized Safety Facility－ ・Outline of the results of the first meeting of the Working Group of Safety Culture (WGSC) of Committee on the Safety of Nuclear Installations (CSNI) OECD/NEA
54	12.6	・Chubu Electric Power Company's new approach on safety improvements, items requiring improvement, and so forth
55	12.13	・Establishment of the rules for the development of NRA regulations related to partial implementation of the act for partial revision of the Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material, and Reactors in order to reinforce safety measures in nuclear use (draft) ・Responses to past accidents and problems of nuclear facilities ・Progress of the review for revising the dose limit for the lens of the eye (report) (interim report of the Subcommittee on Radiation Protection of the Lens of the Eye of the Radiation Council) ・Outline of the results of the tenth China-Japan-Korea Top Regulators' Meeting (TRM)
56	12.20	・Permission for change in nuclear fuel material processing business of Nuclear Fuel Industries, Ltd. Tokai Works (processing facility) (draft) ・Evaluation of the reports received from Chugoku Electric Power Company on the corrosion emerged at the air-conditioning and ventilation ducts in the central control room of Unit 2 at Shimane NPS and measures to be taken (draft) ・Evaluation of the reports concerning the program failure of the detecting equipment for transporting low level radioactive waste and measures to be taken ・Points of discussion for application of ALARA to regulatory requirements pertaining to mid-depth disposal

57	12.27	・Permission for change in reactor installation of Units 6 and 7 at Kashiwazaki Kariwa NPS (TEPCO Holdings) (draft) ・Requesting opinions on the draft of partial revision of the ordinance concerning the use of nuclear fuel material (draft)－Measures pertaining to the use of plutonium or other material that might scatter or leak－ ・Inappropriate action conducted by subsidiaries of Mitsubishi Materials Corporation (report) ・NRA's proposed supplementary budget for FY2017, proposed budget for FY2018, and organization and the number of agency personnel plan for FY2018 ・Setting of important themes of FY2018 Radiation Safety Research Program Project and public offering of new projects ・Arbitrary decisions in the second quarter of FY2017
58	1.10	・Results of hearing opinions from the Japan Atomic Energy Commission and the Minister of Education, Culture, Sports, Science and Technology regarding permission for change in reactor installation of JAEA's Nuclear Science Research Institute (change in the facilities of STACY (Static Experiment Critical Facility) and other facilities) and measures to be taken (draft) ・Results of cause analysis on the inflow of rainwater into a nuclear reactor building at the Shika NPS (Hokuriku Electric Power Company) and countermeasures ・Utilization of concept of new inspection system in the operation of current inspection system
59	1.17	・Items requiring improvement in notification of evaluations for safety improvement of commercial power reactors ・Results of the detailed monitoring of areas where evacuees are not likely be allowed to return home soon ・Important issues in 2018 (excluding individual review)
60	1.24	・Partial revision of the Ordinance on Standards Applicable to the Positioning of, Structure of, and Equipment at Commercial Power Reactors and Auxiliary Facilities (draft)－Prevention of leakage of radiation to outside of the controlled areas due to internal overflows－ ・Partial revision of the Ordinance on Technical Standards for Commercial Power Reactors and Auxiliary Facilities(draft)－Structure and strength of Specialized Safety Facility－ ・Points of discussion for application of ALARA to regulatory requirements pertaining to mid-depth disposal
61	1.24	・Japan Atomic Power Company's new approach on safety improvements, items requiring improvement, and so forth
62 *7	1.29	・Selection of the Radiation Council members
63	1.31	・Evaluation of the reports received from Chugoku Electric Power Company on the corrosion emerged at the air-conditioning and ventilation ducts in the central control room of Unit 2 at Shimane NPS and measures to be taken (draft) and a policy for evaluating safety impact in responding to accidents and failures at nuclear facilities ・Evaluation of the report received from TEPCO Holdings on the failure in the speed governor in emergency diesel generator (A) at Unit 6 of the Fukushima Daiichi NPS and measures to be taken (draft) ・Results of evaluation for safety research (ex-post and intermediate evaluations) ・Results of the survey on the handling of safeguarded materials and measures to be taken ・Permission for change in reactor installation of JAEA's Nuclear Science Research Institute (change of STACY (Static Experiment Critical Facility) and other facilities) (draft) ・Permission for change in reactor installation of JAEA's Nuclear Science Research Institute (change of NSRR and other facilities)(draft)

64 *8	2.5	・Draft of the review report on application for change in reactor installation of Units 1, 2, 3, and 4 at Takahama NPS (KEPCO), designated as Specialized Safety Facilities (draft) ・Selection of the Reactor Safety Examination Committee members (examination and deliberation on items pertaining to volcanic monitoring)
65	2.7	・Draft of the review of application for change in reactor installation of Units 1, 2, 3, and 4 at Takahama NPS (KEPCO), designated as Specialized Safety Facilities (draft) ・Draft of the review on application for change in reactor installation of Units 1 and 2 at Sendai NPS (Kyushu Electric Power Company) (draft) ・Directions to improve Emergency Drills by licensees (Organizing a training scenario development working group and procedures)
66	2.14	・Preparation status regarding the follow-up mission of the IAEA's Integrated Regulatory Review Service (IRRS) ・Implementation of evaluation on the transportation regulation of radioactive materials by IAEA's IRRS (draft) ・Operational safety inspections in the third quarter of FY2017 ・Progress of the development of the qualification system for inspectors, etc.
67	2.21	・Establishment of regulatory requirements pertaining to mid-depth disposal－Framework of application of ALARA in near surface disposal and the concept of human-induced event scenario in mid-depth disposal－ ・Draft of partial revision of the ordinance concerning the use of nuclear fuel material (draft)－Measures pertaining to the use of plutonium or other material that might scatter or leak－ ・Evaluation of the report on the radioactive exposure of workers due to leaking of nuclear fuel materials in JAEA's Fuel Research Building at Oarai Research and Development Center (north district) and measures to be taken ・Appointment of the Reactor Safety Examination Committee members (examination and deliberation on items pertaining to volcanic monitoring) (draft)
68	2.28	・Draft of the review report on application for change in nuclear fuel material processing business of Nuclear Fuel Industries, Ltd. Kumatori Works (processing facility) (draft) ・Directions for revising Measures for Mid-term Risk Reduction at TEPCO's Fukushima Daiichi NPS ・Response to the revision of the IAEA Safety Standards NS-R3 (Rev. 1) ・Release of the NRA's initiatives (March 11 report) and management review for FY2017 ・Results of annual evaluation of safety research projects in FY2017
69	3.7	・Revisions of the Reactor Regulation Act and the Radiation Hazards Prevention Act to promote appropriate measures pertaining to the restriction of the rights of adult wards (draft) ・Permission for change in reactor installation of Units 1 and 2 at Sendai NPS (Kyushu Electric Power Company) (draft) ・Permission for change in reactor installation of Units 1, 2, 3, and 4 at Takahama NPS (KEPCO), designated as Specialized Safety Facilities (draft) ・Revision of Measures for Mid-term Risk Reduction at TEPCO's Fukushima Daiichi NPS (ver. March 2018) (draft) ・Liaison at the time of emergency such as accidents and troubles of radioisotope use, etc. ・Framework of the Guidelines for Assessing the Impacts of Volcanic Activities on Nuclear Power Stations ・Establishment of regulatory requirements pertaining to mid-depth disposal－Framework of application of ALARA in near surface disposal and the concept of human-induced event scenario in mid-depth disposal－
70	3.7	・JAEA's new approach on safety improvements, items requiring improvement, and so forth

71 *9	3.9	・Formulating the Guidelines for Nuclear Facility Information System Security Measures ・Study on strengthening internal threat countermeasures for nuclear facilities other than commercial nuclear power reactors
72	3.14	・Response to functional failure of residual heat removing pumps(RHR) due to steam void (status report) ・Examination for revising ordinances related to radiation control report ・Suggestions offered by the Radiation Council regarding the way to protect the lens of the eye from radiation ・Appointment of the Radiation Council members ・Draft of Cabinet Order for partial revision of the NRA Organization Order
73 *10	3.15	・Amendments of the Guidelines for Nuclear Facility Information System Security Measures
74	3.20	・Results of the review on application for change in reactor installation of the prototype advanced thermal converter reactor at Reactor Decommissioning R&D Center (JAEA) (draft) ・Re-examination of the placement of the real-time dose measuring systems (draft) ・Formulating the Guidelines for Nuclear Facility Information System Security Measures ・Achievements of Nuclear Energy Disaster Prevention Drill conducted in FY2017 ・Progress of examinations on the guidelines on safety culture and the guidelines on cause analysis ・Progress of actions for issues identified through the IRRS ・U.S. business trip report
75	3.28	・Approval of the decommissioning plan of Prototype Fast Breeder Reactor Monju (JAEA) (draft) ・Permission for change in nuclear fuel material processing business of Nuclear Fuel Industries, Ltd. Kumatori Works (processing facility) (draft) ・Prioritized items on the inspections for checking conformity to the operational safety programs in FY2018 (draft) ・Partial revision of the Ordinance on the Business of Reprocessing Spent Fuel and requesting public comments on the revision (draft)－Measures pertaining to the development of the system at the time of the occurrence of effect of volcanic activities and incorporation of technical knowledge obtained through the conformity review of Units 6 and 7 at Kashiwazaki Kariwa NPS to New Regulatory Requirements－ ・Policy evaluations and prioritized plans ・Results of KEPCO's investigation on the distribution of volcanic ash from Daisen Volcano

*1: The 4th meeting in FY2017 was closed to the public because it handled selection of the Council members, the Examination Committees' members and the commissioners. The information disclosure could endanger personal rights and benefits, and disturb ensuring fair and smooth personnel affairs for selecting examination committee members.

*2: The 11th meeting in FY2017 was closed to the public because the meeting examined suitability and propriety of disposition implemented by NRA themselves. Opening of examination to the public could disturb hearing of honest opinions from the persons involved in the disposition, and as a result, the original function of formal objection that performs fair and neutral decision through simple procedure might be obstructed.

*3: The 19th meeting in FY2017 was closed to the public because it handled selection of the expert commissioners of the Radiation Council. The information disclosure could endanger personal rights and benefits, and disturb ensuring fair and smooth personnel affairs for selecting examination committee members.

*4: The 30th meeting in FY2017 was closed to public to prevent endangering public safety by disclosing information relating to physical protection from a person(s) who might ultimately attempt to sabotage nuclear facilities with such information.

*5: The 34th meeting in FY2017 was closed to the public considering the viewpoint of security because it handled the review process of the Specialized Safety Facilities.

*6: The 45th meeting in FY2017 was closed to public to prevent endangering public safety by disclosing information relating to physical protection from a person(s) who might ultimately attempt to sabotage nuclear facilities with such information.

*7: The 62nd meeting in FY2017 was closed to the public because it handled selection of the Radiation Council members. The information disclosure could endanger personal rights and benefits, and disturb ensuring fair and smooth personnel affairs for selecting radiation council members.

*8: The 64th meeting in FY2017 handled information on inspections of Specialized Safety Facilities and selected the Examination Committees' members, so it was closed to public for security purpose and the possibility that the information disclosure could endanger personal rights and benefits, and disturb ensuring fair and smooth personnel affairs for selecting examination committee members.

*9: The 71st meeting in FY2017 was closed to public to prevent endangering public safety by disclosing information relating to physical protection from a person(s) who might ultimately attempt to sabotage nuclear facilities with such information.

*10: The 73rd meeting in FY 2017 was closed to public to prevent endangering public safety by disclosing information relating to physical protection from a person(s) who might ultimately attempt to sabotage nuclear facilities with such information.

9. List of decision made in NRA

(From April 1, 2017 to March 31, 2018)

Date of determination	Decision made in Committee
4.5	・Permission for change in reactors installation at Sendai NPS (Kyushu Electric Power Company) (Units 1 and 2)
	・Permission for change in nuclear fuel material processing business of GNF-Japan (processing facility)
	・Partial revision of the Ordinance on technical standards for change in design and construction methods of reprocessing facility pertaining to protection from toxic gases
	・Formulation of the Guidelines for Assessments of impacts pertaining to protection from toxic gases
	・Issuance of common instruction on response to partial revision of the Ordinance on technical standards for change in design and construction methods of reprocessing facility pertaining to protection from toxic gases
4.19	・Hearing opinions on application for change in nuclear fuel material processing business of JNFL's enrichment and waste disposal site
	・Policy on reviews for approval of the decommissioning plan of Prototype Fast Breeder Reactor Monju
	・Policy on reviews for approval of the decommissioning plan of the Nuclear Fuel Cycle Engineering Laboratories (reprocessing facility)
	・Partial revision of the review standards applicable to the treatment of the Nuclear Regulation Authority based on the Act on the Regulation of Nuclear Source Materials, Nuclear Fuel Materials, and Reactors
	・Approval of the decommissioning plan of Unit 1 at Genkai NPS
	・Approval of change to the decommissioning plan of Unit 1 at Tsuruga NPS
	・Approval of the decommissioning plan of Units 1 and 2 at Mihama NPS
	・ Approval of the decommissioning plan of Unit 1 at Shimane NPS
5.17	・Permission for change in nuclear fuel material processing business of JNFL's enrichment and waste disposal site
5.24	・Permission for change in reactor installation at Ohi NPS (Units 3 and 4)
	・Appointment of the Radiation Council members
	・Appointment of commissioners for emergency response measures
	・NRA Annual Report for FY2016
	・Decision on the formal objection and petition for stay of execution to approval of the construction plan for Unit 4 at Takahama NPS
	・Decision on the formal objection to approval of the construction plan for Unit 3 at Ikata NPS
5.31	・Approvals of changes of the operational rules for designated information processing bodies
6.7	・Hearing opinions on permission for change in reactor installation at Takahama NPS (KEPCO) (Units 3 and 4)
	・Approval of the decommissioning plan of TRACY
	・Approval of the decommissioning plan of JRR-4
	・Evaluation of the report received from Japan Atomic Power Company on the bending of a cylinder cooling water pump attached to a B emergency diesel generator of Unit 2 of Tsuruga NPS and measures to be taken
	・Appointing members of the Reactor Safety Examination Committee and the Nuclear Fuel Safety Examination Committee
6.14	・Ordinance for partial revision of the ordinance on the use of safeguarded materials
	・Notification of partial revision of items specified as of safeguarded materials based on the Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material and Reactors
	・Cabinet Order for partial revision of the NRA Organization Order
	・Ordinance for partial revision of the NRA Organization Order

6.21	・Implementation of site inspection at JAEA's Fuel Research Building at Oarai Research and Development Center (North district)
	・Cabinet order for setting the date of partial implementation of the act for partial revision of the Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material, and Reactors in order to reinforce safety measures in nuclear use (petition)
	・Cabinet order for development of the cabinet order related to partial implementation of the act for partial revision of the Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material, and Reactors in order to reinforce safety measures in nuclear use (petition)
	・Ordinance for development of the NRA ordinances related to partial implementation of the act for partial revision of the Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material, and Reactors in order to reinforce safety measures in nuclear use
6.28	・Permission for change in reactors installation at the Takahama NPS (Units 3 and 4)
	・Approval of decommissioning plan of Unit 1 at Ikata NPS
	・Notification of the designation of subject prefectures based on the provision of Article 2-2 of the Act on Special Measures Concerning Nuclear Emergency Preparedness
	・Basic policy for nuclear energy (Reply)
7.5	・Revision of the Nuclear Emergency Response Guidelines and NRA's Ordinance in line with the review and establishment of Emergency Action Level (EAL)
7.12	・Hearing opinions on the plan of Nuclear Energy Disaster Prevention Drill for FY2017 (Reply)
7.19	・Partial revision of the Ordinance on Technical Standards for Design and Construction of Reprocessing Facilities Pertaining to high-energy arcing fault
	・Assessment guidelines on electrical panel designs relating to high-energy arcing fault (HEAF)
7.26	・Partial revision of the Ordinance on the Installation and Operations of Commercial Power Reactors regarding Procedures for Application of Aging Management
8.3	・Hearing opinions on permission for change in physical protection program of Tomari NPS (Hokkaido Electric Power Company)
	・Hearing opinions on permission for change in physical protection program of Higashidori NPS (Tohoku Electric Power Company)
	・Hearing opinions on permission for change in physical protection program of Onagawa NPS (Tohoku Electric Power Company)
	・Hearing opinions on permission for change in physical protection program of Fukushima Daini NPS (TEPCO Holdings)
	・Hearing opinions on permission for change in physical protection program of Kashiwazaki Kariwa NPS (TEPCO Holdings)
	・Hearing opinions on permission for change in physical protection program of Shika NPS (Hokuriku Electric Power Company)
	・Hearing opinions on permission for change in physical protection program of Hamaoka NPS (Chubu Electric Power Company)
	・Hearing opinions on permission for change in physical protection program of Mihama NPS (KEPCO)
	・Hearing opinions on permission for change in physical protection program of Ohi NPS (KEPCO)
	・Hearing opinions on permission for change in physical protection program of Takahama NPS (KEPCO)
	・Hearing opinions on permission for change in physical protection program of Shimane NPS (Chubu Electric Power Company)
	・Hearing opinions on permission for change in physical protection program of Ikata NPS (Shikoku Electric Power Company)
	・Hearing opinions on permission for change in physical protection program of Genkai NPS (Kyushu Electric Power Company)
	・Hearing opinions on permission for change in physical protection program of Sendai NPS (Kyushu Electric Power Company)
	・Hearing opinions on permission for change in physical protection program of Tokai Daini NPS (Japan Atomic Power Company)
	・Hearing opinions on permission for change in physical protection program of Tsuruga NPS (Japan Atomic Power Company)
	・Hearing opinions on permission for change in physical protection program of Oma NPS (J-Power)
	・Hearing opinions on permission for change in physical protection program of Prototype Fast Breeder Reactor Monju (Japan Atomic Energy Agency)

	・Hearing opinions on permission for change in physical protection program on reactor facilities of Reactor Decommissioning R&D Center (Japan Atomic Energy Agency)
	・Hearing opinions on permission for change in physical protection program of reprocessing facilities (Japan Nuclear Fuel Limited)
	・Hearing opinions on permission for change in physical protection program of Nuclear Fuel Cycle Engineering Laboratories' Reprocessing Facility (Japan Atomic Energy Agency)
	・Hearing opinions on permission for change in the implementation plan (IV. Protection of Specified Nuclear Fuel Material) relating to Specified Nuclear Facility at Fukushima Daiichi NPS (TEPCO Holdings)
8.23	・Performance evaluation of the National Institutes for Quantum and Radiological Science and Technology
	・Partial revision of the NRA Code of Conduct for emergency
	・Policy evaluation report of implementation measures in FY2016 and a pre-analysis table of implementation measures for FY2017
8.30	・Performance evaluation of the JAEA in FY2016
	・Partial revision of the Ordinance on Standards Applicable to the Positioning of, Structure of, and Equipment at Commercial Power Reactors and Auxiliary Facilities
9.6	・Hearing opinions on permission for change in reactor installation at Ikata NPS (Shikoku Electric Power Company) (Unit 3)
9.13	・Revision of the Guide for Nuclear Licensee EPR plan (rules)
9.20	・Hearing opinions on application for change in nuclear fuel material processing business of Mitsubishi Nuclear Fuel Company, Ltd.
	・Partial revision of the Ordinance on the Installation and Operations of Commercial Power Reactors regarding procedures for applying for operation period extension
10.4	・Hearing opinions on permission for change in reactor installation at Kashiwazaki Kariwa NPS (TEPCO Holdings) (Units 6 and 7)
	・Permission for change in reactor installation at the Ikata NPS (Shikoku Electric Power Company) (Unit 3)
10.11	・Sixth National Report of Japan of the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management
10.25	・Evaluation of the report received from Japan Atomic Power Company on the establishment of entry-restricted zones associated with leaks of liquids inside a tank-vent processing equipment room on the first underground level of a waste-treatment building at Tokai 2 Power Station
11.1	・Permission for change in nuclear fuel material processing business of Mitsubishi Nuclear Fuel Company, Ltd. (processing facility)
11.8	・Evaluation of the report on the leak of powdered uranium at Kumatori Works of Nuclear Fuel Industries, Ltd. and measures to be taken
	・Application for change in reactors installation of JAEA (change in the facilities of STACY (Static Experiment Critical Facility))(opinion hearing)
	・Revision of the "Concept on New Regulatory Requirements Applicable to Commercial Power Reactors"
11.15	・Hearing opinions on application for change in nuclear fuel material processing business of Nuclear Fuel Industries, Ltd. Tokai Works
	・Partial revision of the interpretation of the Ordinance on Technical Standards Applicable to Commercial Power Reactors and Auxiliary Facilities and the interpretation of the Ordinance on Technical Standards Applicable to Reactors and Auxiliary Facilities in the Research and Development Phase
	・Partial revision of design and construction assessment guidelines on seismic-resistant design

11.22	・Cabinet order for setting the date of partial implementation of the act for partial revision of the Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material, and Reactors in order to reinforce safety measures in nuclear use (petition)
	・Cabinet order for development of the cabinet order related to partial implementation of the act for partial revision of the Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material, and Reactors in order to reinforce safety measures in nuclear use (petition)
	・Development of the NRA ordinances related to partial implementation of the act for partial revision of the Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material, and Reactors in order to reinforce safety measures in nuclear use
	・Operational guideline for formulating the Forword Planning of the Decommissioning Policy
	・Partial revision of requirements for the NRA to ensure transparency and neutrality in appointment of members of the Reactor Safety Examination Committee and the Nuclear Fuel Safety Examination Committee
	・Partial revision of requirements for NRA to ensure transparency and neutrality in appointment of the Radiation Council members
11.29	・Partial revision of the Ordinance on the Installation and Operation of Commercial Power Reactors
	・Partial revision of Review Standards Applicable to Operational Safety Program of Commercial Power Reactors and Auxiliary Facilities
	・Partial revision of the Guidelines for Assessing the Impacts of Volcanic Activities on Nuclear Power Stations
	・Partial revision of the Ordinance on Standards Applicable to the Positioning of, Structure of, and Equipment at Commercial Power Reactors and Auxiliary Facilities
	・Partial revision of review guideline for evaluating effectiveness of measures to prevent core damage and breakage of containment vessels of commercial power reactors
12.6	・Hearing opinions on permission for change in reactors installation at the Nuclear Science Research Institute (JAEA) (NSRR)
	・Cabinet order for setting the date of partial implementation of the act for partial revision of the Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material, and Reactors in order to reinforce safety measures in nuclear use (petition)
	・Cabinet order for partial revision of the ordinance for enforcement of the Act on the Prevention of Radiation Hazards due to Radioisotopes, etc. (petition)
12.13	・Ordinance for development of the NRA ordinances related to partial implementation of the act for partial revision of the Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material, and Reactors in order to reinforce safety measures in nuclear use
	・Notification of the adjustment of NRA-related notifications upon the implementation of the rules for the development of the NRA ordinances related to partial implementation of the act for partial revision of the Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material, and Reactors in order to reinforce safety measures in nuclear use
	・Notification stipulating radioisotopes or radiation generating apparatuses based on Item (xiv) of Paragraph 1 of Article 21 of the Ordinance for Enforcement of the Prevention of Radiation Hazards due to Radioisotopes, etc.Act
	・Review standards for operational rules for certification of registered certification organizations and viewpoint for confirming operational rules for providing regular lectures
	・Interpretation of accident reports to the NRA in accordance with the provisions of Article 28-3 Ordinance for Enforcement of the Act on the Prevention of Radiation Hazards due to Radioisotopes, etc. based on the provisions of Article 31-2 of the Act on the Prevention of Radiation Hazards due to Radioisotopes, etc.
	・Guidelines concerning items to be specified in Radiation Hazards Prevention Program
	・Guidelines on on-site inspection for registered certification bodies, etc.
12.20	・Permission for change in nuclear fuel material processing business of Nuclear Fuel Industries Company, Ltd. Tokai Works (processing facility)
12.27	・Permission for change in reactor installation at Kashiwazaki Kariwa NPS (Units 6 and 7)
1.24	・Partial revision of the Ordinance on Standards Applicable to the Positioning of, Structure of, and Equipment at Commercial Power Reactors and Auxiliary Facilities－Prevention of leakage of radiation to outside of the controlled-area due to internal overflows－
	・Partial revision of the Ordinance on Technical Standards for Commercial Power Reactors and Auxiliary Facilities

1.31	・Evaluation of the reports received from Chugoku Electric Power Company on the corrosion emerged at the air-conditioning and ventilation ducts in the central control room of Unit 2 at Shimane NPS (Chugoku Electric Power Company) and measures to be taken
	・Evaluation of the report received from TEPCO Holdings on the failure in the speed governor of the emergency diesel generator(A) at Unit 6 reactor of Fukushima Daiichi NPS
	・Permission for change in reactor installation of JAEA's Nuclear Science Research Institute (change of STACY (Static Experiment Critical Facility) and other facilities)
	・Permission for change in reactor installation of JAEA's Nuclear Science Research Institute (change of NSRR and other facilities)
2.7	・Hearing opinions on permission for change in reactor installation at Takahama NPS (KEPCO) (Units 1, 2, 3, and 4)
	・Hearing opinions on permission for change in reactor installation at Sendai NPS (Kyushu Electric Power Company) (Units 1 and 2)
2.21	・Partial revision of the ordinance concerning the use of nuclear fuel material－Measures pertaining to the use of plutonium or other material that might scatter or leak－
	・Evaluation of the report on the radioactive exposure of workers due to leaking of nuclear fuel materials in JAEA's Fuel Research Building at Oarai Research and Development Center (north district) and measures to be taken
	・Appointing the Reactor Safety Examination Committee members
2.28	・Hearing opinions on application for change in nuclear fuel material processing business of Nuclear Fuel Industries, Ltd. Kumatori Works
	・NRA's initiatives
3.7	・Revisions of the Reactor Regulation Act and the Radiation Hazards Prevention Act to promote appropriate measures pertaining to the restriction of the rights of adult wards (petition)
	・Permission for change in reactors installation at Sendai NPS (Kyushu Electric Power Company) (Units 1 and 2)
	・Permission for change in reactor installation at Takahama NPS (KEPCO) (Units 1, 2, 3, and 4)
3.14	・Appointment of the Radiation Council members
	・Cabinet Order to partial revision of the NRA Organization Order
	・Ordinance for partial revision of the NRA Organization Order
3.20	・Hearing opinions on application for change in reactor installation of the prototype advanced thermal converter reactor at Reactor Decommissioning R&D Center (JAEA)
3.28	・Approval of the decommissioning plan of Prototype Fast Breeder Reactor Monju (JAEA)
	・Permission for change in nuclear fuel material processing business of Nuclear Fuel Industries, Ltd. Kumatori Works (processing facility)
	・Prioritized items on the inspections for checking conformity to the operational safety programs in FY2018
	・NRA Annual Prioritized Plan for FY2018

１０．Opinion exchanges with licensees

(1) Opinion exchanges with the executives on safety improvements

Date	Nuclear Licensees
April 14, 2017	Kyushu Electric Power Co., Inc.
June 7, 2017	The Kansai Electric Power Co., Inc.
July 12, 2017	Hokkaido Electric Power Co., Inc.
July 31, 2017	Shikoku Electric Power Co., Inc.
September 6, 2017	Tohoku Electric Power Co., Inc.
October 4, 2017	The Chugoku Electric Power Co., Inc.
November 22, 2017	Hokuriku Electric Power Co.
December 6, 2017	Chubu Electric Power Co., Inc.
January 24, 2018	The Japan Atomic Power Co.
March 7, 2018	Japan Atomic Energy Agency (JAEA)

(2) Opinion exchanges with the executives on specific issues

Date	Nuclear Licensees	Main issues of discussions
July 10, 2017	TEPCO Holdings	Attitude of addressing nuclear power business. (The NRA showed 7 basic concepts and requested written response.)
August 30, 2017	TEPCO Holdings	Discussion on the TEPCO's response to the 7 basic concepts
September 20, 2017	TEPCO Holdings	The NRA requested President of TEPCO Holdings Kobayakawa to attend the NRA meeting, and confirmed TEPCO's intention of clarifying their future actions, which were promised in the written response, to operational safety programs.

(3) Opinion exchange with managers of nuclear power departments in the licensees installing major nuclear facilities

Date	Nuclear Licensees
April 6, 2017	KEPCO, Tohoku Electric Power Company, TEPCO Holdings, the Federation of Electric Power Companies
July 7, 2017	KEPCO, Chubu Electric Power Company, Shikoku Electric Power Company, the Federation of Electric Power Companies

November 9, 2017	KEPCO, Chubu Electric Power Company, TEPCO Holdings, Kyushu Electric Power Company, the Federation of Electric Power Companies
March 28, 2018	KEPCO, Chubu Electric Power Company, TEPCO Holdings, the Federation of Electric Power Companies

(4) Visits to Nuclear Power Stations by NRA Commissioners

	Schedule	Purpose	Place of visit (NPS, etc.)	Commissioner in charge
1	May 19, 2017	On-site investigation	Ikata NPS (Shikoku Electric Power Company Inc.)	Commissioner Ishiwatari
2	May 26, 2017	On-site investigation	Prototype Fast Breeder Reactor Monju (JAEA)	Commissioner Satoru Tanaka
3	June 2, 2017	On-site inspection	Nuclear Science Research Institute, Nuclear Fuel Engineering Laboratories (JAEA)	Commissioner Satoru Tanaka
4	July 7, 2017	On-site inspection	Takahama NPS (KEPCO)	Chairman Tanaka
5	July 18, 2017	On-site inspection	Hamaoka NPS (Chubu Electric Power Co., Inc.)	Commissioner Fuketa
6	July 21, 2017	On-site inspection	Shimane NPS (Chugoku Electric Power Co., Inc.)	Commissioner Ban
7	July 24-25, 2017	On-site inspection	Rokkasho reprocessing facilities (JNFL), Higashidori NPS (Tohoku Electric Power Co., Inc.)	Commissioner Fuketa
8	July 27-28, 2017	Attitude survey of directors and workers	Kashiwazaki Kariwa NPS (TEPCO)	Chairman Tanaka, Commissioner Ban
9	August 4, 2017	On-site inspection	Fukushima Daiichi NPS (TEPCO)	Commissioner Fuketa, Senior Advisor Yamanaka (currently serving as commissioner)
10	August 9, 2017	On-site inspection	JAEA Horonobe Underground Research Center	Commissioner Ban
11	August 22, 2017	On-site inspection	Ohi NPS (KEPCO)	Commissioner Ban
12	August 24, 2017	On-site inspection	JAEA Ningyo-toge Environmental Engineering Center	Commissioner Satoru Tanaka
13	October 20, 2017	On-site investigation	Takahama NPS (KEPCO)	Commissioner Ishiwatari
14	October 27, 2017	On-site inspection	Mitsubishi Nuclear Fuel Company , Ltd., JAEA Nuclear Science Research Institute, JAEA Nuclear Fuel Cycle Engineering Laboratories	Commissioner Satoru Tanaka
15	November 6-7, 2017	On-site inspection	Hiroshima University Hospital, Nagasaki University Hospital	Commissioner Ban

16	November 13, 2017	On-site investigation	Prototype Fast Breeder Reactor Monju (JAEA)	Commissioner Satoru Tanaka
17	November 16, 2017	On-site investigation	Onagawa NPS (Tohoku Electric Power Co., Inc.)	Commissioner Yamanaka
18	November 17, 2017	On-site investigation	Higashidori NPS (Tohoku Electric Power Co., Inc.)	Commissioner Ishiwatari
19	November 20-21, 2017	On-site inspection	Fukushima Prefectural Medical University Hospital, Hirosaki University Hospital	Commissioner Ban
20	December 18, 2017	On-site inspection	Fukushima Daiichi NPS (TEPCO)	Commissioner Satoru Tanaka
21	December 22, 2017	On-site inspection	Ohi NPS (KEPCO)	Chairman Fuketa, Commissioner Yamanaka
22	January 13, 2018	On-site inspection	Fukushima Daiichi NPS, Fukushima Dini NPS (TEPCO)	Chairman Fuketa
23	February 11, 2018	On-site inspection	Genkai NPS (Kyushu Electric Power Co., Inc.)	Chairman Fuketa, Commissioner Yamanaka
24	February 15, 2018	On-site inspection	Ohi NPS (KEPCO)	Commissioner Yamanaka
25	February 23, 2018	On-site investigation	Genkai NPS (Kyushu Electric Power Co., Inc.)	Commissioner Yamanaka
26	March 16, 2018	On-site inspection	Hamaoka NPS (Chubu Electric Power Co., Inc.)	Commissioner Satoru Tanaka

１１．Meetings and opinion exchange with local governments

(1) Meetings with Local Governments in FY2017

Schedule	Meeting with	NRA Representative
April 26	Governor of Tottori Prefecture	Secretary-General
May 9	Mayors of 22 municipalities (including the Mayor of Tsuruga City), chairpersons of 17 municipal assemblies (including representatives)	Deputy Director-General
May 26	Chairperson of the Fukui Prefectural Assembly, Vice Chairperson of the Shizuoka Prefectural Assembly	Secretary-General
May 30	Governor of Ehime Prefecture Chairperson of the Aichi Prefectural Assembly	Secretary-General
May 30	Deputy-Governor of Shiga Prefecture	Deputy Director-General
May 31	Governor of Shimane Prefecture	Secretary-Gene

	Chairperson of the Shimane Prefectural Assembly	ral
June 28	Governor of Tottori Prefecture	Secretary-General
July 12	Mayor of Matsue	Deputy Director-General
July 14	Governor of Shimane Prefecture	Secretary-General
July 20	Governor of Tottori Prefecture	Secretary-General
July 20	Mayor of Mihama	Deputy Director-General
November 8	Governor of Shimane Prefecture	Secretary-General
November 10	Chairperson of the Shizuoka Prefectural Assembly, Chairperson of the Fukui Prefectural Assembly, Chairperson of the Niigata Prefectural Assembly, Chairperson of the Kagoshima Prefectural Assembly	Secretary-General
November 21	Deputy-Governor of Shiga Prefecture	Deputy Director-General

(2) On-site opinion exchange between the NRA and local parties concerned

Schedule	Description	Attendees	Commissioner in charge
July 6-7	Opinion exchange with local parties concerned regarding the basic concept of the Nuclear Emergency Response Guidelines	Governor of Fukui Prefecture, Mayor of Takahama and representatives of Takahama residents, Mayor of Ohi, Deputy Governor of Kyoto Prefecture, Mayor of Maizuru, etc.	Former Chairman Tanaka
December 14-15	Discussions with the heads of concerned local governments in Fukushima Prefecture due to the change of NRA Chairman	Mayors of Iidate, Kawamata, Date, Minami-soma, Kawauchi, Katsurao, and Tamura	Chairman Fuketa Former Chairman Tanaka
January 12-13	Discussions with the heads of	Mayors of Naraha, Hirono,	Chairman Fuketa

	concerned local governments in Fukushima Prefecture due to the change of NRA Chairman	Iwaki, Tomioka, Okuma, and Futaba	Former Chairman Tanaka
February 11	Discussions with the heads of local governments and local parties concerned on regulatory issues related to nuclear facilities	Governor of Saga Prefecture, Mayors and Genkai, Karatsu, Matsuura, Hirado, and Iki Representatives of 3 cities and 2 prefectures	Chairman Fuketa Commissioner Yamanaka

(3) On-site opinion exchange between the NRA Secretariat and local parties concerned

Schedule	Venue	Name of meeting/session	Main attendees
August 7-September 7, 2017 (6 times in total)	Aomori Prefecture	Opinion Exchange Session on Nuclear Power (Municipalities of Shingo, Takko, Imabetsu, Tsuruta, Shichinohe, Inakadate)	Residents
October 18, 2017	Aomori Prefecture	Aomori Prefecture Nuclear Policy Committee	Experts and others
March 22, 2018	Aomori Prefecture	Aomori Prefectural Assembly Special Committee on Nuclear Measures	Members of the Prefectural Assembly
November 1, 2017	Miyagi Prefecture	The Panel on the Safety of Unit 2 of the Onagawa NPS	Experts
May 17, 2017-February 5, 2018 (4 times in total)	Fukushima Prefecture	Prefectural Council for Ensuring the Safety of Reactor Decommissioning	Residents, representatives of organizations and others
May 29, 2017-January 23, 2018 (3 times in total)	Fukushima Prefecture	Subcommittee of Labor Safety and Health Measures	Local governments, experts
May 29-September 29, 2017 (3 times in total)	Fukushima Prefecture	Fukushima Prefectural Council for Measures Against Reactor Decommissioning and Contaminated Water	Local governments, representatives of organizations and others
June 16, 2017-March 26, 2018 (4 times in total)	Fukushima Prefecture	Council for Monitoring the Safety of Reactor Decommissioning	Local governments, experts
August 7, 2017-February 19, 2018 (4 times in total)	Fukushima Prefecture	Naraha Town Committee on Supervision of Nuclear Facilities	Experts
April 12, 2017-March 7, 2018 (12 times in total)	Niigata Prefecture	Community Group for Ensuring the Transparency of the Kashiwazaki Kariwa NPS	Representatives of residents and others
March 28, 2018	Niigata Prefecture	Kashiwazaki Municipal Assembly Kashiwazaki Kariwa NPS Investigation Special Committee Seminar (briefing session)	Members of the Municipal Assembly
June 9, 2017	Ibaraki Prefecture	Meeting of the Heads of Local Governments	Heads of local governments, and others
July 19, 2017	Ibaraki Prefecture	Briefing session on the results of notification and report drills at nuclear facilities at the time of accidents or failures	Licensees and others
December 27, 2017	Ibaraki Prefecture	Ibaraki Prefectural Committee on the Revision of Community Disaster Preparedness Plan Subcommittee on Nuclear Disaster Measures	Heads of local governments, experts
March 29, 2018	Ibaraki Prefecture	Ibaraki Prefecture Nuclear Council	Heads of local governments, experts, and others
October 19, 2017	Kanagawa Prefecture	Kawasaki City Committee on the Safety Measures for Nuclear Facility	Experts
June 21, 2017-March 15, 2018 (4 times in total)	Shizuoka Prefecture	Omaezaki City Discussion Session of Special Committee of Nuclear Measures	Members of the Municipal Assembly

May 1, 2017-January 26, 2018 (4 times in total)	Ishikawa Prefecture	Joint meeting of the Akasumi District Committee and the Safety Promotion Liaison Committee	Heads of local governments, representatives of residents, and others
May 1, October 18, 2017	Ishikawa Prefecture	Shika Town "Shika Nuclear Power Station" Safety Promotion Council	Heads of local governments, representatives of residents, and others
July 11, 2017-March 26, 2018 (4 times in total)	Ishikawa Prefecture	Ishikawa Prefecture Council on Management of Nuclear Environmental Safety	Experts, local governments, and others
January 23, 2018	Ishikawa Prefecture	Shika Municipal Assembly Special Committee on Nuclear Measures	Heads of local governments, members of the Municipal Assembly
June 7, 2017-March 8, 2018 (5 times in total)	Fukui Prefecture	Fukui Prefecture Advisory Committee	Experts
July 21, 2017- March 28, 2018 (4 times in total)	Fukui Prefecture	Fukui Prefecture Council on Management of Nuclear Environmental Safety	Members of the Prefectural Assembly, heads of local governments, representatives of organizations and others
September 22, 2017	Fukui Prefecture	Council of All Members of the Fukui Prefectural Assembly	Members of the Prefectural Assembly
March 20, 2018	Fukui Prefecture	Takahama Municipal Assembly Special Committee on Nuclear Measures	Members of the Municipal Assembly
March 29, 2018	Fukui Prefecture	Wakasa Town Council of Nuclear Power Station Environmental Safety Measures	Members of the Municipal Assembly, representatives of residents, and others
March 29, 2018	Fukui Prefecture	Obama City Council of Nuclear Power Station Environmental Safety Measures	Members of the Municipal Assembly, representatives of organizations, and others
August 31, 2017-February 28, 2018 (3 times in total)	Kyoto Prefecture	Community Council on Ohi NPS in Kyoto Prefecture	Heads of local governments, and others
October 4-11, 2017 (6 times in total)	Kyoto Prefecture	Briefing session on Ohi NPS for residents of Kyoto Prefecture (Municipalities of Kyotamba, Kyoto, Nantan, and Ayabe)	Residents and others
June 1 and November 28, 2017	Shiga Prefecture	Shiga Prefecture Nuclear Safety Measures Liaison Council	Local governments, experts, and others
November 23, 2017	Shiga Prefecture	Briefing session on Ohi NPS for residents of Shiga Prefecture (Takashima City)	Residents and others
July 26, 2017 and March 16, 2018	Osaka Prefecture	Kumatori Council on Measures Against Nuclear Issues	Members of the Municipal Assembly, representatives of residents, and others
August 10, 2017	Osaka Prefecture	Izumisano Council on Measures Against Nuclear Issues	Members of the Municipal Assembly, representatives of residents, and others
May 2, 2017-February 20, 2018 (8 times in total)	Okayama Prefecture	Briefing session on the results of operational safety inspections	Local governments
May 24, 2017 and	Shimane	Matsue Municipal Assembly Special Committee	Members of the Municipal

February 15, 2018	Prefecture	on the Safety of Shimane NPS	Assembly
May 25, 2017	Shimane Prefecture	Joint briefing session of Izumo, Yasugi, and Unnan Cities (agreement)	Members of the Municipal Assembly, heads of local governments, and others
May 25, 2017	Shimane Prefecture	Shimane Prefectural Assembly General Affairs Committee	Members of the Prefectural Assembly
June 8, 2017	Shimane Prefecture	Shimane Prefecture Advisory Meeting for Nuclear Safety	Experts, local governments, licensees
June 8, 2017	Shimane Prefecture	Shimane Prefecture Council on the Environmental Safety Measures for Areas Around Nuclear Power Stations	Local governments, members of the municipal assembly, heads of local governments, organizations and others
June 8, 2017 and March 27, 2018	Shimane Prefecture	Matsue Council on Nuclear Power Station Environmental Safety Measures	Members of the Municipal Assembly, organizations, representatives of residents, and others
May 19, 2017	Tottori Prefecture	Council of All Members of the Tottori Prefectural Assembly	Members of the Prefectural Assembly
May 26, 2017	Tottori Prefecture	Tottori Prefecture Nuclear Safety Joint Meeting	Heads of local governments, experts, and others
May 29, 2017-February 19, 2018 (4 times in total)	Ehime Prefecture	Ikata Nuclear Power Station Environmental Investigation Technical Liaison Council	Local governments, licensees, and others
July 18, 2017-February 2, 2018 (3 times in total)	Ehime Prefecture	Ikata Nuclear Power Station Environment and Safety Management Committee, Nuclear Safety Subcommittee	Experts
August 1, 2017 and March 20, 2018	Ehime Prefecture	Ikata Nuclear Power Station Environment and Safety Management Committee, Environmental Safety Subcommittee	Experts
August 31, 2017 and March 20, 2018	Ehime Prefecture	Ikata Nuclear Power Station Environment and Safety Management Committee	Heads of local governments, local governments, experts, and others
July 18, 2017 and January 25, 2018	Saga Prefecture	Saga Prefecture Nuclear Environmental Safety Liaison Committee	Heads of local governments, representatives of residents, and others
May 26, 2017-February 16, 2018 (4 times in total)	Kagoshima Prefecture	Satsuma Sendai City Nuclear Safety Measures Liaison Council	Heads of local governments, members of the municipal assembly, representatives of residents, and others
August 18, 2017 and February 6, 2018	Kagoshima Prefecture	Nuclear Safety Measures Liaison Council	Heads of local governments, and others
*In addition to those stated in the table, meetings of working groups of local nuclear preparedness councils and committees on radiation supervision or monitoring are occasionally held in related prefectures, and the personnel of the NRA Secretariat attend.			

１２. Results of the FY2017 internal audit conducted in accordance with the NRA Management Rules and the state of improvement

An internal audit was administered to 2 sections and one theme in FY2017 pursuant to Article 36 of the NRA Management Rules.

The FY2017 internal audit revealed nothing that came under “Items requiring improvement (Recommendations).” However, five items coming under “Items for which improvement is desired (Suggestions),” six items coming under “Cross-sectional issues affecting divisions and groups,” and two items coming under “Cases that should be a lesson” were identified. In addition, six items coming under “Good Practice” were identified.

○Classifications of items identified in the audit

Classification	Contents
Items requiring improvement R：Recommendation	Corresponds to items requiring improvement as provided for in Article 38 of the Nuclear Regulation Authority Management Rules ・Item that violates or that could violate a statute or ordinance ・Item that does not satisfy individual operational requirements ・Item found to be necessary by the person responsible for promoting management (Director of the Management System Office)
S: Suggestions (items for which improvement is desired)	Item for which improvement is desired for operational effectiveness and appropriateness
Cross-sectional issues S'：Suggestion	Item for which improvement is proposed in order to address an issue that affects not just the audited section but also the division, group, or entire agency
Item that should be a lesson L: Lesson	Example that should be a lesson for others outside the audited section
Good Practices GP：Good Practice	Example that should ideally be emulated by others outside the audited section

(1) Audited section: Director-General's Secretariat System Revision Deliberations Office

○The System Revision Deliberations Office is a project team to consider measures for IRRS issues by revising laws.

○Suggestions for improvement were presented for items identified as items for which improvement is desired (S) for preparing to enforce laws and improving the skills of the personnel.

Items for which improvement is desired	State of improvement in relevant section(s)
S1 Basic documents such as the background of revision of laws should be transferred appropriately to a responsible section in the future, and considerations such as information sharing among all sections should be examined from the perspective of use for preparing a bill	[System Revision Deliberations Office] ・Documents were transferred to the Oversight Planning and Coordination Division in July 2017. ・Information such as the background of revision of laws was explained at a Nuclear Safety Regulation Seminar and the materials were posted on the Intranet website for employees. [Legal Section] ・The Legal Section accumulates know-how and passes it on to responsible sections by giving instructions and advice at judicial review and training for new employees based on their experiences of revising laws
S2 Well-devised study sessions should be conducted so that the NRA Secretariat personnel can accumulate know-how and experiences of preparing bills and pass them on to successors, instead of only holding an in-house briefing session at the time of compiling bills	

○With regard to compilation of a bill and response to Diet deliberations, good practice items (GP) and examples that should be a lesson (L) were identified and disseminated to all sections of the NRA Secretariat as the first experience of NRA and the NRA Secretariat, which will be passed down in the future.

GP 3 items: Process management that achieved preparation of a bill and Diet deliberations in a short period (approx. 1 year) from the review of the system, etc.

L 2 items: Ingenious efforts in organizing a legal team by which the shortage of employees with experience in preparation of a bill was overcome, etc.

(2) Audit theme: Improvement in operational management of the NRA Regional Office

○In addition to inspection and disaster preparedness, the NRA Regional Office is responsible for monitoring, as a result of the organizational change in July 2017.

○On-site inspection at the Higashidori and Ikata NRA Regional Offices identified good practice (GP) items and items for which improvement is desirable (S).

Higashidori NRA Regional Office

GP 1 item: Development of its own operational manual, etc. in consideration of regional characteristics

Ikata NRA Regional Office

GP 1 item: Fostering of good communication and trust with neighboring local governments (Ehime Prefecture, Yawatahama City, Ikata Town)

Items for which improvement is desired (Ikata NRA Regional Office)	**State of improvement in relevant section(s)**
S3 The personnel should pay attention to changes of prioritized items, etc. that change in line with the daily situation in patrol inspection, and nurture inspectors.	[Ikata NRA Regional Office] They flexibly change the patrolling route depending on the daily situation based on the regular route, and enhance the development of inspectors who do not need an escort based on the OJT contents incorporating the change.

○Suggestion for improvement was presented after identifying common management issues among NRA regional offices, and support measures of the NRA Secretariat as cross-sectional issues (S').

Cross-sectional issues (Enhancement of support of the NRA Secretariat for common issues among NRA regional offices)	**State of improvement in relevant section(s)**
S'1 and S'2 The method of implementing training (S'1) and devising the work rotation to improve the efficiency (S'2) should be reviewed by the NRA Secretariat so that the personnel of the office can easily receive lectures toward the start of operation of the new inspection system	[NRA Human Resource Development Center] ・The center will continuously create training plans in consideration of the schedule of the NRA regional offices, and review a method of carrying out training when necessary. [Inspection Group, Regional Team of General Affairs Division]

Cross-sectional issues (Enhancement of support of the NRA Secretariat for common issues among NRA regional offices)	State of improvement in relevant section(s)
	・They started reviewing the streamlining of operations of NRA regional offices and considering support by dispatching the staff from the NRA Secretariat.
S'3 and S'4 In order to support information gathering and self-improvement of employees of the NRA regional offices, the NRA Secretariat should consider well-devised ways of exchanging opinions and providing information based on the local needs and interests (S'3), and also enhance reference materials for the offices. (S'4)	[Nuclear Regulatory Department, the NRA Human Resource Development Center] ・They will enhance a system to hearing the needs of NRA regional offices. Based on their needs, they will provide the necessary contents to NRA regional offices using the Intranet website for employees. [The NRA Human Resource Development Center, Regional Team of General Affairs Division, Accounting Section] ・They will review documents to be distributed to NRA regional offices based on the knowledge required for inspectors, etc. in the new qualification system. On this occasion, they will hear the needs of NRA regional offices.
S'5 The NRA Secretariat should start urgent review to enhance the functions of coordinating relevant sections so that NRA regional offices can effectively and efficiently implement several operations by a few employees.	[General Affairs Division and relevant sections] ・Relevant parties in the NRA Secretariat shared their understanding of the current situation of the function of coordinating operations of NRA regional offices, and started reviewing for improvement.

(3) Audited section: Nuclear Regulatory Department Inspection Group Commercial Power Reactor Supervision Section

○The Nuclear Regulatory Department was reorganized as the Assessment Group and Inspection Group in July 2017, and the Commercial Power Reactor Supervision Section was just newly established.

○With the new inspection system in mind, suggestion for improvement was presented for items identified as items for which improvement is desired (S).

Items for which improvement is desired	State of improvement in relevant section(s)
S4 The Assessment Group should take over the management of documents concerning the management of items requiring improvement from the previous section, and the Inspection Group should take over the necessary knowledge and share information	[Commercial Reactor Supervision Section] ・ The section is again reviewing documents and knowledge necessary for the Commercial Reactor Supervision Section. Documents will be transferred from the Assessment Group if necessary.
S5 Towards the implementation of the new inspection system, efforts should be made to improve communication such as the collection of opinions from NRA regional offices by utilizing a daily video-conference which has been newly tested.	[Commercial Reactor Supervision Section] ・ The section will enhance communication with NRA regional offices considering issues which have been highlighted.

○A Good Practice (GP) item was disseminated to all sections of the NRA Secretariat as the effort of a newly-established section after reorganization

GP 1 item: New highly-motivated effort, such as trial of video-conference, through the leadership of managerial personnel by utilizing their own experience of working at NRC in the U.S.

○Suggestions for improvement were presented to relevant sections based on the audit of the Commercial Reactor Supervision Section.

Cross-sectional issues	State of improvement in relevant section(s)
Same as S'2 in (2) The NRA Secretariat should devise work rotation to improve efficiency so that the personnel of the office can easily receive lectures toward the start of operation of the new inspection system	Refer to the column of S'2
Same as S'3 in (2) In order to support information gathering and self-improvement of employees of the office, the NRA Secretariat should consider well-devised ways of exchanging opinions and providing information based on the local needs and interests (S'3)	Refer to the column of S'3

S'6 With regard to interviews with licensees based on the policy for ensuring transparency, some paperwork of organizing the information is too minute, which has placed an inordinate burden on some employees. The relevant sections should review the paperwork to streamline the situation.	[General Affairs Division] ・With regard to the operation of the policy for ensuring transparency, the division started confirming the current situation and reviewing operations for streamlining.

１３. Record of responses to formal objections in FY2017

	Complaint	Date of determination	Contents of determination
1	Formal objection to the disposition of approval of a construction plan for Unit 4 at Takahama NPS	May 24, 2017	Dismissed
2	Formal objection to the disposition of approval of a construction plan for Unit 3 at Ikata NPS	May 24, 2017	Dismissed

Reference 2 Implementation of international conventions on nuclear safety (Section 3 of Chapter 1)

The NRA pursues collaborations with international organizations and cooperative ties with overseas regulatory bodies through various efforts, such as implementation of international conventions on nuclear safety, formulating and reviewing IAEA Safety Standards, and participating in joint research projects. Thereby, the NRA aims to continuously improve nuclear regulations in Japan and make improvements in nuclear safety in the international community.

1. Implementation of international conventions on nuclear safety

(1) Convention on Nuclear Safety

The Convention covers nuclear power stations to achieve and maintain high levels of nuclear safety worldwide. It contains provisions for establishing and maintaining radiation protection in nuclear facilities, preventing accidents leading to radiological consequences, and mitigating the consequences should any accident happen. The NRA is responsible for (i) developing National Reports, (ii) conducting peer reviews among the Contracting Parties, and (iii) attending meetings of Contracting Parties (Review Meetings) and undertaking other activities (known as the “review process”) every 3 years.

(Major activities under the Convention on Nuclear Safety)

Period	Description
August 2013	Submission of the sixth National Report of Japan
March-April 2014	Sixth Review Meeting(Participants from the NRA：Commissioner Oshima and other officials)
August 2016	Submission of the seventh National Report of Japan
March-April 2017	Seventh Review Meeting (Participants from the NRA：Commissioner Ban and other officials)

(2) Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (the Joint Convention)

The Joint Convention covers safety in managing spent fuels and radioactive waste from nuclear power stations and research reactors. The objectives of the Joint Convention are to achieve and maintain a high level of safety worldwide in spent fuel and radioactive waste management, to ensure effective defenses against potential hazards during all stages of management of spent fuel and radioactive waste, to prevent accidents with radiological consequences, and mitigating consequences should any accident happen. The NRA is responsible for developing the National Reports as set forth in the Joint Convention, and conducting peer reviews in cooperation with other relevant authorities (Ministry of Foreign

Affairs and Ministry of Economy, Trade and Industry).

(Major activities under the Joint Convention)

Period	Description
October 2014	Submission of the fifth National Report of Japan
May 2015	Fifth Review Meeting (Participants from the NRA：Commissioner Satoru Tanaka and other officials)
October 2017	Submission of the sixth National Report of Japan

(3) Convention on Early Notification of a Nuclear Accident and Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency

The Convention on Early Notification provides the framework for notifying any nuclear accidents with radiological consequences beyond national borders to state party and IAEA which potentially affected state party, while the Convention on Assistance provides the framework for international collaboration of assistance in radiological emergency.

The meeting of the contracting parties (meeting of competent authorities) to the Convention on Early Notification and the Convention on Assistance is held every two years. The latest meeting was held in June 2016, and the Ministry of Foreign Affairs and the NRA staff attended it.

(4) Convention on the Physical Protection of Nuclear Material and Its Amendment, and International Convention for the Suppression of Acts of Nuclear Terrorism

The Convention on the Physical Protection of Nuclear Material requires its States Parties to provide protective measures on nuclear material during international transport and protection of nuclear materials against illegal acquisition and use. In May 2016, the Amendment to the Convention entered into forth, and the protection obligation having been extended, the Convention shall apply to nuclear material used for peaceful purposes in domestic use, storage and transport of nuclear materials and nuclear facilities.

In relation to this convention, the technical meeting of relevant authorities of the convention parties was held in the IAEA from November 30 to December 2, 2016, and the NRA staff attended. At this meeting, information exchange took place among the parties by the NRA about operation after the Amendment to the Convention on the Physical Protection of Nuclear Material will be in force.

The International Convention for the Suppression of Acts of Nuclear Terrorism underlines that any acts of nuclear terrorism may result in the gravest consequences and may pose a threat to international peace and security. Its objective is to enhance international cooperation between States in devising and adopting effective and practical measures for the prevention of such acts of terrorism and for the prosecution and punishment of perpetrators. The NRA is engaged in the implementation of the Convention, to which Japan is among the Member States.

2. Collaborations under international organizations

(1) International Atomic Energy Agency (IAEA)

The International Atomic Energy Agency is an international organization (with 169 member states as of December 2017) that was established in 1957 under the purview of the United Nations for the purpose of promoting the peaceful use of nuclear power. The organization is headquartered in Vienna and helmed by Director General Amano. The

IAEA holds General Conferences (once a year) and other such events, and the Japanese delegation, headed by Minister of State for Science and Technology Policy and including the Chairman of the NRA, participated in the General Conference in 2017.

Activities of the IAEA for nuclear safety are wide-ranging, such as the formulation and review of IAEA Safety Standards; activities concerning emergency responses, radiation protection, and physical protection; and international cooperative activities undertaken in order to improve nuclear regulatory controls.

The Commission on Safety Standards (CSS) oversees standards committees reviewing draft safety standards. The NRA also proactively participates in activities organized by the CSS and its subordinate committees.

The NRA also participates in a number of other groups, including the IAEA's International Nuclear Safety Group (INSAG; Commissioner Yamanaka of the NRA serves as a member of this standing advisory committee), the Advisory Group on Nuclear Security (AdSec; Commissioner Satoru Tanaka of the NRA serves as a member of this group), and is thereby making various international contributions through the IAEA as international experts.

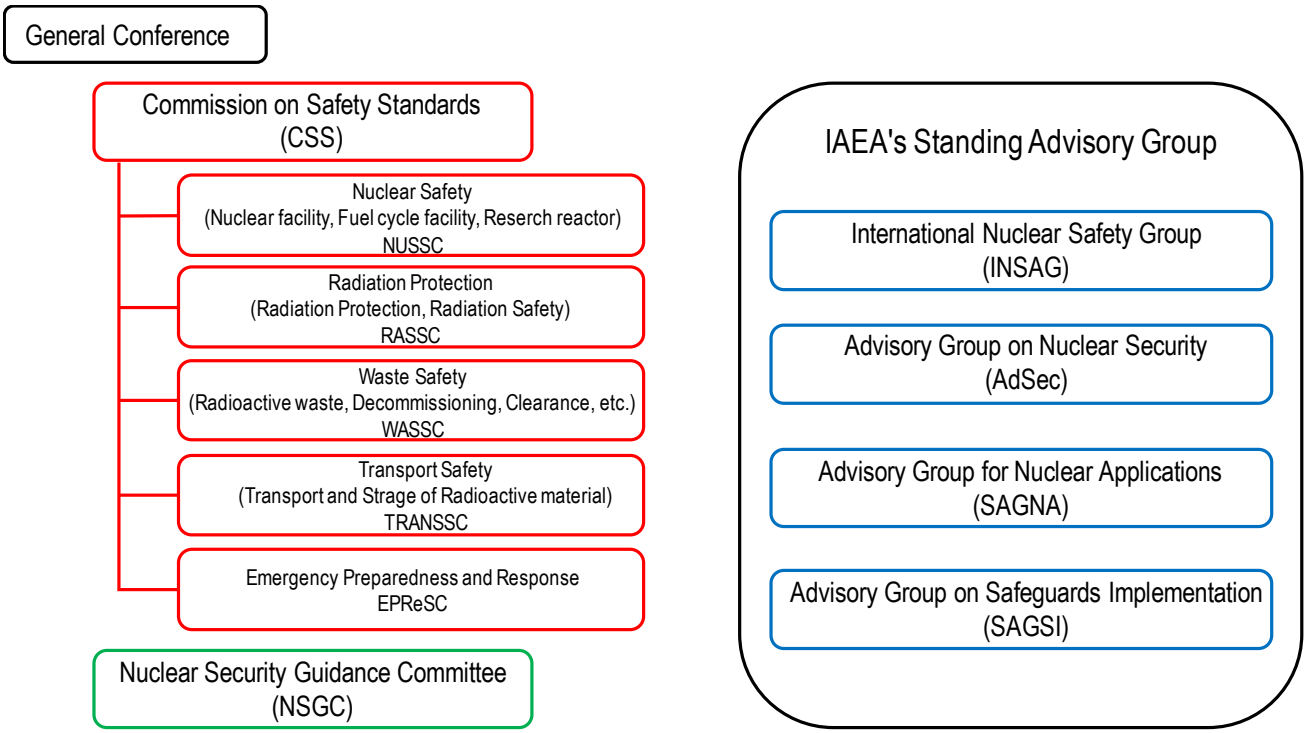


Figure (iv) Key IAEA committees in which the NRA participates

The NRA proactively participates in and contributes to initiatives to improve nuclear safety worldwide through the Regulatory Cooperation Forum (RCF; plenary meeting,

meetings of the steering committee, and support meetings are each held once a year), a cooperative framework tying regulatory bodies together under the IAEA; the Asia Nuclear Safety Network (ANSN; meetings of the steering committee (twice a year) and meetings of the Self-Assessment Coordination Group (SACG) (twice a year) are held; Japanese officials serve as the Deputy Chairperson of the Steering Committee and Chairperson and Deputy-Chairperson of the SACG), a cooperative framework for improving the safety of nuclear facilities in Asia; and other such programs. In addition, the NRA is working to gather technological information and share knowledge through joint projects organized by the IAEA.

(Major joint projects organized by the IAEA in which the NRA is participating)

Project Name	Description
ISSC-EBP	Developing detailed guidelines on IAEA safety requirements pertaining to external events.
FUMAC	Investigating fuel-behavior models when LOCA occur.
IGALL	Formulating a technological foundation and practical guidance relating to the aging management of to facilitate the long-term operations of systems, structures, and equipment that are important for the safety of light-water reactors and heavy-water reactors.
Cooperative project relating to ocean monitoring carried out with the IAEA	Samples for ocean monitoring being carried out in waters off the coast of Fukushima Prefecture are being obtained jointly with the IAEA. The results of evaluations and analyses of the methods used are intercompared.

The IAEA also offers, responding to requests from its Member States, peer review services, such as the IRRS which provides a peer review service that comprehensively evaluates a wide range of issues, including legal systems and organizations relating to nuclear regulatory controls. The NRA requested IRRS mission for January 2016, and IPPAS mission for February 2015 to review the state of the implementation of nuclear security measures.

(2) Organization for Economic Co-operation and Development's Nuclear Energy Agency (OECD/NEA)

Established in 1958 and headquartered in Paris, the Organization for Economic Co-operation and Development's Nuclear Energy Agency discusses its activities at meetings of its steering committee (twice a year) (33 member states as of October 2017; headed by Director-General Magwood). By harnessing the advantages of the OECD/NEA in terms of its ability to encourage the sharing of the latest information among advanced nuclear power-utilizing countries, the organization undertakes discussions and activities relating to the prevention of nuclear accidents and mitigation of consequences could be caused by accidents (such as sharing information on regulatory initiatives undertaken by member states based on the lessons learned from the accident at the TEPCO's Fukushima Daiichi NPS and joint research on nuclear safety).

Various investigations relating to nuclear safety are being conducted by standing committees, including the Committee on Nuclear Regulatory Activities (CNRA), the Committee on the Safety of Nuclear Installations (CSNI), the Committee on Radiological Protection and Public Health (CRPPH), and the Radioactive Waste Management Committee (RWMC), as well as subordinate working groups. The NRA has actively participated in these various bodies and activities.

(References)

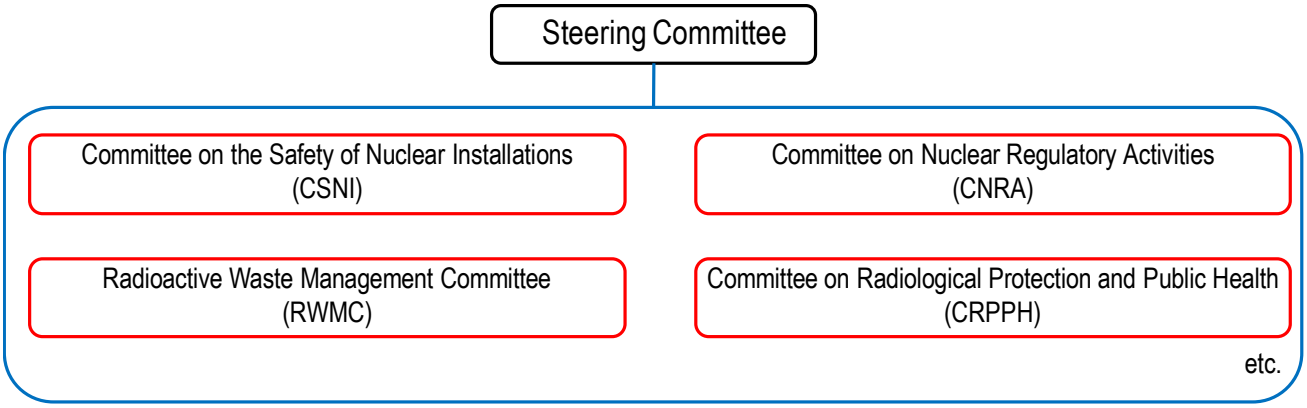


Figure v Major OECD/NEA committees in which the NRA participates

In addition, the NRA participates in various joint projects under the purview of the OECD/NEA, collects the latest technical information in advanced countries and contributes to upgrading technologies.

(Major OECD/NEA joint projects in which the NRA participates)

Project Name	Description
MDEP/PG	A program undertaken for the purpose of sharing regulatory experiences relating to safety regulatory controls applied to advanced reactors through multilateral discussions on design evaluations, standards, and inspections for advanced reactors.
HEAF	Conducting experiments to ascertain the mechanisms behind the occurrence and progression of high energy arcing faults (HEAF) is conducted.
BSAF	The causes of the TEPCO's Fukushima Daiichi NPS accident, and pathways of the emission of radioactive substances into the environment are analyzed and also SA (severe accident) phenomena are subject to benchmark analyses based on the use of accident progression analysis codes.
HYMERES	Testing and analyses relating to the behavior of hydrogen in containment vessel during a major accident are conducted.

(3) International Nuclear Regulators Association (INRA)

Meetings of the INRA are held twice a year as an opportunity for the top officials of regulatory bodies in major advanced nuclear power-utilizing countries (Japan, United States, France, United Kingdom, Germany, Canada, Sweden, Spain, and South Korea) to freely and directly exchange opinions on timely issues.

(Record of participation in INRA)

Period	Main participants from the NRA
May 2013	Chairman Tanaka, Commissioner Fuketa
September 2013	Chairman Tanaka
April 2014	Chairman Tanaka
September 2014	Chairman Tanaka
May 2015	Chairman Tanaka
September 2015	Director-General for Technical Affairs Yasui
May 2016	Commissioner Satoru Tanaka
September 2016	Chairman Tanaka
May 2017	Secretary-General Yasui
September 2017	Secretary-General Yasui

(4) Western European Nuclear Regulators Association (WENRA)

WENRA is a conference body that comprises the heads of regulatory bodies in European countries. Its objective is to promote sharing of information on safety of nuclear power in Europe and functioning as a network among the heads of safety regulatory bodies in Europe (18 member states and 11 observer countries as of October 2016). Plenary Meetings are held twice a year in spring and autumn. The NRA has been officially participating in the meetings an observer capacity since October 2016.

(Record of participation in WENRA)

Period	Main participants from the NRA
April 2016	Secretary-General Shimizu
October 2016	Commissioner Ban
April 2017	Commissioner Ban
October 2017	Senior Coordinator for International Collaborations Hirano

(5) Regional cooperation: Top Regulators' Meeting among China, Japan and Korea (TRM)

Meetings of the top regulators in China, Japan, and South Korea (NRA, Ministry of Environmental Protection of China/National Nuclear Safety Administration (MEP/NNSA), Nuclear Safety and Security Commission of the ROK (NSSC)) have been held once a year with a rotating chair since FY 2008. Information is also exchanged at meetings of three working groups subordinate to the TRM (Online Information Sharing System Working Group, Emergency Preparedness Response Working Group, and Human Resources Development Working Group). In addition, TRM Plus meetings have been held yearly in conjunction with TRMs since FY 2013 to deal with more technical issues.

(Record of holding and participating in TRMs)

Period	Main participants from the NRA
November 2012	Commissioner Oshima
November 2013	Commissioner Oshima
September 2014	Chairman Tanaka, Commissioner Oshima
October 2015	Commissioner Ban
November 2016	Secretary-General Shimizu
December 2017	Commissioner Yamanaka

3. Bilateral cooperation

The NRA has concluded arrangements and memorandums of understanding concerning the implementation of cooperative initiatives and the exchange of regulatory information with the following 12 countries (13 regulatory bodies) and engages in the exchange of information and opinions with various overseas regulatory bodies. With the U.S. Nuclear Regulatory Commission (U.S. NRC), the NRA has, twice a year, held bilateral meetings (steering committee) and information exchanges concerning specified themes, and with the French Nuclear Safety Authority (ASN) bilateral meetings have been held once a year, as well as information exchange concerning specified themes. Also with the other overseas regulatory bodies, opinion and information exchanges have been held.

(Organizations with which the NRA has concluded bilateral arrangements and memorandums of understanding for cooperative initiatives (as of the end of March FY2017))

- United States: Nuclear Regulatory Commission (NRC)
- United States: Department of Energy (DOE)
- France: Nuclear Safety Authority (ASN, Autorité de sûreté nucléaire)
- Russia: Federal Environmental, Industrial and Nuclear Supervision Service of Russia (RTN, Rostekhnadzor)
- Canada: Canadian Nuclear Safety Commission (CNSC)
- United Kingdom: Office for Nuclear Regulation (ONR)
- Sweden: Swedish Radiation Safety Authority (SSM, Strålsäkerhetsmyndigheten)
- Germany: Federal Ministry of the Environment, Nature Conservation, Building and Nuclear Safety (BMUB, Bundesministerium für Umwelt, Naturschutz, Bau und Reaktorsicherheit)
- Spain: Nuclear Security Council (CSN, Consejo de Seguridad Nuclear)
- Finland: Radiation and Nuclear Safety Authority (STUK, Säteilyturvakeskus)
- Lithuania: State Nuclear Power Safety Inspectorate (VATESI, Valstybinės atominės energetikos saugos inspekcija)
- Turkey: Turkish Atomic Energy Authority (TAEK, Türkiye Atom Enerjisi Kurumu)
- Vietnam: Vietnam Agency for Radiation and Nuclear Safety (VARANS)

Reference 3 Rigorous and Proper Implementation of Regulations on Nuclear Facilities (Chapter 2)

1. Status of Application for Review of Commercial Power Reactors

Applicant	Targeted power reactor	Receipt date	Number of cases reviewed at the meeting	Number of on-site investigations	Date of approval
Hokkaido Electric Power Co., Inc.	Tomari NPS (Units 1 and 2)	Installation permit change Construction plan Operational safety program change July 8, 2013	3	—	—
	Tomari NPS (Unit 3)	Installation permit change Construction plan Operational safety program change July 8, 2013	4	—	—
	◆Tomari NPS (Unit 3)	Installation permit change December 18, 2015	—	—	—
Tohoku Electric Power Co., Inc.	Onagawa NPS (Unit 2)	Installation permit change Construction plan Operational safety program change December 27, 2013	21	1	—
	Higashidori NPS (Unit 1)	Installation permit change Construction plan Operational safety program	5	1	—

		change June 10, 2014			
Tokyo Electric Power Company Holdings, Inc.	Kashiwazaki Kariwa NPS (Units 6 and 7)	Installation permit change Construction plan Operational safety program change September 27, 2013	12	—	Permission for change in reactor installation December 27, 2017
	◆Kashiwazaki Kariwa NPS (Units 1, 6 and 7)	Installation permit change December 15, 2014	—	—	—
Chubu Electric Power Co., Inc.	Hamaoka NPS (Unit 3)	Installation permit change June 16, 2015	6	1	—
	Hamaoka NPS (Unit 4)	Installation permit change Construction plan Operational safety program change February 14, 2014 January 26, 2015(*1)	8	1	—
Hokuriku Electric Power Company	Shika NPS (Unit 2)	Installation permit change Construction plan Operational safety program change August 12, 2014	3	—	—
Kansai Electric Power Co., Inc.	Ohi NPS (Units 3 and 4)	Installation permit change Construction plan Operational safety program change	6	—	Permission for change in reactor installation May 24, 2017

		July 8, 2013			Approval of construction plan (Units 3 and 4) August 25, 2017 Approval of operational safety program change September 1, 2017
	Takahama NPS (Units 3 and 4)	Installation permit change Construction plan Operational safety program change July 8, 2013	2	—	Permission for change in reactor installation February 12, 2015 Approval of construction plan (Unit 3) August 4, 2015 Approval of construction plan (Unit 4) October 9, 2015 Approval of operational safety program change October 9, 2015
	◆Takahama NPS (Units 3 and 4)	Installation permit change December 25, 2014	—	—	Permission for change in reactor installation

					September 21, 2016
	Takahama NPS (Units 1 and 2(3,4))	Installation permit change March 17, 2015 Construction plan July 3, 2015	1	—	Permission for change in reactor installation April 20, 2016 Approval of construction plan (Units 1 and 2) June10, 2016
Kansai Electric Power Co., Inc.	◆Takahama NPS (Units 1 and 2(3,4))	Installation permit change December 22, 2016 Construction plan (*3) March 8, 2018	7	1	Permission for change in reactor installation March 7, 2018
	Mihama NPS (Unit 3)	Installation permit change Operational safety program change March 17, 2015 Construction plan November 26, 2015	—	–	Permission for change in reactor installation October 5, 2016 Approval of construction plan October 26, 2016
The Chugoku Electric Power Co., Inc.	Shimane NPS (Unit 2)	Installation permit change Construction plan Operational safety program change December 25, 2013	7	—	—
	◆Shimane NPS (Unit 2)	Installation permit change July 4, 2016	—	—	—

Shikoku Electric Power Co., Inc.	Ikata NPS (Unit 3)	Installation permit change Construction plan Operational safety program change July 8, 2013	5	—	Permission for change in reactor installation July 15, 2015 Approval of construction plan March 23, 2016 Approval of operational safety program change April 19, 2016
	◆Ikata NPS (Unit 3)	Installation permit change January 14, 2016 Construction plan (*3) December 7, 2017 March 16, 2018	7	1	Permission for change in reactor installation October 4, 2017
Kyushu Electric Power Co., Inc.	Genkai NPS (Units 3 and 4)	Installation permit change Construction plan Operational safety program change July 12, 2013	7	—	Permission for change in reactor installation January 18, 2017
	Sendai NPS (Units 1 and 2)	Installation permit change Construction plan Operational safety program change July 8, 2013	2	—	Permission for change in reactor installation September 10, 2014 Approval of construction plan (Unit 3) August 25, 2017 Approval of

					construction plan (Unit 4) September 14, 2017 Approval of operational safety program change September 14, 2017 Approval of construction plan (Unit 1) March 18, 2015 Approval of construction plan (Unit 2) May 22, 2015 Approval of operational safety program change May 27, 2015
Kyushu Electric Power Co., Inc.	◆Sendai NPS (Units 1 and 2)	Installation permit change December 17, 2015 Construction plan (Unit 1) (*3) May 24, 2017 August 8, 2017 March 9, 2018 Construction plan (Unit 2) (*3) July 10, 2017 August 8, 2017 March 9, 2018	3	—	Permission for change in reactor installation April 5, 2017
	◆Genkai NPS (Units 3 and 4)	Installation permit change	3	1	—

		December 20, 2017			
Japan Atomic Power Company	Tokai Daini NPS	Installation permit change Construction plan Operational safety program change May 20, 2014	53	—	—
	Tsuruga NPS (Unit 2)	Installation permit change Operational safety program change November 5, 2015	1	—	—
Electric Power Development Co., Ltd.(J-Power)	Oma NPS(*2)	Installation permit change Construction plan December 16, 2014	7	—	—

・Several applications may be reviewed at one session of the review meeting.

・The number of review meetings mainly attended by members of the NRA is mentioned as a rule.

・The number of on-site investigations implemented by the members of the NRA is mentioned, and that implemented only by the staff of the secretariat of the NRA is excluded.

・The numbers of review meeting and on-site investigation represent the number of times held in FY 2017.

◆：Application concerning Specialized Safety Facility

*1：Application for reactor installation permit change of nuclear power reactor dated February 14, 2014, was withdrawn on January 26, 2015, and submitted again in order to add a dry storage facility for spent fuel.

*2：This application includes the contents concerning Specialized Safety Facility.

*3：The construction plan is divided into several phases and separate applications are submitted.

2. System of Conformity Review of nuclear power stations to New Regulatory Requirements

3. Status of Inspection in Major Nuclear Facilities

(From April 1, 2017 to March 31, 2018)

Tomari NPS, Hokkaido Electric Power

All reactor operations were shut down during the following periods.

		Implementation period	Result/Remarks
Periodic facility inspection	Unit 1	From April 22, 2011(under implementation)	
	Unit 2	From August 26, 2011(under implementation)	
	Unit 3	From May 5, 2012(under implementation)	
Operational safety inspection	1st time	May 29 - June 9, 2017	No particular safety concerns.
	2nd time	August 28 - September 8, 2017	No particular safety concerns.
	3rd time	November 27 - December 8, 2017	No particular safety concerns.
	4th time	February 19 - March 2, 2018	Inspection results being summarized.

Higashidori NPS, Tohoku-Electric Power Co., Inc.

All reactor operations were shut down during the following periods.

		Implementation period	Result/Remarks
Periodic facility inspection	Unit 1	From February 6, 2011(under implementation)	
Operational safety inspection	1st time	May 29 - June 9, 2017	No particular safety concerns.
	2nd time	August 28 - September 8, 2017	No particular safety concerns.
	3rd time	November 27 - December 8, 2017	No particular safety concerns.
	4th time	February 19 - March 2, 2018	Inspection results being summarized.

Onagawa NPS, Tohoku-Electric Power Co., Inc.

All reactor operations were shut down during the following periods.

		Implementation period	Result/Remarks
Periodic facility inspection	Unit 1	From September 10, 2011 (under implementation)	
	Unit 2	From November 6, 2010 (under implementation)	
	Unit 3	From September 10, 2011 (under implementation)	
Operational safety inspection	1st time	May 29 - June 9, 2017	No particular safety concerns.
	2nd time	August 28 - September 8, 2017	No particular safety concerns.
	3rd time	November 27 - December 8, 2017	No particular safety concerns.
	4th time	February 19 - March 2, 2018	Inspection results being summarized.

Fukushima Daiichi NPS, Tokyo Electric Power Company Holdings, Inc.

All reactor operations were shut down during the following periods. Based on the Electric Business Act, Units 1 through 4 and Units 5 and 6 were decommissioned on April 19, 2012 and January 31, 2014, respectively. On November 7, 2012, they were designated as "Specified Nuclear Facilities." On December 7 of the same year, the NRA received "Implementation Plan." On August 14, 2013, "Implementation Plan with Regards to Fukushima Daiichi NPS's Specified Nuclear Facilities" was approved.

		Implementation period	Result/Remarks
Periodic facility inspection	Unit 5	From January 3, 2011 (under implementation)	
	Unit 6	From August 14, 2010 (under implementation)	

		Implementation period	Result/Remarks
Inspection that is conducted once within one year after starting use of nuclear power reactor facility defined by implementation plan and periodically conducted to investigate capabilities of the nuclear power reactor facility concerned	Periodic facility inspection		
		August 10 - December 14, 2017	Inspection result: Good
Inspection of implementation status of measures for safety defined in implementation plan			
	1st time	May 25 - June 7, 2017	No particular safety concerns.
	2nd time	August 25 - September 7, 2017	Breach of implementation plan (monitoring) is confirmed.
	3rd time	November 24 - December 7, 2017	No particular safety concerns.
	4th time	March 2 - 15, 2018	Inspection results being summarized.
Accident and malfunction	・Breach of implementation plan (monitoring) is also confirmed outside the operational safety inspection.		

Fukushima Daini NPS, Tokyo Electric Power Company Holdings, Inc.

All reactor operations were shut down during the following periods.

		Implementation period	Result/Remarks
Periodic facility inspection	Unit 1	(Shut-down)	Inspection start schedule of Units 1 through 4 is not yet determined because implementation of inspection is difficult due to impact of Great East Japan Earthquake. (Implementation schedule change of periodic inspection based on the law was approved.)
	Unit 2	(Shut-down)	
	Unit 3	(Shut-down)	
	Unit 4	(Shut-down)	
Operational safety inspection	1st time	June 7 - 20, 2017	No particular safety concerns.
	2nd time	September 4 - 15, 2017	Violation of operational safety program (monitoring) is confirmed.
	3rd time	December 4 - 15, 2017	No particular safety concerns.
	4th time	February 19 - March 2, 2018	Inspection results being summarized.

Kashiwazaki Kariwa NPS, Tokyo Electric Power Company Holdings, Inc.

All reactor operations were shut down during the following periods.

		Implementation period	Result/Remarks
Periodic facility inspection	Unit 1	From August 6, 2011 (under implementation)	
	Unit 2	From February 19, 2007 (under implementation)	Evaluation of integrity of Units 2 through 4 against impact of the Niigataken Chuetsu-oki Earthquake in 2007 is under implementation.
	Unit 3	From September 19, 2007 (under implementation)	
	Unit 4	From February 11, 2008 (under implementation)	
	Unit 5	From January 25, 2012 (under implementation)	
	Unit 6	From March 26, 2012 (under implementation)	
	Unit 7	From August 23, 2011 (under implementation)	
Operational safety inspection	1st time	May 29 - June 9, 2017	No particular safety concerns.
	2nd time	September 4 - 15, 2017	No particular safety concerns.
	3rd time	November 27 - December 8, 2017	No particular safety concerns.
	4th time	February 13 - March 1, 2018	Inspection results being summarized.

Others	Outside the operational safety inspection, it was confirmed that instrumentation of HVAC (=Heating Ventilation and Conditioning System) Normal Cooling Water System Chiller at Unit 6 Service Building had partially not been inspected, which was judged to be a violation of the operational safety program (monitoring).

Tokai Power Station, The Japan Atomic Power Company

Under decommissioning procedures (Areas other than the Reactor Area under removal procedure).

		Implementation period	Result/Remarks
Operational safety inspection	1st time	May 15 - 19, 2017	No particular safety concerns.
	2nd time	July 31 - August 4, 2017	No particular safety concerns.
	3rd time	November 6 - 10, 2017	No particular safety concerns.
	4th time	February 13 - 16, 2018	Inspection results being summarized.

	Others	Outside the operational safety inspection, insufficient description of the process from data analysis to preventive actions was confirmed, which was judged to be a violation of the operational safety program (monitoring).

Tokai Daini Power Station, The Japan Atomic Power Company

All reactor operations were shut down during the following periods.

		Implementation period	Result/Remarks
Periodic facility inspection		From May 21, 2011 (under implementation)	
Operational safety inspection	1st time	May 29 - June 9, 2017	No particular safety concerns.
	2nd time	August 28 - September 8, 2017	No particular safety concerns.
	3rd time	December 4 - 15, 2017	Violation of operational safety program (monitoring) is confirmed.
	4th time	February 19 - March 2, 2018	Inspection results being summarized.

Hamaoka NPS, Chubu Electric Power Co., Inc.

During the following periods, Units 1 and 2 were under decommissioning procedures (during the period of demolition work of facilities around nuclear reactor area), and Units 3 through 5 were shut down.

(Units 1 and 2 (under decommissioning procedures))

		Implementation period	Result/Remarks
Operational safety inspection	1st time	August 24, 29-31, and September 5-8, 13, 2017	No particular safety concerns.
	2nd time	February 20, 23, 24 and March 2-10, 2018	Inspection results being summarized.

(Units 3 through 5)

		Implementation period	Result/Remarks
Periodic facility inspection	Unit 3	From November 29, 2010 (under implementation)	
	Unit 4	From January 25, 2012 (under implementation)	
	Unit 5	From March 22, 2012 (under implementation)	
Operational safety inspection	1st time	June 1 - 16, 2017	No particular safety concerns.
	2nd time	August 28 - September 15, 2017	No particular safety concerns.
	3rd time	November 21 - December 8, 2017	Violation of operational safety program (monitoring) is confirmed.
	4th time	February 13 - March 2, 2018	Inspection results being summarized.

Others	On April 20, 2017, outside the operational safety inspection, Chubu Electric Power Company reported that it confirmed that a valve installed at the boundary between the stand-by gas treatment system (hereinafter referred to as SGTS) and the atmospheric control system of Unit 4 was removed and the system pipe line was partially left open. The case of conducting operation relating to irradiated fuel, which requires SGTS 2 systems operable as operational restriction, was judged to be a violation of the provision of Article 51 (Stand-by Gas Treatment System) of the Operational Safety Program (violation 2) on October 12, 2016.

Shika NPS, Hokuriku Electric Power Company

All reactor operations were shut down during the following periods.

		Implementation period	Result/Remarks
Periodic facility inspection	Unit 1	From October 8, 2011 (under implementation)	
	Unit 2	From March 11, 2011 (under implementation)	
Operational safety inspection	1st time	May 30 - June 10, 2017	No particular safety concerns.
	2nd time	August 29 - September 9, 2017	No particular safety concerns.
	3rd time	November 28 - December 9, 2017	No particular safety concerns.
	4th time	February 27 - March 10, 2018	Inspection results being summarized.

Others	Outside the operational safety inspection, it was confirmed that some inspection education programs were implemented after the effective period, which was judged to be a violation of the operational safety program (monitoring).

Tsuruga NPS, The Japan Atomic Power Company

During the following period, Unit 1 has been under decommissioning procedures (during the preparation period for demolition work of facilities including nuclear reactor) from April 19, 2017, and Unit 2 was shut down.

(Unit 1 (under decommissioning procedures))

		Implementation period	Result/Remarks
Periodic facility inspection	Unit 1	From January 26, 2011 (under implementation)	

(Unit 2)

		Implementation period	Result/Remarks
Periodic inspection	Unit 2	From August 29, 2011 (under implementation)	
Operational safety inspection	1st time	May 25 - June 9, 2017	No particular safety concerns.
	2nd time	August 28 - September 15, 2017	Violation of operational safety program (monitoring) is confirmed.
	3rd time	November 27 - December 15, 2017	Violation of operational safety program (monitoring) is confirmed.
	4th time	February 13 - 28, 2018	Inspection results being summarized.

Mihama NPS, Kansai Electric Power Company Inc.

During the following period, Units 1 and 2 have been under decommissioning procedures (during the preparation period for demolition work) from April 19, 2017. Unit 3 was shut down.

(Units 1 and 2 (under decommissioning procedures))

		Implementation period	Result/Remarks
Periodic facility inspection	Unit 1	From January 15, 2018 (under implementation)	
	Unit 2	From January 12, 2018 (under implementation)	
Operational safety inspection	1st time	May 29, June 2, 7, 9, 13, 15, and 16, 2017	No particular safety concerns. From the second inspection, inspection was jointly conducted for Units 2 and 3.

(Unit 3)

		Implementation period	Result/Remarks
Periodic facility inspection	Unit 3	From May 14, 2011 (under implementation)	
Pre-service inspection	Unit 3	From January 15, 2018 (under implementation)	
Operational safety inspection	1st time	May 29 - June 16, 2017	No particular safety concerns.
	2nd time	August 28 - September 13, 2017	No particular safety concerns.
	3rd time	December 4 - 15, 2017	No particular safety concerns.
	4th time	February 23 - March 9, 2018	Inspection results being summarized.

Ohi NPS, Kansai Electric Power Company Inc.

Units 1, 2, and 4 were shut down during the following period. The reactor of Unit 3 was started up on March 14, 2018.

		Implementation period	Result/Remarks
Periodic facility inspection	Unit 1	From December 10, 2010 (under implementation)	
	Unit 2	From December 16, 2011 (under implementation)	
	Unit 3	From September 2, 2013 (under implementation)	
	Unit 4	From September 15, 2013 (under implementation)	
Pre-service inspection	Unit 3	From September 11, 2017 (under implementation)	
	Unit 4	From September 14, 2017 (under implementation)	
Operational safety inspection	1st time	May 29 - June 9, 2017	No particular safety concerns.
	2nd time	August 28 - September 8, 2017	No particular safety concerns.
	3rd time	October 16 - November 2, 2017	No particular safety concerns.
	4th time	February 8 - 14, 2018	Inspection results being summarized.
	Operational safety inspection for important actions for safety (Unit 3)		
		February 8 - 14, 2018	Inspection results being summarized.
		February 13 - 20, 2018	Inspection results being summarized.
		March 28, 2018	Inspection results being summarized.

Takahama NPS, Kansai Electric Power Company Inc.

During the following periods, Units 1 and 2 were shut down; the reactors of Units 3 and 4 were started up on May 17, 2017 and June 6, 2017 respectively.

		Implementation period	Result/Remarks
Periodic facility inspection	Unit 1	From January 10, 2011 (under implementation)	
	Unit 2	From November 25, 2011 (under implementation)	
	Unit 3	December 9, 2016 - July 4, 2017	Inspection result: Good
	Unit 4	July 21, 2011 - June 16, 2017	Inspection result: Good
Pre-service inspection	Unit 1	From November 14, 2016 (under implementation)	
	Unit 2	From November 14, 2016 (under implementation)	
	Unit 3	August 17, 2015 - February 26, 2016	Inspection result: Pass
	Unit 4	October 21, 2015 - June 16, 2017	Inspection result: Pass
Operational safety inspection	1st time	May 29 - June 9, 2017	No particular safety concerns.
	Operational safety inspection for important actions for safety (Unit 3)		
		May 12 - 17, 2017	No particular safety concerns.
		May 16 - 25, 2017	No particular safety concerns.
		June 1 - 12, 2017	No particular safety concerns.
		April 27 - June 23, 2017	No particular safety concerns.
		June 19 - 23, 2017	No particular safety concerns.
	Operational safety inspection for important actions for safety (Unit 4)		
		April 27 - May 8, 2017	No particular safety concerns.
		May 2 - 10, 2017	No particular safety concerns.
		May 12 - 26, 2017	No particular safety concerns.
		April 27 - June 23, 2017	No particular safety concerns.
		June 19 - 23, 2017	No particular safety concerns.
	2nd time	August 28 - September 8, 2017	No particular safety concerns.
	Operational safety inspection for important actions for safety (Unit 3)		
		July 25 - August 23, 2017	No particular safety concerns.
	Operational safety inspection for important actions for safety (Unit 4)		
		July 27 - August 23, 2017	No particular safety concerns.
	3rd time	November 27 - December 8, 2017	No particular safety concerns.
	Operational safety inspection for important actions for safety (Unit 3)		
		October 30 - December 27, 2017	No particular safety concerns.
	Operational safety inspection for important actions for safety (Unit 4)		
		October 30 - December 27, 2017	No particular safety concerns.
	4th time	February 26 - March 9, 2018	Inspection results being summarized.
	Operational safety inspection for important actions for safety (Unit 3)		
		January 16 - 22, 2018	Inspection results being summarized.
		January 31 - March 30, 2018	Inspection results being summarized.
		March 31, 2018 - March 30	Inspection results being summarized.
	Operational safety inspection for important actions for safety (Unit 4)		
		January 31, 2018 - January 22	Inspection results being summarized.
		January 31 - March 30, 2018	Inspection results being summarized.
		March 22 - 30, 2018	Inspection results being summarized.

Shimane NPS, The Chugoku Electric Power Co. Inc.

During the following period, Unit 1 has been under decommissioning procedures (during the preparation period for demolition work) from April 19, 2017, and Units 2 and 3 were shut down.

(Unit 1 (under decommissioning procedures))

		Implementation period	Result/Remarks
Periodic facility inspection	Unit 1	From January 18, 2018 (under implementation)	
Operational safety inspection	1st time	May 15 - 19, 2017	No particular safety concerns.

(From the second inspection, inspection was jointly conducted for Units 1, 2, and 3)

(Units 2 and 3)

		Implementation period	Result/Remarks
Periodic inspection	Unit 2	From January 27, 2012 (under implementation)	
Pre-service inspection	Unit 3	Pre-service inspection in the construction stage under implementation	Construction processes up to 3 in the table of Article 17 of the Ordinance on Safety of Nuclear Power Workpieces have already been implemented.
Operational safety inspection	1st time	May 29 - June 9, 2017	No particular safety concerns.
	2nd time	August 28 - September 15, 2017	No particular safety concerns.
	3rd time	November 27 - December 15, 2017	No particular safety concerns.
	4th time	February 19 - March 2, 2018	Inspection results being summarized.

Ikata NPS, Shikoku Electric Power Company Inc.

During the following period, Unit 1 has been under decommissioning procedures (during the preparation period for demolition work) from June 28, 2017, Unit 2 was shut down, and the reactor of Unit 3 was shut down on October 3, 2017.

(Unit 1 (under decommissioning procedures))

		Implementation period	Result/Remarks
Periodic facility inspection	Unit 1	February 16, 2017: Receipt of application	

(Units 2 and 3)

		Implementation period	Result/Remarks
Periodic inspection	Unit 2	From January 13, 2012 (under implementation)	
	Unit 3	From October 3, 2017 (under implementation)	
Pre-service inspection	Unit 3	April 5, 2016 - September 7, 2016	Inspection result: Pass
Operational safety inspection	1st time	May 8 - 19, 2017	No particular safety concerns.
	Operational safety inspection for important actions for safety (Unit 3)		
		June 23 - 29, 2016	No particular safety concerns.
		July 12 - 20, 2016	No particular safety concerns.
	Operational safety inspection for important actions for safety (Unit 3)		
		September 12 - 19, 2017	No particular safety concerns.
		July 28 - September 27, 2017	No particular safety concerns.
	2nd time	August 21 - September 8, 2017	No particular safety concerns.
	3rd time	November 20 - December 7, 2017	No particular safety concerns.
	Operational safety inspection for important actions for safety (Unit 3)		
		September 29 - October 4, 2017	No particular safety concerns.

		October 6 - 11, 2017	No particular safety concerns.
		October 13 - 19, 2017	No particular safety concerns.
		October 27, 2017	No particular safety concerns.
	4th time	February 20 - March 8, 2018	Inspection results being summarized.
	Operational safety inspection for important actions for safety (Unit 3)		
		February 9 - 19, 2018	Inspection results being summarized.
		February 26 - March 23, 2018	Inspection results being summarized.
Others	・On July 5, 2017, deviancy from operational restriction occurred in Unit 3, and restituted on July 10. ・On November 6, 2017, deviancy from operational restriction occurred in Unit 3, and restoration occurred on the same day.		

Genkai NPS, Kyushu Electric Power Co. Inc.

During the following period, Unit 1 has been under decommissioning procedures (during the preparation period for demolition work) from April 19, 2017, and Units 2 through 4 were shut down.

(Unit 1 (under decommissioning procedures))

		Implementation period	Result/Remarks
Periodic facility inspection	Unit 1	From December 1, 2011 (under implementation)	

(Units 2 through 4)

		Implementation period	Result/Remarks
Periodic inspection	Unit 2	From January 29, 2011 (under implementation)	
	Unit 3	From December 11, 2010(under implementation)	
	Unit 4	From December 25, 2011 (under implementation)	
Pre-service inspection	Unit 3	From September 11, 2017 (under implementation)	
	Unit 4	From October 23, 2017 (under implementation)	
Operational safety inspection	1st time	May 22 - June 9, 2017	Two cases of violation of operational safety program (monitoring) are confirmed.
	2nd time	August 21 - September 8, 2017	No particular safety concerns.
	3rd time	October 31 - November 24, 2017	Two cases of violation of operational safety program (monitoring) are confirmed.
	Operational safety inspection for important actions for safety (Unit 3)		
		November 30 - December 28, 2017	No particular safety concerns.
	Operational safety inspection for important actions for safety (Unit 4)		
		November 30 - December 28, 2017	No particular safety concerns.
	4th time	February 14 - March 2, 2018	Inspection results being summarized.
	Operational safety inspection for important actions for safety (Unit 3)		
		February 15 - 22, 2018	Inspection results being summarized.
		February 21 - March 2, 2018	Inspection results being summarized.
		March 6 - 14, 2018	Inspection results being summarized.
		January 31 - March 28, 2018	Inspection results being summarized.
	Operational safety inspection for important actions for safety (Unit 4)		
		January 31 - March 28, 2018	Inspection results being summarized.

Sendai NPS, Kyushu Electric Power Co. Inc.

During the following periods, the reactor of Unit 1 was shut down, and Unit 2 was under operation.

Periodic facility inspection		Implementation period	Result/Remarks
	Unit 1	From January 29, 2018 (under implementation)	
	Unit 2	December 16, 2016 -March 24, 2017	Inspection result: Good
Pre-service inspection	Unit 1	March 30 - September 10, 2015	Inspection result: Pass
	Unit 2	June 10 - November 17, 2015	Inspection result: Pass
Operational safety inspection	1st time	May 29 - June 9, 2017	No particular safety concerns.
	Operational safety inspection for important actions for safety (Unit 1)		
		April 26 - June 28, 2017	No particular safety concerns.
	Operational safety inspection for important actions for safety (Unit 2)		
		April 26 - June 28, 2017	No particular safety concerns.
	2nd time	August 28 - September 8, 2017	No particular safety concerns.
	Operational safety inspection for important actions for safety (Unit 1)		
		July 28 - September 27, 2017	No particular safety concerns.
	Operational safety inspection for important actions for safety (Unit 2)		
		July 28 - September 27, 2017	No particular safety concerns.
	3rd time	December 4 - 15, 2017	No particular safety concerns.
	Operational safety inspection for important actions for safety (Unit 1)		
		November 10 - 22, 2017	No particular safety concerns.
		November 24 - December 6, 2017	No particular safety concerns.
		October 26 - December 26, 2017	No particular safety concerns.
		December 20 - 27, 2017	No particular safety concerns.
	Operational safety inspection for important actions for safety (Unit 2)		
		November 10 - 22, 2017	No particular safety concerns.
		November 24 - December 6, 2017	No particular safety concerns.
		October 26 - December 26, 2017	No particular safety concerns.
		December 20 - 27, 2017	No particular safety concerns.
	4th time	February 19 - March 2, 2018	Inspection results being summarized.
	Operational safety inspection for important actions for safety (Unit 1)		
		January 26 - 31, 2018	Inspection results being summarized.
		February 14 - 28, 2018	Inspection results being summarized.
		February 27 - March 7, 2018	Inspection results being summarized.
		January 25, 2018	Inspection results being summarized.
	Operational safety inspection for important actions for safety (Unit 2)		
		January 25, 2018	Inspection results being summarized.
Others	On April 2, 2017, in Units 1 and 2, deviancy from operational restriction occurred, and restoration occurred on the same day.		

Prototype Fast Breeder Reactor Monju, Japan Atomic Energy Agency

The reactor was shut down during the period covered (under construction)

		Implementation period	Result/Remarks
Pre-service inspection		Pre-service inspection (performance inspection) at the stage of construction is being suspended ・Pre-service inspections related to area-monitoring devices, emergency power-supply equipment, and ventilators (replaced to maintain equipment functions) were conducted.	
Operational safety inspection	1st time	June 1 - 14, 2017	No particular safety concerns.
	2nd time	September 7 - 20, 2017	No particular safety concerns.
	3rd time	December 7 - 20, 2017	No particular safety concerns.
	4th time	March 1 - 14, 2018	Inspection results being summarized.
Others	On January 11, 2018, deviancy from operational restriction occurred, and restoration occurred on the same day.		

FUGEN Decommissioning Engineering Center, Japan Atomic Energy Agency

Under decommissioning procedures (during the period of spent fuel removal)

		Implementation period	Result/Remarks
Periodic facility inspection		December 6 - 22, 2017	Inspection result: Good
Operational safety inspection	1st time	May 15 - 19, 2017	No particular safety concerns.
	2nd time	August 21 - 25, 2017	No particular safety concerns.
	3rd time	November 14 - 22, 2017	No particular safety concerns.
	4th time	March 5 - 9, 2018	Inspection results being summarized.

*The Reactor Regulation Act stipulates to conduct the operational safety inspection four times per year (For the nuclear power reactor facilities that get the authorization of decommissioning plan, the operational safety inspection shall be conducted four times or less per year.).
For example, “3rd time” in the table means the third operational safety inspection in FY 2017.

4. Status of Application for Review of Nuclear Fuel Facilities

Applicant	Facility	Receipt date	Number of cases reviewed at the Review Meeting	Number of on-site investigations	Date of approval
Japan Nuclear Fuel Limited	Reprocessing facility	License modification Operational safety program change January 7, 2014	2	0	—
	MOX fuel fabrication facility	License modification January 7, 2014	2	—	—
	Uranium enrichment facility	License modification May 14, 2013 Operational safety program change January 7, 2014	—	—	Approval of license modification May 17, 2017
	Waste interim storage facility	License modification Operational safety program change January 7, 2014 Design and construction methods (No. 1) May 31, 2017	1*	—	—
Recyclable-Fuel Storage Company	Spent fuel interim storage facility	Operational safety program change March 29, 2013 License modification January 15, 2014 Design and construction methods (No. 1) March 22, 2014	8*	0	—
Mitsubishi Nuclear Fuel Co., Ltd.	Uranium fuel fabrication facility	License modification Operational safety program change January 31, 2014 Design and construction	—	—	Approval of license modification November 1, 2017

		methods (No. 1) November 30, 2017			

(References)

Applicant	Facility	Receipt date	Review meeting (No. of times)	On-site investigation (No. of times)	Date of approval
Japan Atomic Energy Agency (JAEA)	Waste interim storage facility	License modification February 7, 2014 Operational safety program change March 14, 2014 Design and construction methods (No. 1) September 25, 2017	3	0	—
	JRR-3	Installation permit change Operational safety program change September 26, 2014	10	—	—
	HTTR (High-temperature engineering test reactor)	Installation permit change Operational safety program change November 26, 2014 Design and construction methods (No. 1) February 9, 2018	12	—	—
	Radioactive Waste Treatment Facility of	Installation permit change February 6, 2015 Design and construction methods	2	—	—

Nuclear Science Research Institute	(No. 1) November 14, 2017 (No. 2) March 12, 2018			
JMTR (Materials testing reactor)	Installation permit change Operational safety program change March 27, 2015 (Withdrawal on December 5, 2017)	—	—	—
NSRR	Installation permit change March 31, 2015 Design and construction methods (No. 1) July 4, 2017 (No. 2) August 4, 2017 (No. 3) August 24, 2017 (No.4) October 13, 2017 (No. 5) December 13, 2017 Operational safety program change March 6, 2018	5*	—	Permission for change in reactor installation January 31, 2018 Approval of methods for design and construction (No. 1) February 20, 2018 (No. 2) February 26, 2018 (No. 3) February 15, 2018 (No.4) — (No. 5) — Approval of operational safety program change March 22, 2018
STACY (Static Experiment Critical Facility)	Installation permit change March 31, 2015 Design and construction methods (No. 1) August 9, 2016 (Production of uranium fuel rod) August 1, 2017	1*	—	Permission for change in reactor installation January 31, 2018 Approval of methods for design and construction (No. 1) March 29, 2018 (Production of uranium fuel rod) —

		(No. 2) August 10, 2017 (Seismic retrofit of Experiment Building A) November 29, 2017 Operational safety program change August 9, 2016			(No. 2) — (Seismic retrofit of Experiment Building A) — Approval of operational safety program change March 1, 2018
	Experimental fast reactor nuclear reactor facility	Installation permit change Operational safety program change March 30, 2017	2	—	—
Nuclear Fuel Industries, Ltd.	Uranium fuel fabrication facility (Tokai Works)	License modification Operational safety program change February 14, 2014 Design and construction methods (No. 1) February 9, 2018	—	—	Approval of license modification December 20, 2017
	Uranium fuel fabrication facility (Kumatori Works)	License modification Operational safety program change April 18, 2014	—	—	Approval of license modification March 28, 2018
Global Nuclear Fuel Japan	Uranium fuel fabrication facility	License modification Operational safety program change April 18, 2014	—	—	Approval of license modification April 5, 2017
Kyoto University	KUR (Kyoto University Research Reactor)	Installation permit change Operational safety program change September 30, 2014 October 5, 2016** Design and construction	2	—	Approval of installation permit change September 21, 2016 Approval of operational safety program change February 28, 2017

		methods (No. 1) September 14, 2016 (No. 2) December 27, 2016 (No. 3) January 25, 2017 (Lightning-protection system) February 17, 2017 (No.4) March 31, 2017 (No. 5) June 2, 2017 (Leakage warning system at waste treatment facility) July 7, 2017			Approval of design and construction methods (No. 1) February 15, 2017 (No. 2) February 24, 2017 (No. 3) June 12, 2017 (Lightning-protection system) March 30, 2017 (No.4) June 12, 2017 (No. 5) July 14, 2017 (Leakage warning system at waste treatment facility) July 27, 2017
	KUCA (Kyoto University Critical Assembly)	Installation permit change September 30, 2014 Operational safety program change September 30, 2014 May 27, 2016** Design and construction methods (No. 1) July 26, 2016 (No. 2) December 27, 2016 (Upgrading nuclear instrumentation cables) December 27, 2016 (Seismic reinforcement of the number 1 solid waste storehouse) December 27, 2016 (Lightning-protection system)	1	—	Approval of installation permit change May 11, 2016 Approval of operational safety program change June 15, 2017 August 29, 2016 Approval of design and construction methods (No. 1) February 15, 2017 (No. 2) April 25, 2017 (Upgrading nuclear instrumentation cables) February 24, 2017 (Seismic reinforcement of the number 1 solid

		February 17, 2017 (Leakage warning system of waste water tank) June 2, 2017			waste storehouse) February 1, 2017 (Lightning-protection system) April 20, 2017 (Leakage warning system of waste water tank) June 13, 2017
Kinki University	Kinki University nuclear reactor	Installation permit change Operational safety program change October 20, 2014 Design and construction methods (No. 1) June 30, 2016 (No. 2) August 4, 2016 (No. 3) October 13, 2016	1	—	Permission for change in reactor installation May 11, 2016 Approval of operational safety program change February 28, 2017 Approval of design and construction methods (No. 1) (No. 2) October 13, 2016 (No. 3) February 7, 2017
Japan Atomic Power Company	Tokai low level waste disposal facility	Business licensing July 16, 2015	7	—	

There is no facility that received designation or approval of business of refining facility or Category 1 waste disposal facility as of March 31, 2018.

・The numbers of review meeting and on-site investigation represent the number of times held in FY 2017.

・Several applications may be reviewed at one session of the review meeting.

・The number of on-site investigations implemented by the members of the NRA is mentioned, and that implemented only by the staff of the secretariat of the NRA is excluded.

For the facilities denoted by an asterisk (*), public review meetings have been held since June 2016 in accordance with “Reviewing the process of conducting conformity reviews after New Regulatory Requirements to nuclear fuel facilities come into force”, which was approved by the NRA on June 1, 2016.

**An application for changes to the operational safety program made on September 30, 2014, was withdrawn on May 27, 2016, and re-submitted on the same day and October 5, 2016.

5. Numbers of reviews and inspections of nuclear facilities

(From April 1, 2017 to March 31, 2018)

①Status of the reviews and inspections of commercial power reactors

Facility type		No. of cases
Commercial nuclear power reactors (17 facilities) (Under decommissioning procedures: 2 facilities)	Installation permit change	13
	Notification of installation permit change	19
	Approval of construction plan	14
	Approval of change to construction plan	11
	Notification of construction plan	6
	Pass in pre-service inspection	1
	Pass in fuel assembly inspection	3
	Evaluation for the implementation system of the welding licensee Inspection	39
	Evaluation for regular operator inspections	3
	Completion of periodic facility inspection	3
	Approval of operational safety programs or approval of changes	29
	Operational safety inspection	112
	Notification of results of evaluation for safety improvement	3
	Approval of extension of the operation period	0
	Approval of decommissioning plan	5
	Approval of change to decommissioning plan	0
	Check of method and implementation system for determining assignment of responsible facility licensee	0
	Approval of the trial use of reactor	1
	Approval of partial use	1
	Instruction of omission of pre-service inspection	1
	Instruction for omission of fuel assembly inspection	1
	Approval of implementation plan change	42
	Approval of partial use of specified nuclear facilities	8
	Completion of preservice inspection on Specified Nuclear Facilities	21
	Completion of welding inspection on Specified Nuclear Facilities	4
	Completion of welding inspection for imports of Specific Nuclear Facilities	6
	Completion of periodic facility inspection on Specified Nuclear Facilities	1
	Inspection of implementation status of measures for safety defined in implementation plan	4
Commercial power reactors in the research and development phase (Under decommissioning procedures: 1 facility)	Notification of installation permit change	1
	Completion of periodic facility inspection	1
	Approval of operational safety programs or approval of changes	2
	Operational safety inspection	8
	Approval of decommissioning plan	1

②Status of reviews and inspections of nuclear fuel facilities

Facility type		No. of cases
Fuel facility (6 facilities) (Under construction: 1 facility)	Installation permit change	5
	Approval of changes to design and construction methods	3
	Approval of methods for design and construction	1
	Pass in pre-service inspection	5
	Approval of welding method	0
	Approval of operational safety program change	7
	Operational safety inspection	24
Test nuclear reactor facility for test (22 facilities) (Under decommissioning procedures: 8 facilities)	Installation permit change (Approval)	3
	Approval (authorization) of a design and construction method or approval (authorization) of changes	15
	Pass in periodic facility inspection	3
	Pass in pre-service inspection	0
	Approval of welding method	0
	Approval (authorization) of operational safety program or approval (authorization) of changes	13
	Operational safety inspection	39
	Approval of decommissioning plan	2
	Approval of change to decommissioning plan	1
Spent fuel interim storage facility (Under construction: 1 facility)	Pass in welding inspection	0
	Approval of welding method	1
	Type certificate	0
	Type designation	1
Reprocessing facility (2 facilities)	Approval of methods for design and construction	3
	Approval of changes to design and construction methods	2
	Pass in pre-service inspection	6
	Approval of welding method	0
	Approval of operational safety program change	3
	Operational safety inspection	8
Category 2 waste disposal facilities (2 facilities)	Conformation of waste package	3
	Approval of operational safety program change	4
	Operational safety inspection	8
Waste interim storage facility (2 facilities)	Approval of methods for design and construction	0
	Pass in welding inspection	6
	Approval of welding method	0
	Approval of operational safety programs or approval of changes	2
	Operational safety inspection	8
Facilities where nuclear fuel materials are used (11 facilities)	Approval of change of use	6
	Pass in facility inspection	16
	Approval of operational safety programs or approval of changes	13
	Operational safety inspection	47
	Approval of decommissioning plan	0
	Confirmation of decommissioning measure completion	0
Off-site disposal and transportation of nuclear fuel material, etc.	Confirmation of off-site disposal	5
	Approval of design of nuclear fuel package	17
	Approval of transport container	14
	Confirmation of off-site transportation	41
	Confirmation of radioactive concentration	3

There is no facility that received designation or approval of business of refining facility or Category 1 waste disposal facility as of March 31, 2018.

6. Status of application and approval of operation period extension

Applicant	Targeted power reactor	Receipt date	Review meeting (No. of times)	Date of approval	Date at which 40 years have elapsed after operation started
Kansai Electric Power Co., Inc.	Unit 1 of the Takahama NPS	April 30, 2015	—	June 20, 2016	July 7, 2016*1
	Unit 2 of the Takahama NPS	April 30, 2015	—	June 20, 2016	July 7, 2016*1
	Unit 3 of the Mihama NPS	November 26, 2015	—	November 16, 2016	November 30, 2016
Japan Atomic Power Company	Tokai Daini NPS	November 24, 2017	3	—	November 27, 2018

・The numbers of review meetings represent the number of times held in FY2017.

*1: For commercial power reactors to which Paragraph 2 of Article 25 of Supplementary Provision of the Act for Establishment of the NRA are applied, the application period is from April 8 to July 8, 2015.

7. Status of Application and Approval of Operational Safety Programs Change concerning Plant Life Management

Applicant	Targeted power reactor	Receipt date	Review meeting (No. of times)	Date of approval	Date at which 30 years or 40 years elapse after operation started
Tohoku Electric Power Co., Inc.	Unit 1 of the Onagawa NPS (30 years) (only maintaining cold shutdown)	November 6, 2013	—*4	May 21, 2014	June 1, 2014
Tokyo Electric Power Company Holdings, Inc.	Unit 2 of the Fukushima Daini NPS (30 years) (only maintaining cold shutdown)	July 31, 2013	—*4	January 22, 2014	February 3, 2014
	Unit 3 of the Fukushima Daini NPS (30 years) (only maintaining cold shutdown)	June 20, 2014	—*4	June 10, 2015	June 21, 2015
	Unit 4 of the Fukushima Daini NPS (30 years) (only maintaining cold shutdown)	August 23, 2016	—*4	August 16, 2017	August 25, 2017
	Unit 1 of the Kashiwazaki	September	—*4	September	September 18, 2015

Applicant	Targeted power reactor	Receipt date	Review meeting (No. of times)	Date of approval	Date at which 30 years or 40 years elapse after operation started
	Kariwa NPS (30 years) (only maintaining cold shutdown)	16, 2014		14, 2015	
Chubu Electric Power Co., Inc.	Unit 3 of the Hamaoka NPS (30 years) (only maintaining cold shutdown)	August 25, 2016	—*4	August 16, 2017	August 28, 2017
Kansai Electric Power Co., Inc.	Unit 1 of the Takahama NPS (40 years) (only maintaining cold shutdown)	November 12, 2013	—*4	November 12, 2014	November 14, 2014
	Unit 3 of the Takahama NPS (30 years) (operation preconditioned)	January 15, 2014	—	November 18, 2015*3	January 17, 2015
	Unit 4 of the Takahama NPS (30 years) (operation preconditioned)	June 3, 2014	—	November 18, 2015*3	June 5, 2015
	Unit 2 of the Takahama NPS (40 years) (only maintaining cold shutdown)	November 11, 2014	—*4	April 8, 2015	November 14, 2015
Kansai Electric Power Co., Inc.	Unit 1 of the Takahama NPS (40 years) (operation preconditioned)	April 30, 2015	—	June 20, 2016	July 7, 2016*1
	Unit 2 of the Takahama NPS (40 years) (operation preconditioned)	April 30, 2015	—	June 20, 2016	July 7, 2016*1
	Unit 1 of Mihama NPS (only maintaining cold shutdown)	September 29, 2015	—*4	November 17, 2015	—*2
	Unit 3 of the Mihama NPS (40 years) (operation preconditioned)	November 26, 2015	—	November 16, 2016	November 30, 2016
The Chugoku Electric Power Co., Inc.	Unit 1 of the Shimane NPS (40 years) (only maintaining cold shutdown)	September 27, 2013	—*4	February 26, 2014	March 29, 2014
	Unit 2 of the Shimane NPS (30 years) (operation preconditioned)	February 7, 2018	1	—	February 10, 2019
Kyushu Electric	Unit 1 of the Sendai NPS (30 years)	December 18, 2013	—	August 5, 2015*3	July 4, 2014

Applicant	Targeted power reactor	Receipt date	Review meeting (No. of times)	Date of approval	Date at which 30 years or 40 years elapse after operation started
Power Co., Inc.	(operation preconditioned)				
	Unit 1 of Genkai NPS (40 years) (only maintaining cold shutdown)	October 10, 2014	—*4	June 10, 2015	October 15, 2015
	Unit 2 of the Sendai NPS (30 years) (operation preconditioned)	November 21, 2014	—	November 18, 2015	November 28, 2015
Japan Atomic Power Company	Unit 2 of the Tsuruga NPS (30 years) (only maintaining cold shutdown)	February 15, 2016	—*4	February 2, 2017	February 17, 2017
	Tokai Daini NPS (40 years) (operation preconditioned)	November 24, 2017	3	—	November 27, 2018

・The numbers of review meetings represent the number of times held in FY2017.

*1: For commercial power reactors to which Paragraph 2 of Article 25 of Supplementary Provision of the Act for Establishment of the NRA are applied, the application period is from April 8 to July 8, 2015.

*2: The change of the long-term maintenance management policy due to the review of technical evaluation concerning the aging degradation of nuclear facilities.

*3: The review of aging management measures is implemented based on the conformity review to New Regulatory Requirements, on the basis of the policy approved in the NRA.

*4: Based on the policy approved in the NRA, the Secretariat of the NRA performs the review of the plants to which only an evaluation on the precondition of maintenance for a cold shutdown is performed and reports the results to the NRA to seek the approval. From June 11, 2015, they will be operated in accordance with the NRA Document Management Procedures (September 19, 2012) based on discussions at the NRA Commission Meeting held on June 10, 2015.

8. Status of reviews and inspections under the Radiation Hazards Prevention Act

(From April 1, 2017 to March 31, 2018)

Licensee	Type of permissions and notifications	No. of cases
Permission users (Number of places: 2,283)	Permission (approval) of use	38
	Permission (approval) of change for permission of use	266
	Approval of merger or split of juridical persons	8
	Notification of termination of use, etc.	128
	On-site inspection	255
Notification users (Number of places: 510)	Notification of use	18
	Notification of change for notification of use	40
	Notification of termination of use, etc.	26

(References)

Licensee	Type of permissions and notifications	No. of cases
	On-site inspection	0
Notification users of approved devices with certification label (Number places: 4,872)	Notification of approved devices with certification label	841
	Notification of change concerning use of approved devices with certification label	591
	Notification of termination of use, etc.	793
	On-site inspection	0
Notification dealers (Number of places: 310)	Notification of selling business	20
	Notification of change for notification of selling business	42
	Notification of termination of use, etc.	12
	On-site inspection	0
Notification lessors (Number of places: 154)	Notification of rental business	6
	Notification of change for notification of rental business	29
	Notification of termination of use, etc.	4
	On-site inspection	0
Permission waste management licensees (Number of places: 7)	Permission of change for waste management business	1
	Notification of termination of use, etc.	0
	On-site inspection	0
Off-site transport of radioisotopes	Approval of containers to be transported	71
Registered certification bodies, etc. (Number of registered organizations: 17)	On-site inspection of registered certification bodies, registered inspection bodies, registered periodic verification bodies, registered consignment verification bodies, registered concentration verification bodies, registered testing bodies, registered qualifications training bodies, and registered periodic verification bodies	8

Reference4 Oversight of Efforts to the Decommissioning of Reactors at TEPCO's Fukushima Daiichi NPS (Chapter 3)

Approval of Implementation Plan and Inspection

(From April 1, 2017 to March 31, 2018)

Type of approval/inspection	No. of cases
Approval of changes in Implementation Plan	29
Completion of pre-service inspection	31
Approval of test use	0
Approval of partial use	4
Instruction of omission of pre-service inspection	0
Completion of welding inspection	12
Completion of welding inspection for imports	0
Completion of periodic facility inspection	1
Operational safety inspection	4

Reference 5 Enhancement of Nuclear Security (Chapter 5)

Approval of Security Plans, etc.

(From April 1, 2017 to March 31, 2018)

Approvals of changes of the Nuclear Security Plan	74 (breakdown) Fabricating and Enrichment Facility: 1 Research and Test Reactor: 6 Commercial Power Reactor: 50 Power Reactor in a Research and Development Phase: 2 Spent Fuel Storage Facility: 0 Spent Fuel Reprocessing Facility: 2 Radioactive Waste Storage Facility: 2 Nuclear Fuel Materials Using Facility: 10 Specified Nuclear Facility : 1
Inspection of Compliance with Nuclear Material Protection Programs (Inspection of Physical Protection)	57 (breakdown) Fabricating and Enrichment Facility: 7 Research and Test Reactor: 7 Commercial Power Reactor : 17 Power Reactor in a Research and Development Phase : 2 Spent Fuel Storage Facility: 1 Spent Fuel Reprocessing Facility: 2 Radioactive Waste Storage Facility : 2 Nuclear Fuel Material Using Facility: 18 Specified Nuclear Facility : 1

Reference 6 Activities of Study Meetings

as of the end of FY2017

1. Councils and others
(1) Reactor Safety Examination Committee
(2) Nuclear Fuel Safety Examination Committee
(3) Joint review meeting of the Reactor Safety Examination Committee and the Nuclear Fuel Safety Examination Committee
(4) Radiation Council
(5) The National Research and Development Agency Council

2. Review Meeting
(1) Review Meeting on Conformity to the New Regulatory Requirements

3. Study Teams
(1) The Study Team on the Regulation of Radioactive Waste in Decommissioning
(2) Study Team on Radiation-Protection Standards of Waste Disposal
(3) Technical Study Team on Environmental Radiation Monitoring
(4) Study Team on Technical Evaluations of the Fitness-for-Service Standards
(5) Study Team on Spent Fuel Transport and Storage Cask
(6) Study Team on Evaluation for Pyroclastic Fall Deposits
(7) Study Team on Human and Organizational Factors Relating to Regulation
(8) Safety Oversight Team for Tokai Reprocessing Facility Plant and Other Facilities
(9) Safety Oversight Team for Prototype Fast Breeder Reactor Monju Decommissioning
(10) Study Team on Oversight Program
(11) Study Team on the Regulation of Radioisotopes, etc.
(12) Study Team on Evaluation for Ground Motions without Identification of Seismic Sources

4. Meeting on continuous improvement of safety improvement evaluations
(1) Meeting on Continuous Improvement of Safety Improvement Evaluation of Commercial Power Reactors

5. Committees with specific themes
(1) The Committee on Supervision and Evaluation of the Specified Nuclear Facilities
(2) The Committee on Radioactive Waste Issues of the Specified Nuclear Facilities
(3) The Technical Information Committee
(4) The Technical Evaluation Committee on Safety Research

6. Others
(1) Debriefing Session of Emergency Drills by licensees
(2) NRA Policy Review Meeting
(3) Expert Meeting on NRA's Administrative Review -FY2017-
(4) Meeting on Actions to Revised Emergency Activity Level
(5) Meeting on Hearing Opinions of Licensees Concerning New Regulatory Requirements
(6) Research Promotion Committee, Research Evaluation Committee, Debriefing Session of Research Results
(7) Meeting for the Forward Planning of the Decommissioning Policy

1. Councils and others

(1) Reactor Safety Examination Committee

Description

At the NRA Commission Meeting held on February 5, 2014, the NRA approved the policy on establishing the Reactor Safety Examination Committee based on the Act for Establishment of Nuclear Regulation Authority. At the NRA Commission Meeting held on April 16, the appointment of Examination Committee members was approved.

Based on this, the Reactor Safety Examination Committee held the first Review Meeting on May 12, and has regularly held Review Meetings since then. In addition, at the 16th Review Meeting of the Reactor Safety Examination Committee held on June 20, 2017, the Reactor Safety Subcommittee was established for investigating and reviewing items excluding those referred to the Subcommittee of Volcano Monitoring among items to be investigated and reviewed at the Reactor Safety Examination Committee by order of the NRA.

As the activity of the Reactor Safety Examination Committee in FY2017, in order to respond to investigation and review items ordered by the NRA (*See page 160), the Committee held two meetings of the Reactor Safety Examination Committee, three meetings of the Subcommittee of Reactor Safety Examination, and one meeting of the Subcommittee of Volcano Monitoring (For more information, see Section 2-7 of Chapter 2). At the 17th Review Meeting of the Reactor Safety Examination Committee held on March 30, 2018, among investigation and review items ordered by the NRA, the draft of the reply to “Comparative evaluation between safety targets aimed by the NRA and safety level attained through conformity to New Regulatory Requirements (Methods of clear explanation to the public) was prepared under the responsibility of the Chairperson, and it is scheduled to be reported to the NRA in the following fiscal year.

Members of the Committee

Examination commissioners	Tadahiro Katsuta	Associate Professor, School of Law, Meiji University
	Tetsuo Kobayashi	Professor emeritus, Kagoshima University
	Naoto Sekimura ◎	Professor, School of Engineering, the University of Tokyo
	Ikuji Takagi	Professor, Graduate School of Engineering, Kyoto University
	Tsuyoshi Takada	Professor, School of Engineering, the University of Tokyo
	Makoto Takahashi	Professor, Technology and Social Systems Graduate School of Engineering, Tohoku University
	Kosuke Nagai	Professor, Metal Materials Research Laboratory, Tohoku University Head of the affiliated International Research Center for Nuclear Materials Science
	Toshiko Nakagawa	Professor, Faculty of Engineering, Tokyo City University
	Ken Nakajima	Professor, Kyoto University Research Reactor Institute
	Takehiko Nakamura	Japan Atomic Energy Agency (JAEA) Director of Nuclear Safety Research Center, Sector of Nuclear Safety Research and Emergency Preparedness
	Akemi Nishida	Japan Atomic Energy Agency (JAEA) Nuclear Safety Research Center, Sector of Nuclear Safety Research and Emergency Preparedness Assistant Principal Staff, Structural Integrity Research Group, Materials and Structural Integrity Research Division
	Akiko Matsuo	Professor, Faculty of Science and Technology, Keio University
	Yu Maruyama	Japan Atomic Energy Agency (JAEA) Nuclear Safety Research Center, Sector of Nuclear Safety Research and Emergency Preparedness Director, Risk Analysis and Applications Research Division

	Makoto Murakami	Professor, Institute of Seismology and Volcanology, Faculty of Science, Hokkaido University
	Ken Muramatsu	Affiliate Professor, Faculty of Engineering, Tokyo City University
	Akio Yamamoto	Professor, Material Science and Technology Studies, Graduate School of Engineering, Nagoya University
	Hiroko Yoshida	Graduate School of Pharmaceutical Sciences, Tohoku University Instructor, Radioisotope Research and Educational Center
	Sachiko Yoshihashi	Associate Professor, Nuclear Fuel Management Facility, Nagoya University Associate Professor, Quantum Energy Engineering, Department of Material Science and Technology, Graduate School of Engineering, Nagoya University
	Yuko Yoneoka	Executive Director, Japan Accreditation Board Director-General, Accreditation Center
Temporary commissioners	Takahiro Okura	Professor, Aso Volcanological Laboratory, Institute for Geothermal Sciences, Kyoto University
	Hiroki Miyamachi	Professor, Department of Earth and Environmental Science, Faculty of Science, Kagoshima University
Expert commissioners	Takeshi Iimoto	Professor, Division for Environment, Health and Safety, the University of Tokyo
	Tatsuya Itoi	Associate Professor, School of Engineering, the University of Tokyo
	Reiko Kanda	National Institutes for Quantum and Radiological Science and Technology Director, Center for Radiation Protection Knowledge, National Institute of Radiological Sciences
	Hiroshi Shinohara	Prime Senior Researcher, Research Institute of Earthquake and Volcano Geology, Geological Survey of Japan, National Institute of Advanced Industrial Science and Technology
	Takakazu Tanada	Manager, Principal Chief Researcher of the Volcano Disaster Resilience Research Division, National Research Institute for Earth Science and Disaster Resilience
	Shinya Hohara	Associate Professor, Atomic Energy Research Institute, Kinki University

*Double circle (◎) indicates the Chairperson.

Members of the Subcommittee of Volcano Monitoring

Examination commissioners	Tetsuo Kobayashi	Professor emeritus, Kagoshima University
	Makoto Murakami	Professor, Institute of Seismology and Volcanology, Faculty of Science, Hokkaido University
Temporary commissioners	Takahiro Okura	Professor, Aso Volcanological Laboratory, Institute for Geothermal Sciences, Kyoto University
	Hiroki Miyamachi	Professor, Department of Earth and Environmental Science, Faculty of Science, Kagoshima University
Expert commissioners	Hiroshi Shinohara	Prime Senior Researcher, Research Institute of Earthquake and Volcano Geology, Geological Survey of Japan, National Institute of Advanced Industrial Science and Technology
	Takakazu Tanada	Manager, Principal Chief Researcher of the Volcano Disaster Resilience Research Division, National Research Institute for Earth Science and Disaster Resilience

Latest activities of the subcommittee of volcano monitoring

Number	Date	Agenda
2	11.01	・Evaluations conducted by the NRA for the results of volcanic monitoring by parties installing nuclear power reactors ・The rough standard for making judgments concerning nuclear reactor shutdown pertaining to volcanic activity as formulated by the NRA ・Others

(2) Nuclear Fuel Safety Examination Committee

Description

At the NRA Commission Meeting held on February 5, 2014, the NRA approved the policy on establishing the Reactor Safety Examination Committee based on the Act for Establishment of Nuclear Regulation Authority. At the NRA Commission Meeting held on April 16, the appointment of Examination Committee members was approved.

Based on this, the Nuclear Fuel Safety Examination Committee held the first Review Meeting on May 12, and has regularly held Review Meetings since then.

As the activity of the Nuclear Fuel Safety Examination Committee in FY2017, in order to respond to investigation and review items ordered by the NRA (*See page 160), the Committee held five meetings of the Reactor Safety Examination Committee. At the 19th Review Meeting of the Nuclear Fuel Safety Examination Committee held on March 30, 2018, among investigation and review items ordered by the NRA, the draft of the reply to “Comparative evaluation between safety targets aimed by the NRA and safety level attained through conformity to New Regulatory Requirements (Methods of giving clear explanation to the public)” was prepared under the responsibility of the Chairperson, and it is scheduled to be reported to the NRA in the following fiscal year.

Members of the Committee

Examination commissioners	Hironobu Unesaki	Professor, Kyoto University Research Reactor Institute
	Yoichi Enokida	Professor, Graduate School of Engineering, Nagoya University
	Toshiaki Ohe	Professor, School of Engineering, Tokai University
	Tadahiro Katsuta	Associate Professor, School of Law, Meiji University
	Akira Kirishima	Associate Professor, Institute of Multidisciplinary Research for Advanced Materials, Tohoku University
	Kayo Sawada	Assistant Professor, Institute of Materials and Systems for Sustainability, Nagoya University
	Ikuji Takagi	Professor, Graduate School of Engineering, Kyoto University
	Tsuyoshi Takada	Professor, School of Engineering, the University of Tokyo
	Takehiko Nakamura	Japan Atomic Energy Agency (JAEA) Director of Nuclear Safety Research Center, Sector of Nuclear Safety Research and Emergency Preparedness
	Akiko Matsuo	Professor, Faculty of Science and Technology, Keio University
	Akio Yamamoto ◎	Professor, Material Science and Technology Studies, Graduate School of Engineering, Nagoya University
	Hiroko Yoshida	Graduate School of Pharmaceutical Sciences, Tohoku University Instructor, Radioisotope Research and Educational Center
	Sachiko Yoshihashi	Associate Professor, Nuclear Fuel Management Facility, Nagoya University Associate Professor, Quantum Energy Engineering, Department of Material Science and Technology, Graduate School of Engineering, Nagoya University
	Yuko Yoneoka	Executive Director, Japan Accreditation Board Director-General, Accreditation Center
Expert commissioners	Takeshi Iimoto	Professor, Division for Environment, Health and Safety, the University of Tokyo
	Tatsuya Itoi	Associate Professor, School of Engineering, the University of Tokyo
	Reiko Kanda	National Institutes for Quantum and Radiological Science and Technology Director, Center for Radiation Protection Knowledge, National Institute of Radiological Sciences
	Shinya Hohara	Associate Professor, Atomic Energy Research Institute, Kinki University

*Double circle (◎) indicates the Chairperson.

(3) Joint review meeting of the Reactor Safety Examination Committee and the Nuclear Fuel Safety Examination Committee

RSE Committee meeting	NFSEC meeting	Month/day	Agenda

(References)

RSE Committee meeting	NFSEC meeting	Month /day	Agenda
16th joint	15th joint	6/20	・ Appointment of members of the Reactor Safety Examination Committee and the Nuclear Fuel Safety Examination Committee ・ Establishment of the Subcommittee of Reactor Safety Examination (draft) ・ Follow-up actions concerning issues clarified by the IRRS (i) Follow-up plan to address issues clarified by the IRRS (draft) (ii) Process to organize “items to be picked up”(draft) ・ State of examinations on screening and technical information requiring actions ・ Others
1st Joint Meeting with the Subcommittee of Reactor Safety Examination	16 joint	8/7	・ Action plan to address issues clarified by the IRRS ・ Safety targets and New Regulatory Requirements ・ Others
2nd Joint Meeting with the Subcommittee of Reactor Safety Examination	17th joint	10/19	・ State of examinations on revisions of the inspection system ・ Safety targets and New Regulatory Requirements ・ Others

RSE Committee meeting	NFSEC meeting	Month /day	Agenda
3rd Joint Meeting with the Subcommittee of Reactor Safety Examination	18th joint	1/29	・ Actions concerning issues clarified by the IRRS (i) Action plan to address issues clarified by the IRRS (ii) Action plan to address items to be picked up from the IRRS mission ・ State of examinations on screening and technical information requiring actions ・ Safety targets and New Regulatory Requirements ・ Others
17th joint	19th joint	3/30	・ State of activities of the Nuclear Reactor Volcano Subcommittee ・ State of examinations on revisions of the inspection system ・ Ideal development of organization of regulatory bodies relating to oversight and assessment (human resources development system, qualification system for inspectors, etc.) ・ Action plan to address issues clarified by the IRRS (i) Actions to address items to be picked up from the IRRS mission (integral management of discovery and training of human resources in regulatory organizations) (ii) Recent actions of the NRA relating to the IRRS ・ State of examinations on screening and technical information requiring actions ・ Safety targets and New Regulatory Requirements ・ Others

*NRA's items to be investigated and reviewed by the Reactor Safety Examination Committee and Nuclear Fuel Safety Examination Committee

・To investigate and review the necessity of measures based on the collected and analyzed information relating to accidents or troubles occurred in Japan and abroad and future overseas regulations, and report the results, including advice. [February 2014, Instructions to the RSEC and the NFSEC]
・To investigate and review standards to determine the suspension of reactors, which was set by the NRA, and the NRA's evaluation on the results of volcanic monitoring for parties installing nuclear power reactors [December 2015, Instructions to the RSEC]
・To evaluate or give advice on actions taken by the NRA for items pointed out at the review of the IRRS (Integrated Regulatory Review Service) in January 2016 [March 2016, Instructions to the RSEC and the NFSEC]
・Towards the operation of the new oversight and assessment system in line with the revised inspection system, to examine and deliberate specific directions of the desired state of oversight and assessment of nuclear facilities, including the utilization of risk information and the incorporation of safety achievements, and administrative measures, and ideal development of the organization of regulatory bodies relating to oversight and assessment (human resources development system, qualification system for inspectors, etc.), and report the results, including advice. [February 2017, Instructions to the RSEC and the NFSEC]
・In addition, to investigate and review comparative evaluation between safety targets aimed by the NRA and safety level attained through conformity to New Regulatory Requirements (methods of giving clear explanations to the public), and report the results, including advice [February 2017, Instructions to the RSEC and the NFSEC]

(4) Radiation Council

Overview

In response to the promulgation and enactment of the revised act for adding jurisdictional responsibility of the Radiation Council in April 2017, general meetings of the Radiation Council and meetings of the Subcommittee on Radiation Protection of the Lens of the Eye were held 7 times each to compile the "Summary of basic concepts of radiation protection" and make suggestions on the way to protect the lens of the eye from radiation to relevant administrative agencies (The Subcommittee on Radiation Protection of the Lens of the Eye was dissolved in March 2018).

Members of the Radiation Council

Commissioners	Yoshitomo Uwamino	Director, Safety Management Group, RIKEN Nishina Center for Accelerator-Based Science
	Keiji Oda	Executive Vice President of Kobe University and Professor, Kobe University Graduate School of Maritime Sciences
	Michiaki Kai	Professor, Human Biology Division, Department of Health Sciences, Oita University of Nursing and Health Sciences
	Kenji Kamiya ◎	Vice President (Reconstruction Support/Radiation Medicine), Hiroshima University and Vice President, Fukushima Medical University
	Kumiko Karasawa	Professor, Radiation Oncology Department, School of Medicine, Tokyo Women's Medical University
	Reiko Kanda	Director, Center for Radiation Protection Knowledge, National Institute of Radiological Sciences, National Institutes for Quantum and Radiological Science and Technology
	Atsuo Kishimoto	Professor, Ethical, Legal and Social Issues Core, Osaka University Institute for Datability Science
	Kazuro Sugimura	Executive Vice President of Kobe University and Professor, Kobe University Graduate School of Medicine
	Yoko Fujikawa	Associate Professor, Kyoto University Research Reactor Institute
	Shoji Futatsugawa ○	Executive Director, Japan Radioisotope Association
	Naoki Matsuda	Professor, Atomic Bomb Disease Institute, Nagasaki University
	Sumi Yokoyama	Associate Professor, School of Health Sciences, Fujita Health University
	Hiroko Yoshida	Associate Professor, Radioisotope Research and Education Center, Graduate School of Pharmacy, Tohoku University

*Double circle(◎) indicates the chairperson, and circle (○) indicates the deputy to the chairperson

Members of the Subcommittee on Radiation Protection of the Lens of the Eye

Commissioners	Sumi Yokoyama	Associate Professor, School of Health Sciences, Fujita Health University
	Reiko Kanda	Director, Center for Radiation Protection Knowledge, National Institute of Radiological Sciences, National Institutes for Quantum and Radiological Science and Technology
Expert commissioners	Masaaki Akahane	Professor, School of Medicine, International University of Health and Welfare
	Hiroyuki Oguchi	Chief Researcher(Technical Supervisor), Oarai Research Center, Chiyoda Technol Corporation
	Naoki Kunugita	Director, Department of Environmental Health, National Institute of Public Health, Ministry of Health, Labour and Welfare
	Norimichi Juto	Engineering advisor, Technical Office, Nagase Landauer, Ltd.
	Norio Tsujimura	Japan Atomic Energy Agency (JAEA) Prime research engineer, Radiation Dosimetry Section, Radiation Protection Department, Nuclear Fuel Cycle Engineering Laboratories

Meetings of the Radiation Council

Number	Date	Agenda
134	06.16	・Items to be investigated and reviewed at the Radiation Council ・Others
135	07.21	・Partial revision of the decision of establishing standards to be set by the Minister of Agriculture, Forestry and Fisheries based on the provision of paragraph (3) of Article 10-4 of the Regulation for Enforcement of the Veterinary Practice Act (consultation) ・Discussions in the past and future plan ・Subcommittee of the Radiation Council (draft) ・Others
136	09.25	・Basic concepts of radiation protection ・Follow-up on the radiation protection standards established in relation to TEPCO's Fukushima Daiichi NPS accident ・Procedures to incorporate the 2007 Recommendation of ICRP into domestic systems ・Recent approaches for radiological protection in medicine taken by the Ministry of Health, Labour and Welfare ・Others
137	11.10	・Basic concepts of radiation protection ・Enhancement of the information gathering function of the Radiation Council ・Others
138	12.08	・Basic concepts of radiation protection ・Interim report of the Subcommittee on Radiation Protection of the Lens of the Eye ・Others
139	01.19	・Basic concepts of radiation protection ・Procedures to incorporate the 2007 Recommendation of ICRP into domestic systems ・Others
140	03.02	・Principles of radiation protection of the eye lens ・Procedures to incorporate the 2007 Recommendation of ICRP into domestic systems ・Result of investigations by relevant ministries on the radiation protection standards established in relation to TEPCO's Fukushima Daiichi NPS accident ・Others

Meetings of the Subcommittee on Radiation Protection of the Lens of the Eye

Number	Date	Agenda
1	07.25	・Establishment of the Subcommittee on Radiation Protection of the Lens of the Eye ・New equivalent dose limit for the eye lens and overseas trends ・The trends of international standards such as ISO and IEC ・Clarification of points: Urgent tasks to be addressed for the protection of the eye lens
2	09.05	・Main points of the 1st meeting of the Subcommittee on Radiation Protection of the Lens of the Eye ・Status of the control of radiation exposure doses to the eye lens and measures taken at Fukushima Daiichi NPS ・Dosimetry of beta Hp(3) by personal dosimeter ・Clarification of points: Appropriate protection of the eye lens from radiation at Fukushima Daiichi NPS
3	10.05	・Main points of the 2nd meeting of the Subcommittee on Radiation Protection of the Lens of the Eye ・Distribution of radiation doses to the eye lens based on the statistical data of a personal dosimetry service organization ・Present state of radiation exposure to the eye lens in the medical sector ・Degree of variation of shielding effects of protection glasses and its factors ・Present state and issues of radiation exposure to the eye lens in the medical sector (Clarification of points based on opinion hearing)
4	11.16	・Main points at the 3rd meeting of the Subcommittee on Radiation Protection of the Lens of the Eye ・Fact-finding survey on the radiation exposure to the eye lens of medical workers -Exposure at the CT/Myelo-CT examination- ・Actual state of radiation protection of the eye lens in the medical sector (especially at cardiovascular IVR) ・Present state of radiation exposure to the eye lens at nuclear power stations ・Present state and future of the control of radiation doses to the eye lens at MOX fuel fabrication facilities ・Current state and issues of radiation exposure to the eye lens at medical institutions, nuclear power stations, and MOX fuel fabrication facilities (Clarification of points based on opinion hearing)
5	12.08	・Challenges for appropriate use of radiation in the medical sector ・Present state of radiation exposure to the eye lens in nondestructive inspection ・Present state and issues of radiation exposure to the eye lens in the medical sector and in nondestructive inspection (Clarification of points based on opinion hearing) ・Preparation of an interim report
6	01.29	・Points to be added in the interim report (i) Fundamentals of dose limit for the eye lens of radiation workers at the time of emergency (ii) Handling of 3 mm dose equivalent in place-related measurement ・Actual state of radiation exposure to the eye lenses of decontamination workers ・Hearing from related organizations (i) The Japan Association of Radiological Technologists (ii) Japanese Nursing Association (iii) Japan Medical Association

(References)

Number	Date	Agenda
7	02.21	・Preparation of “Principles of radiation protection of the eye lens (draft)”

(5) The National Research and Development Agency Council

Overview

The NRA needs to implement instruction of medium and long term targets and performance evaluation after hearing opinions by the Council about research and development about a part of work by National Institutes for Quantum and Radiological Science and Technology and Japan Atomic Energy Agency as a competent minister based on the Act on General Rules for Incorporated Administrative Agencies (Act no. 103 in 1999). Because of that, the NRA established the National Research and Development Agency Council as the council about research and development on April 10, 2015.

In the FY 2017, the National Research and Development Agency Council was held once and determined some provisions, including changing names of subcommittees.

In addition, sub-committee meetings of the National Institutes for Quantum and Radiological Science and Technology were held 2 times to hear opinions including performance evaluation of the National Institutes for Quantum and Radiological Science and Technology.

In addition, meetings of the sub-committee of Japan Atomic Energy Agency were held 2 times to hear opinions including performance evaluation for Japan Atomic Energy Agency.

Members of the National Research and Development Agency Council

Commissioners	Michiaki Kai	Professor, Environmental Health Science, Human Biology Division, Oita University of Nursing and Health Science
	Kenji Kamiya ○	Deputy Commandant, Hiroshima University Director of Radiation Emergency Medicine Promotion Center
	Seiichi Koshizuka ◎	Professor, School of Engineering, the University of Tokyo
	Hirokuni Yamanishi	Professor, Atomic Energy Research Institute, Kinki University
	Akio Yamamoto	Professor, Graduate School of Engineering, Nagoya University
	Yuko Yoneoka	Executive Director, Japan Accreditation Board Director-General, Accreditation Center

*Double circle (◎) indicates the chairperson, and circle (○) indicates the vice chairperson

Members of sub-committees

・Subcommittee of the National Institutes for Quantum and Radiological Science and Technology

Commissioners	Michiaki Kai	Professor, Environmental Health Science, Human Biology Division, Oita University of Nursing and Health Science
	Kenji Kamiya	Deputy Commandant, Hiroshima University Director of Radiation Emergency Medicine Promotion Center
	Hirokuni Yamanishi	Professor, Atomic Energy Research Institute, Kinki University

・Subcommittee of Japan Atomic Energy Agency

Commissioners	Seiichi Koshizuka	Professor, School of Engineering, the University of Tokyo
	Akio Yamamoto	Professor, Graduate School of Engineering, Nagoya University
	Yuko Yoneoka	Executive Director, Japan Accreditation Board Director-General, Accreditation Center

Meetings of the National Research and Development Agency Council

Number	Date	Agenda
3	07.05	・Selection of the Chairperson ・Appointment of the deputy of the Chairperson and subcommittee members *Deliberated on the document from July 5 (Wed.) to 7 (Fri.) in 2017

Meetings of Subcommittees

・Subcommittee of the National Institutes for Quantum and Radiological Science and Technology

Number	Date	Agenda
3	07.10	・Appointment of the Chairperson and the Deputy of the Chairperson of the Subcommittee of the National Institutes for Quantum and Radiological Science and Technology ・Performance evaluation procedures for the National Institutes for Quantum and Radiological Science and Technology in FY2016 ・FY2016 performance evaluation of the National Institutes for Quantum and Radiological Science and Technology (Hearing from the National Institutes for Quantum and Radiological Science and Technology)
4	07.24	・FY2016 performance evaluation of the National Institutes for Quantum and Radiological Science and Technology (preparation) ・Others

・Subcommittee of Japan Atomic Energy Agency

Number	Date	Agenda
5	07.18	・Selection of the Subcommittee Chairperson and appointment of the Deputy of the Subcommittee Chairperson ・Vote in writing on the 4th meeting ・FY2016 performance ・Others
6	08.14	・Preparation of opinions regarding the performance in FY2016 *Deliberated on the document from August 14 (Mon.) to 16 (Wed.) in 2017

2. Review Meeting

(1) Review Meeting on Conformity to the New Regulatory Requirements

Overview

Applications for change in reactor installation and other applications received from licensees were reviewed on the basis of the New Regulatory Requirements for Nuclear Power Plants, which came into force on July 8, 2013, and the New Regulatory Requirements for Nuclear Fuel Facilities, which came into force on December 18, 2013. A study team was assembled by the Secretariat of the NRA in addition to the commissioner of the NRA. The team held 102 review meetings on the NPS, and 38 meetings on the nuclear fuel facilities in FY2017. They also held one review meeting in FY2017 on applications from licensees for operational safety program change concerning plant life management.

Members of Review Meeting

・Review Meeting on Conformity to the New Regulatory Requirements for Nuclear Power Plants

NRA Commissioners	Toyoshi Fuketa	NRA Chairman (Attended as NRA commissioner until the 500th meeting)
	Akira Ishiwatari	NRA Commissioner
	Shinsuke Yamanaka	NRA Commissioner (Attended from the 513th meeting)
Secretariat of the NRA	Michio Sakurada	Deputy Secretary-General for Technical Affairs (Chief Engineering Officer)
	Tomoho Yamada	Director-General, Nuclear Regulation Department

	Hiroshi Yamagata	Director General for Emergency Response
	Tomoya Ichimura	Director for Nuclear Regulation Policy Planning Division (Attended as Director for Nuclear Regulation (for PWR) until the 480th meeting)
	Yuji Ono	Director, Division of Licensing for Nuclear Power Plants
	Kaoru Oasada	Director, Division of Licensing for Earthquake and Tsunami
	Hisashi Miyamoto	Director for Safety Regulation
	Hiroyuki Naito	Deputy Director for Safety Management Examination
	Shoji Takeyama	Director for Safety Regulation
	Takumi Koyamada	Director for Safety Regulation
	Takumi Samukawa	Director for Safety Regulation
	Hiromitsu Yoneyama	Director for Safety Regulation
	Kenji Kawasaki	Deputy Director for Safety Management Examination
	Michio Yamaguchi	Deputy Director for Safety Management Examination
	Naoki Amano	Deputy Director for Safety Management Examination
	Yasuhiro Kawashita	Senior Deputy Director for Planning and Examination
	Masaaki Ikeda	Director general for Technical Research and Examination

・Review Meeting on Conformity to the New Regulatory Requirements for Nuclear Fuel Facilities

NRA Commissioners	Satoru Tanaka	NRA Commissioner
	Akira Ishiwatari	NRA Commissioner
Secretariat of the NRA	Tomoho Yamada	Director-General, Nuclear Regulation Department
	Masahiro Aoki	Director-General
	Hiroshi Kataoka	Director-General
	Hisashi Miyamoto	Director, Division of Licensing for Research Reactors, Use of Nuclear Material and Specified Nuclear Facilities
	Kazuya Aoki	Director, Division of Licensing for Nuclear Fuel Facilities
	Shinji Kinjo	Director, Division of Oversight of Nuclear Fuel Related Facilities and Research Reactors
	Katsunobu Aoyama	Nuclear Regulation Research Officer
	Kaoru Oasada	Director, Division of Licensing for Earthquake and Tsunami
	Shigekatsu Ohomuko	Director for Safety Regulation
	Tomoki Shibutani	Director for Safety Regulation
	Akihiko Ogawa	Director for Safety Regulation
	Yutaka Miyawaki	Director for Safety Regulation
	Kiyomitu Hasegawa	Director for Safety Regulation
	Hiroyuki Naito	Deputy Director for Safety Management Examination

・The Review Meeting on Technical Evaluation of Aging Management of Nuclear Power Plants

Secretariat of the NRA	Tomoho Yamada	Director-General, Nuclear Regulation Department
	Masaaki Ikeda	Director general for Technical Research and Examination
	Naoki Amano	Deputy Director for Safety Management Examination

3. Study Teams

(1) The Study Team on the Regulation of Radioactive Waste in Decommissioning

Overview

The study team consisting of the Commissioner Satoru Tanaka and external experts in the FY 2014 was established for preparation of regulation and standards concerning radioactive waste generated during decommission of reactor. 10 meetings were held in the FY2017.

Members of the Study Team on the Regulation of Radioactive Waste in Decommissioning

NRA Commissioners	Satoru Tanaka	NRA Commissioner
	Akira Ishiwatari	NRA Commissioner (Attended the 15th and 16th meetings)
External experts	Takeshi Iimoto	Associate Professor, Division for Environment, Health and Safety, the University of Tokyo
	Tetsuo Iguchi	Professor, Graduate School of Engineering, Nagoya University
	Toshiaki Ohe	Professor, Tokai University School of Engineering Department of Nuclear Engineering
	Tadahiro Katsuta	Associate Professor, School of Law, Meiji University
	Takahiro Yamamoto	National Institute of Advanced Industrial Science and Technology Research Institute of Earthquake and Volcano Geology Principal Staff, Regulatory Research
	Hiroshi Sato	Professor, Earthquake Prediction Research Center, Earthquake Research Institute, the University of Tokyo (Attended the 23rd and 24th meetings)
National Institutes for Quantum and Radiological Science and Technology	Isao Kawaguchi	Chief Researcher, Center for Radiation Protection Knowledge, National Institute of Radiological Sciences
Japan Atomic Energy Agency	Tetsuji Yamaguchi	Director, Safety Research Center Environment Safety Research Division
	Seiji Takeda	Director, Safety Research Center Environment Safety Research Unit Environmental Impact Evaluation Research Division
	Toshikatsu Maeda	Director, Safety Research Center Radioactive Waste Safety Research Group Environmental Impact Evaluation Research Division
Secretariat of the NRA	Tetsuo Ohmura	Director-General (Attended until the 24th meeting. Attended as Director-General for Emergency Response until the 23rd meeting)
	Masahiro Aoki	Director-General
	Hiroshi Tsujihara	Director, Regulatory Standard and Research Division (Attended from the 25th meeting)
	Takaaki Kurasaki	Director, Regulatory Standard and Research Division (Attended until the 24th meeting)
	Kazuya Aoki	Director, Division of Licensing for Nuclear Fuel Facilities (Attended as Director for Nuclear Regulation (Waste, Storage and Transport) until the 23rd meeting)
	Takashi Mukai	Director, Division of Research for Nuclear Fuel Cycle and Radioactive Waste
	Tomoki Shibutani	Director for Policy Planning and Coordination, Regulatory Standard and Research Division
	Norikazu Yamada	Chief Officer for Technical Research and Examination, Division of Research for Nuclear Fuel Cycle and Radioactive Waste (Attended as Chief Officer for Technical Research and Examination for Director, Division of Research for

		Nuclear Fuel Cycle and Radioactive Waste until the 23rd meeting)

(2) Study Team on Radiation-Protection Standards of Waste Disposal

Overview

In order to reorganize regulatory legislation with a focus on radiation-protection standards in connection with the end of the specific regulatory period radioactive waste disposal, the study team consisting of Commissioner Ban, Commissioner Satoru Tanaka, and external experts was established in FY 2014. Ten meetings were held in FY 2017.

Members of the Study Team on Radiation-Protection Standards of Waste Disposal

NRA Commissioners	Nobuhiko Ban	NRA Commissioner
	Satoru Tanaka	NRA Commissioner
External experts	Takeshi Iimoto	Professor, Division for Environment, Health and Safety, the University of Tokyo
	Tetsuo Iguchi	Professor, Graduate School of Engineering, Nagoya University
	Toshiaki Ohe	Professor, Tokai University School of Engineering Department of Nuclear Engineering
	Tadahiro Katsuta	Associate Professor, School of Law, Meiji University
	Takahiro Yamamoto	National Institute of Advanced Industrial Science and Technology Research Institute of Earthquake and Volcano Geology Principal Staff, Regulatory Research
	Hiroshi Sato	Professor, Earthquake Prediction Research Center, Earthquake Research Institute, the University of Tokyo (Attended the 23rd and 24th meetings)
Japan Atomic Energy Agency	Tetsuji Yamaguchi	Director, Safety Research Center Environment Safety Research Division
	Seiji Takeda	Director, Safety Research Center Environment Safety Research Unit Environmental Impact Evaluation Research Division
	Toshikatsu Maeda	Director, Safety Research Center Radioactive Waste Safety Research Group Environmental Impact Evaluation Research Division
Secretariat of the NRA	Tetsuo Ohmura	Director-General (Attended until the 24th meeting. Attended as Director-General for Emergency Response until the 23rd meeting)
	Masahiro Aoki	Director-General
	Hiroshi Tsujihara	Director, Regulatory Standard and Research Division (Attended from the 25th meeting)
	Takaaki Kurasaki	Director, Regulatory Standard and Research Division (Attended until the 24th meeting)
	Kazuya Aoki	Director, Division of Licensing for Nuclear Fuel Facilities (Attended as Director for Nuclear Regulation (Waste, Storage and Transport) until the 23rd meeting)
	Takashi Mukai	Director, Division of Research for Nuclear Fuel Cycle and Radioactive Waste
	Tomoki Shibutani	Director for Policy Planning and Coordination, Regulatory Standard and Research Division
	Norikazu Yamada	Chief Officer for Technical Research and Examination, Division of Research for Nuclear Fuel Cycle and Radioactive Waste (Attended as Chief Officer for Technical Research and Examination for Director, Division of Research for Nuclear Fuel Cycle and Radioactive Waste until the 23rd meeting)

(3) Technical Study Team on Environmental Radiation Monitoring

Overview

In order to conduct radiation monitoring appropriately during emergencies and during normal times, it is important to endeavor constantly to develop the technological bases of monitoring, review methods, and maintain skills needed for monitoring. Four meetings of this study team, which consists of Commissioner Nobuhiko Ban and external experts, were held in FY 2017 in order to continuously examine technical matters on monitoring (For more information, see Section 3-4 of Chapter 6 hereof).

Members of the Technical Study Team on Environmental Radiation Monitoring

NRA Commissioner	Nobuhiko Ban	NRA Commissioner
External experts	Tatsuo Aono	Team Leader, Environmental Radiation Dynamics Research Team, Fukushima Project Headquarters, National Institute of Radiological Sciences, National Institutes for Quantum and Radiological Science and Technology
	Takeshi Iimoto	Professor, the University of Tokyo
	Tomoyuki Takahashi	Associate professor, Kyoto University
	Keiko Tagami	Team Leader, Environmental Transfer Parameter Research Team, Fukushima Project Headquarters, National Institute of Radiological Sciences, National Institutes for Quantum and Radiological Science and Technology
	Minoru Takeishi	Analytical Technology Development Advisor, Fukushima Environmental Safety Center, Sector of Fukushima Research and Development,Japan Atomic Energy Agency
	Takumaro Momose	Deputy Director-General, Nuclear Fuel Cycle Engineering Laboratories, Japan Atomic Energy Agency
	Hiromi Yamazawa	Professor, Nagoya University
	Masatoshi Yoshida	Director, Saga Prefectural Environmental Research Center
Secretariat of the NRA	Hiromu Katayama	Director-General for Radiation Protection Strategy and Security
	Shoji Takeyama	Director, Radiation Monitoring Division
	Satoshi Hisano	Director for Institutional, Radiation Monitoring Division
	Jun Sasaki	Regional Adjustment Senior Specialist, Radiation Monitoring Division
	Masaki Uesugi	Technical Counselor, Radiation Monitoring Division
	Keizo Negi	General Manager, Environmental Radioactivity Office
	Shinji Oikawa	Environmental Radioactivity Officer
	Gyo Sato	Director, Emergency Preparedness/Response and Nuclear Security Division
	Kenzou Fujimoto	Technical Counselor, Emergency preparedness/Response and Nuclear Security Division
	Hidenori Yonehara	Specialist, Radiation Protection and Safeguards Division
	Takashi Nakamura	Technical Counselor, Radiation Controls Office

(4) Study Team on Technical Evaluations of the Fitness-for-Service Standards

Overview

The study team consisting of the Commissioner Satoru Tanaka and external experts was organized to examine technical evaluations of Codes for Nuclear Power Generation Facilities -Rules on Fitness-for-Service for Nuclear Power Plants 2012 edition and Supplements of 2013 and 2014 edition, and relevant standards. Six meetings of this study team have been held in total so far. In FY2017, the study team investigated measures taken in other countries for issues identified by the team.

Members of the Study Team on Technical Evaluations of the Fitness-for-Service Standards

NRA Commissioner	Satoru Tanaka	NRA Commissioner
External experts	Yoshio Arai	Professor, Graduate School of Science and Engineering, Saitama University
	Masahide Suzuki	Professor, Nuclear System Safety Engineering, Graduate School, Nagaoka University of Technology
	Toshiyuki Takagi	Professor, Institute of Fluid Science, Tohoku University
	Yuichi Tsuji	Professor, Department of Electronic Engineering, School of Engineering, Tokyo Denki University
	Takashi Furukawa	Deputy Director, Nondestructive Evaluation Center, Japan Power Engineering and Inspection Corporation
Japan Atomic Energy Agency	Hirotaka Nishiyama	Director for Materials and Structural Integrity Research Division, Nuclear Safety Research Center
	Jinya Katsuyama	Materials and Structural Integrity Research Division, Nuclear Safety Research Center Assistant Principal Staff, Structural Integrity Research Group
Secretariat of the NRA	Tetsuo Ohmura	Director General for Emergency Response
	Takaaki Kurasaki	Director, Regulatory Standard and Research Division
	Hideaki Ono	Director for Policy Planning and Coordination, Regulatory Standard and Research Division

(5) Study Team on Spent Fuel Transport and Storage Cask

Overview

Three meetings of this study team, consisting of Commissioner Fuketa, Commissioner Ishiwatari, and external experts, were held in FY2017 to discuss the stockpiling of spent fuel using casks for shipping and stockpiling at nuclear power plants.

Members of the Study Team on Spent Fuel Transport and Storage Cask

NRA Commissioners	Toyoshi Fuketa	NRA Commissioner
	Akira Ishiwatari	NRA Commissioner
Secretariat of the NRA	Hiroshi Yamagata	Director–General for Policy Planning and Coordination
	Takaaki Kurasaki	Director, Regulatory Standard and Research Division
	Koichi Kobayashi	Director, Division of Research for Earthquake and Tsunami
	Yuji Ono	Director for Nuclear Regulation (for BWR)
	Takashi Mukai	Director for Policy Planning and Coordination, Regulatory Standard and Research Division
	Hidefumi Kawauchi	Chief Officer for Technical Research and Examination, Division of Research for Earthquake and Tsunami
	Toru Iijima	Chief Officer for Technical Research and Examination, Division of Research for Earthquake and Tsunami

(6) Study Team on Evaluation for Pyroclastic Fall Deposits

Overview

Two meetings of this study team, consisting of Commissioner Fuketa, Commissioner Ishiwatari, and other officials, were held in FY 2017 to discuss assessments of the impact of pyroclastic fall deposits on nuclear facilities.

Members of the Study Team on Evaluation for Pyroclastic Fall Deposits

NRA Commissioners	Akira Ishiwatari	NRA Commissioner
	Toyoshi Fuketa	NRA Commissioner
Secretariat of the NRA	Hiroshi Yamagata	Director–General for Policy Planning and Coordination
	Takaaki Kurasaki	Director, Regulatory Standard and Research Division
	Koichi Kobayashi	Director, Division of Research for Earthquake and Tsunami
	Kunio Onisawa	Director, Divisions of Research for Reactor System Safety
	Mitsuhiro Kajimoto	Director, Division of Research for Severe Accident
	Masaru Kobayashi	Deputy Director-General for Seismic Safety
	Takashi Mukai	Director for Policy Planning and Coordination, Regulatory Standard and Research Division
	Toru Iijima	Chief Officer for Technical Research and Examination, Division of Research for Earthquake and Tsunami
	Hiroshi Ono	Chief Officer for Technical Research and Examination for Director, Division of Research for Reactor System Safety

(7) Study Team on Human and Organizational Factors Relating to Regulation

Overview

The study team consisting of the Commissioner Ban and external experts was established in FY2017 for preparation of NRA guidelines for assessing and inspecting licensees' efforts to enhance safety culture and NRA guidelines for reviewing and investigating licensees' analysis on causes of non-conformity. Five meetings of the study team were held in FY2017.

Members of the Study Team on Human and Organizational Factors Relating to Regulation

NRA Commissioner	Nobuhiko Ban	NRA Commissioner
Secretariat of the NRA	Michio Sakurada	Deputy Secretary-General for Technical Affairs (Chief Engineering Officer)
	Tetsuo Ohmura	Director–General for Policy Planning and Coordination (Attended the 1st meeting)
	Hiroshi Tsujihara	Director, Regulatory Standard and Research Division
	Takaaki Kurasaki	Director, Regulatory Standard and Research Division (Attended the 1st meeting)
	Haruko Sasaki	Specialist on Nuclear Regulation, Regulatory Standard and Research Division
	Fumihisa Nagase	Director, Divisions of Research for Reactor System Safety
	Takaya Hata	Director general for Technical Research and Examination , Division of Research for Reactor System Safety
	Masami Takita	Chief Officer for Technical Research and Examination, Division of Research for Reactor System Safety
	Hiroko Takada	Chief Technology Research Investigator, Division of Research for Reactor System Safety
	Yuto Horiuchi	Chief Technology Research Investigator, Division of Research for Reactor System Safety
	Masashi Hirano	Senior Coordinator for International Collaborations, Office for International Affairs
	Takumi Samukawa	Director for Safety Regulation (Licensing for Nuclear Power Plants), Division of Licensing for Nuclear Power Plants
	Atsuhiko Kosaka	Senior Deputy Director for Planning and Examination, Division of Supervision of Nuclear Power Plants
External experts	Tadahiro Katsuta	Associate Professor, School of Law, Meiji University
	Takeshi Nakajo	Industrial and Systems Engineering, Faculty of Science and Engineering, Chuo University Professor
	Kazuhiko Noguchi	Professor, Graduate School of Environment and Information Sciences, Yokohama National University Director of Center for Creation of Symbiosis Society with Risk
	Yuko Yoneoka	Executive Director of Japan Accreditation Board Director-General of Accreditation Center

(8) Safety Oversight Team for Tokai Reprocessing Facility Plant and Other Facilities

Overview

Ten meetings of Monitoring Team, consisting of the NRA Commissioner and officials of the NRA Secretariat, were held in FY2017 to check continuously the state of implementation of measures for risk reduction such as vitrifying treatment at the JAEA's Tokai Reprocessing Facility and the means for the safety and decommissioning of this facility.

Members of the Safety Oversight Team for Tokai Reprocessing Facility Plant and Other Facilities

NRA Commissioner	Satoru Tanaka	NRA Commissioner
Secretariat of the NRA	Hiroshi Kataoka	Director-General
	Shinji Kinjo	Director, Division of Oversight of Nuclear Fuel Related Facilities and Research Reactors
	Kiyomitu Hasegawa	Director for Safety Regulation
	Yutaka Miyawaki	Deputy Director for Safety Management Examination

(9) Safety Oversight Team for Prototype Fast Breeder Reactor Monju Decommissioning

Overview

This monitoring team, consisting of the NRA Commissioner and officials of the NRA Secretariat, was established in January 2017 in order to check continuously the state of decommissioning of the JAEA's Fast Breeder Reactor Monju and the actions carried out by the JAEA. Twelve meetings of the monitoring team were held through March 2018.

Members of the Safety Oversight Team for Prototype Fast Breeder Reactor Monju Decommissioning

NRA Commissioner	Satoru Tanaka	NRA Commissioner
Secretariat of the NRA	Masahiro Aoki	Director-General
	Hisashi Miyamoto	Director, Division of Licensing for Research Reactors, Use of Nuclear Material and Specified Nuclear Facilities
	Yutaka Miyawaki	Deputy Director for Safety Management Examination (Advanced Reactors) (until the 7th meeting)
	Kiyomitu Hasegawa	Nuclear Regulation Liaison Officer (Nuclear Regulation (Nuclear Fuel (Fabrication and Reprocessing) Facilities, Use of Nuclear Material, Research Reactors)) (from the 8th meeting)
	Masami Nishimura	Regional Administrator

(10) Study Team on Oversight Program

Overview

Two meetings of this study team, consisting of NRA Commissioners and external experts and others, were held in FY2017 to examine actions taken for improvements to the oversight program, including the response to issues indicated in IRRS reports concerning the system of inspecting nuclear facilities. A working group subordinate to this study team consisting of officials of the NRA Secretariat and regulated parties was established, for detailed studies on revision of inspection system. Nine meetings of this working group were held in FY2017.

Members of the Study Team on Oversight Program

NRA Commissioners	Toyoshi Fuketa	NRA Commissioner (Attended until the 11th meeting)
	Shinsuke Yamanaka	NRA Commissioner (Attended from the 9th meeting)
External experts	Tadahiro Katsuta	Associate Professor, School of Law, Meiji University
	Naoto Sekimura	Professor, School of Engineering, the University of Tokyo
	Shigeru Takahashi	Professor, Faculty of Law, Hosei University
	Yuko Yoneoka	Executive Director, Japan Accreditation Board, Director-General, Accreditation Center
Secretariat of the NRA	Masaya Yasui	Secretary-General (Attended until the 11th meeting)
	Tomoho Yamada	Director-General, Nuclear Regulation Department (Attended as Director of System Revision Deliberations Office until the 11th meeting)
	Hiroshi Kataoka	Director–General for Policy Planning and Coordination (Attended from the 9th meeting)
	Shuichi Kaneko	Director, Oversight Planning and Coordination Division (Senior Coordinator of System Revision Deliberations Office until the 11th meeting)
	Masashi Hirano	Senior Coordinator for International Collaborations, Office for International Affairs (Attended as Deputy-Director for Planning and Coordination of System Revision Deliberations Office until the 11th meeting)
	Toshiyuki Koganeya	Director for Nuclear Regulation (Supervision of Nuclear Power Plants), Nuclear Regulation Department (Attended from the 9th meeting)
	Masaharu Yoshino	Senior Deputy Director for Planning and Examination, Division of Supervision of Nuclear Power Plants (Attended as Deputy-Director for Planning and Coordination of System Revision Deliberations Office until the 11th meeting)
	Atsuhiko Kosaka	Senior Deputy Director for Planning and Examination, Division of Supervision of Nuclear Power Plants (Attended from the 9th meeting)
	Hirofumi Nunoda	Director, Oversight Evaluation Office, Oversight Planning and Coordination Division
	Yusuke Kasagawa	Deputy Director, Risk Management Office, Oversight Planning and Coordination Division
	Yasuo Kosaku	Deputy Director, Oversight Planning and Coordination Division (Attended as Specialist of System Revision Deliberations Office until the 11th Working Group session)
	Kazuko Sato	Deputy Director, Oversight Planning and Coordination Division (Attended from the 9th meeting)

	Toshiyuki Kadono	Director for Nuclear Regulation (Specified Oversight), Nuclear Regulation Department (Attended as Deputy-Director for Planning and Coordination of System Revision Deliberations Office until the 11th meeting)
	Yoji Takasu	Senior Deputy Director for Planning and Examination, Division of Specified Oversight (Attended as Specialist of System Revision Deliberations Office until the 11th Working Group session)
	Yasuhiro Kawashita	Senior Deputy Director for Planning and Examination, Division of Specified Oversight (Attended from the 9th meeting)
	Shuji Murao	Senior Deputy Director for Planning and Examination, Division of Specified Oversight (Attended as Specialist of System Revision Deliberations Office until the 11th Working Group session)
	Atsuo Sawada	Nuclear Regulatory Systems Research Officer, Division of Specified Oversight (Attended from the 9th meeting)
	Kenichi Watanabe	Deputy Director, Division of Specified Oversight (Attended from the 9th meeting)
	Shinichi Katagishi	Chief Inspector Specialized in Nuclear Facilities, Division of Specified Oversight (Attended from the 9th meeting)
	Tsuneo Murakami	Specialist, System Revision Deliberations Office
	Shinji Kinjo	Director for Nuclear Regulation Department (Oversight of Nuclear Fuel Related Facilities and Research Reactors), Nuclear Regulation Department (Attended from the 9th meeting)
	Naoki Kumagai	Senior Oversight Instructor, Division of Oversight of Nuclear Fuel Related Facilities and Research Reactors (Attended from the 9th meeting)
	Satoshi Kodama	Deputy Director, Division of Oversight of Nuclear Fuel Related Facilities and Research Reactors (Attended from the 9th meeting)

（１１）Study Team on Review of Regulatory Controls to Radioisotope-Utilizing Facilities

Overview

IRRS mission team indicated that the NRA should consider strengthening actions for regulation of radioisotopes including responses to emergencies related to radiation sources. In the IRRS report those indications were presented as Recommendations and/or Suggestions. In accordance with the indications, a study team, consisting of the NRA Commissioners, external experts, officials of the NRA Secretariat, and observers, was established in FY 2016 in order to restructure regulatory systems based on the Radiation Hazards Prevention Act while taking amendments to this act into account. Two meetings were held in FY2017.

Members of the Study Team on Review of Regulatory Controls to Radioisotope-Utilizing Facilities

NRA Commissioners	Nobuhiko Ban	NRA Commissioner
	Satoru Tanaka	NRA Commissioner
External experts	Tetsuo Iguchi	Professor, Quantum Engineering, Graduate School of Engineering, Nagoya University
	Akira Saka	Executive Director, Japan Cybercrime Control Center
	Yoshihide Nakamura	Japan Radioisotope Association Senior Advisor, Drugs and Reagent Division, Medical Science and Pharmaceutical Department
	Naoki Matsuda	Atomic Bomb Disease Institute, Nagasaki University Professor, Radiation Risk Control Unit
Secretariat of the NRA	Hiromu Katayama	Director-General for Radiation Protection Strategy and Security
	Ryouzou Nishida	Director, Division of Regulation for Radiation
	Yoshiyuki Shimane	Director for Nuclear Safety Review (Radiation Safety), Division of Regulation for Radiation
	Hirokuni Ito	Director for Nuclear Safety Review (Radiation Security), Division of Regulation for Radiation
	Takehiko Matsumoto	Senior Radiation Safety Reviewer, Division of Regulation for Radiation
	Hirotaka Oku	Deputy Director (Planning and Coordination), Division of Regulation for Radiation
	Yukiko Okabe	Deputy Director (Regulatory Systems), Division of Regulation for Radiation
	Kazuhiro Tani	Radiation Security Measures Officer, Division of Regulation for Radiation
	Kazuyoshi Masumoto	Senior Technical Consultant, Division of Regulation for Radiation
Observers	Fire Defense Agency (Ministry of Public Management, Home Affairs, Posts and Telecommunications)	
	Ministry of Land, Infrastructure, Transport and Tourism	
	Ministry of Health, Labour and Welfare	
	National Police Agency	

(12) Study Team on Evaluation for Ground Motions without Identification of Seismic Sources

Overview

Three meetings of the study team, consisting of the NRA Commissioner, external experts, and employees of the NRA Secretariat, were held in FY2017 with the purpose of clearly showing a commonly-usable method of determining ground motions without identification of seismic sources (ground motions of Mw below 6.5) at stations throughout Japan on the basis of seismological investigation (For more information, see Section 2-8 of Chapter 2 hereof).

Members of the Study Team on Evaluation for Ground Motions without Identification of Seismic Sources

NRA Commissioner	Akira Ishiwatari	NRA Commissioner
External experts	Shinji Toda	Professor, Disaster Science Division, International Research Institute of Disaster Science, Tohoku University
	Yoshiaki Hisada	Professor, Director of Research Center for Urban Disaster Mitigation, Research Institute for Science and Technology, Kogakuin University
	Hiroyuki Fujiwara	Head of the Integrated Research on Disaster Risk Reduction Division, National Research Institute for Earth Science and Disaster Resilience
	Hiroe Miyake	Associate Professor, Center for Integrated Disaster Information Research, Interfaculty Initiatives in Information Studies, the University of Tokyo
	Yasutaka Murono	Director of the Center for Railway Earthquake Engineering Research, Railway Technical Research Institute
	Koshun Yamaoka	Professor, Earthquake and Volcano Research Center, Graduate School of Environmental Studies, Nagoya University
Secretariat of the NRA	Michio Sakurada	Deputy Secretary-General for Technical Affairs (Director of Regulatory Standard and Research Department)
	Tomoho Yamada	Director-General, Nuclear Regulation Department
	Kaoru Oasada	Director, Division of Licensing for Earthquake and Tsunami
	Koichi Kobayashi	Director, Division of Research for Earthquake and Tsunami
	Shunichiro Mita	Director for Nuclear Safety, Division of Licensing for Earthquake and Tsunami Measures, Nuclear Regulation Department
	Toru Iijima	Chief Officer for Technical Research and Examination, Division of Research for Earthquake and Tsunami, Regulatory Standard and Research Department
	Naoyuki Tani	Chief Inspector for Nuclear Safety, Division of Licensing for Earthquake and Tsunami Measures, Nuclear Regulation Department
	Koichiro Saguchi	Chief Inspector for Nuclear Safety, Division of Licensing for Earthquake and Tsunami Measures, Nuclear Regulation Department
	Genyu Kobayashi	Chief Officer for Technical Research and Examination, Division of Research for Earthquake and Tsunami, Regulatory Standard and Research Department
	Reiko Tajima	Officer for Technical Research and Examination, Section of Research for Earthquake and Tsunami, Regulatory Standard and Research Department

4. Meeting on continuous improvement of safety improvement evaluations

(1) Meeting on Continuous Improvement of Safety Improvement Evaluation of Commercial Power Reactors

Overview

Six meetings on continuous improvement of evaluation of safety improvements of commercial power reactors, consisting of employees of the NRA Secretariat, were held in FY2017 in order to check the evaluation of safety improvement submitted by licensees and have discussions towards continuous improvement of safety improvement evaluation in the future, with incorporation of the results into other plants in mind.

Members of the Meeting on Continuous Improvement of Safety Improvement Evaluation of Commercial Power Reactors

Secretariat of the NRA	Tomoho Yamada	Director-General, Nuclear Regulation Department
	Hiroshi Yamagata	Director General for Emergency Response
	Masashi Hirano	Senior Coordinator for International Collaborations
	Naoki Amano	Deputy Director for Safety Management Examination

5. Committees with specific themes

(1) The Committee on Supervision and Evaluation of the Specified Nuclear Facilities

Overview

Eleven meetings of the Committee on the Supervision and Evaluation of the Specified Nuclear Facilities, consisting of the NRA Commissioner, officials of the NRA Secretariat, and external experts, were established, and 7 meetings of the Committee were held in FY2017. Discussed was held on the Implementation plan for Specified Nuclear Facilities and the general ideas on the seismic adequacy of nuclear reactor structures Units 1 to 4 at TEPCO's Fukushima Daiichi NPS.

Members of the Committee on Supervision and Evaluation of the Specified Nuclear Facilities

NRA Commissioners	Toyoshi Fuketa	NRA Commissioner (Attended until the 55th meeting)
	Satoru Tanaka	NRA Commissioner (Attended from the 56th meeting)
External experts	Yoshinori Kittaka	Professor, Graduate School of Urban Environmental Sciences, Tokyo Metropolitan University
	Tomoyoshi Tokunaga	Professor, Department of Environment Systems, Graduate School of Frontier Sciences, the University of Tokyo
	Reiko Hachisuka	Society President of Okuma Town Society of Commerce and Industry
	Akio Yamamoto	Professor, Graduate School of Engineering, Nagoya University
Secretariat of the NRA	Michio Sakurada	Deputy Secretary-General for Technical Affairs (Chief Engineering Officer)
	Hiroshi Yamagata	Director General for Emergency Response
	Rikio Minamiyama	Regional Administrator (in charge of Fukushima)
	Toshihiro Imai	Director, TEPCO's Fukushima Daiichi Accident Response Measures Office

(2) The Committee on Radioactive Waste Issues of the Specified Nuclear Facilities

Overview

A meeting of the Committee on Regulating Radioactive Waste of the Specified Nuclear Facilities, consisting of the NRA Commissioner, officials of the NRA Secretariat, and external experts, was held once in FY2017. Discussion was held on the stable long-term management of waste at TEPCO's Fukushima Daiichi NPS.

Members of the Committee on Radioactive Waste Issues of the Specified Nuclear Facilities

NRA Commissioner	Satoru Tanaka	NRA Commissioner
External experts	Noriko Asanuma	Associate Professor, Department of Nuclear Engineering, Faculty of Engineering, Tokai University
	Tetsuo Iguchi	Professor, Graduate School of Engineering, Nagoya University
	Yaohiro Inagaki	Associate Professor, Department of Applied Quantum Physics and Nuclear Engineering, Graduate School of Engineering, Kyushu University
	Masatomo Sato	Professor Emeritus, Hokkaido University
	Seiichiro Tanaka	Society President of Futaba Town Society of Commerce and Industry
Secretariat of the NRA	Michio Sakurada	Deputy Secretary-General for Technical Affairs (Chief Engineering Officer)
	Hiroshi Yamagata	Director General for Emergency Response
	Rikio Minamiyama	Regional Administrator (in charge of Fukushima)
	Toshihiro Imai	Director, TEPCO's Fukushima Daiichi Accident Response Measures Office
	Naoki Kumagai	Senior Oversight Instructor, Division of Oversight of Nuclear Fuel Related Facilities and Research Reactors
	Jiro Katayama	Senior Officer for Technical Research and Examination (in charge of waste and decommissioning) for Director, Division of Research for Nuclear Fuel Cycle and Radioactive Waste

(3) The Technical Information Committee

Overview

A meeting of the Technical Information Committee, consisting of NRA Commissioners and directors of related divisions of the NRA Secretariat and others, is held every two months with the purpose of organizing and sharing information relating to accidents and troubles that have occurred at nuclear power stations in Japan and abroad and the necessity of reflecting the latest scientific and technological knowledge to regulations. Five meetings of the Committee were held in FY2017.

Members of the Technical Information Committee

The Nuclear Regulation Authority	NRA Commissioner (1 person)
Secretariat of the NRA	Deputy Secretary-General for Technical Affairs (Chief Engineering Officer) (Deputy Secretary-General for Technical Affairs (Chief Engineering Officer) attended until the 27th meeting)
	Director General for Emergency Response
	Director–General for Policy Planning and Coordination (2 persons)
	Director, Office for International Affairs
	Senior Coordinator for International Collaborations
	Director of Regulatory Standard and Research Division, Regulatory Standard and Research Department
	Director, Division of Research for Reactor System Safety, Regulatory Standard and Research Department
	Director, Division of Research for Severe Accident, Regulatory Standard and Research Department
	Director, Division of Research for Nuclear Fuel Cycle and Radioactive Waste, Regulatory Standard and Research Department
	Director, Division of Research for Earthquake and Tsunami, Regulatory Standard and Research Department
	Director-General, Nuclear Regulation Department
	Director, Nuclear Regulation Policy Planning Division, Nuclear Regulation Department
	Director for Nuclear Regulation (Licensing for Nuclear Power Plants), Licensing Group, Nuclear Regulation Department (Director for Nuclear Regulation in charge of BWR and Director for Nuclear Regulation in charge of PWR attended until the 27th meeting)
	Director for Nuclear Regulation (Licensing for Research Reactors), Licensing Group, Nuclear Regulation Department (Director for Nuclear Regulation in charge of advanced reactor, test research reactor, and decommissioning and Director for Nuclear Regulation in charge of nuclear fuel (fabrication and reprocessing) facilities and use of nuclear material attended until the 27th meeting)
	Director for Nuclear Regulation (Licensing for Nuclear Fuel Facilities), Licensing Group, Nuclear Regulation Department (Director for Nuclear Regulation in charge of nuclear fuel (fabrication and reprocessing) facilities and use of nuclear material and Director for Nuclear Regulation in charge of waste, storage and transport attended until the 27th meeting)
	Director for Nuclear Regulation (Licensing for Earthquake and Tsunami Measures), Licensing Group, Nuclear Regulation Department

	(Deputy Director-General for Seismic Safety attended until the 27th meeting)
	Director, Oversight Planning and Coordination Division, Oversight Group, Nuclear Regulation Department
	Director for Nuclear Regulation(Oversight of Nuclear Power Plants), Oversight Group, Nuclear Regulation Department (Director for Nuclear Regulation in charge of inspections of nuclear reactor facilities attended until the 27th meeting)
	Director for Nuclear Regulation (Specified Oversight), Oversight Group, Nuclear Regulation Department
	Director for Nuclear Regulation (Oversight of Nuclear Fuel Related Facilities and Research Reactors), Oversight Group, Nuclear Regulation Department (Director for Nuclear Regulation in charge of nuclear fuel (fabrication and reprocessing) facilities and use of nuclear material attended until the 27th meeting)
Japan Atomic Energy Agency	Chief Engineer, Regulatory Information Analysis Office, Safety Research Center
Secretariat of the NRA	Nuclear Regulation Policy Planning Division (Secretariat), Nuclear Regulation Department

(4) The Technical Evaluation Committee on Safety Research

Overview

Twelve meetings of the six Technical Evaluation Committees were organized as follows in FY2017, in order to obtain technical assessment from the external experts in the respective engineering fields for conducting the interim and post-assessment on safety research in the NRA.

Members of Technical Evaluation Committees

Technical Committee on Plant Safety

External experts	Tadaaki Kunugi	Professor, Graduate School of Engineering, Kyoto University
	Takanori Kitada	Professor, Graduate School of Engineering, Osaka University
	Nobuatsu Tanaka	Professor, College of Engineering, Ibaraki University

Technical Evaluation Committee on Nuclear Fuel

External experts	Tatsumi Arima	Assistant Professor, Graduate School of Engineering, Kyushu University
	Ken Kurosaki	Associate Professor, Graduate School of Engineering, Osaka University

Technical Evaluation Committee on Nuclear Material

External experts	Manabu Kanematsu	Professor, Faculty of Science and Technology, Tokyo University of Science
	Satoshi Matsumoto	Professor, College of Engineering, Shibaura Institute of Technology
	Masato Mochizuki	Professor, Graduate School of Engineering, Osaka University

Technical Committee on Severe Accidents

External experts	Tatsuya Itoi	Associate Professor, Graduate School of Engineering, the University of Tokyo
	Toshio Fujishiro	Advisor, Research Organization for Information Science and Technology
	Koji Morita	Professor, Graduate School of Engineering, Kyushu University

Technical Committee on Nuclear Fuel Cycle and Radioactive Waste

External experts	Noriko Asanuma	Associate Professor, School of Engineering, Tokai University
	Yoichi Enokida	Professor, Graduate School of Engineering, Nagoya University
	Hiroshige Kikura	Associate Professor, Laboratory for Advanced Nuclear Energy, Tokyo Institute of Technology
	Ken Muramatsu	Affiliate Professor, Faculty of Engineering, Tokyo City University

Technical Committee on Earthquake and Tsunami

External experts	Tomotaka Iwata	Professor, Disaster Prevention Research Institute, Kyoto University
	Naoki Sakai	Head of Office for Strategic Planning, Center for Advanced Research Facilities, National Research Institute for Earth Science and Disaster Resilience (National Research Institute)
	Manabu Shoji	Associate Professor, Graduate School of Systems and Information Engineering, University of Tsukuba
	Osamu Furuya	Associate Professor, School of Science and Engineering, Tokyo Denki University

6. Others

(1) Debriefing Session of Emergency Drills by Licensees

Overview

As to the emergency drills conducted by licensees at their business establishments, the Debriefing Session was held twice in FY2017 under the leadership of Commissioner Fuketa and Commissioner Tanaka to provide nuclear licensees with opportunities to promote information sharing with the NRA and improve emergency response ability.

Members of the Debriefing Session of Emergency Drills by Licensees

The Nuclear Regulation Authority	Toyoshi Fuketa	NRA Commissioner (Attended the 7th meeting)
	Satoru Tanaka	NRA Commissioner (Attended the 8th meeting)
Secretariat of the NRA	Tetsuo Ohmura	Director General for Emergency Response
	Tomoho Yamada	Director-General, Nuclear Regulation Department (Attended the 7th meeting)
	Masahiro Aoki	Director-General (Attended the 8th meeting)
	Hiroshi Yamagata	Director-General (Attended the 7th meeting)
	Gyo Sato	Director, Emergency Preparedness/Response and Nuclear Security Division (Attended the 8th meeting)
	Mitsuhiro Kajimoto	Director, Division of Research for Severe Accident
	Yuji Ono	Director for Nuclear Regulation (for BWR) (Attended the 7th meeting)
	Tomoya Ichimura	Director for Nuclear Regulation (for PWR) (Attended the 7th meeting)
	Hisashi Miyamoto	Director for Nuclear Regulation(in charge of advanced reactor, test research reactor, decommissioning) (Attended the 8th meeting)
	Hiroshi Kataoka	Director for Nuclear Regulation (Nuclear Fuel (Fabrication and Reprocessing) Facilities and Use of Nuclear Material)(Attended the 8th meeting)
	Kazuya Aoki	Director for Nuclear Regulation (Waste, Storage and Transport) (Attended the 8the meeting)
	Shinji Kinjo	Director, Public Communications Office (Attended the 7th meeting)
	Shinichi Murata	Counsellor for Disaster Prevention and Drill of Licensee of Nuclear Energy Related Activity
	Takeshi Akahori	Officer for Technical Research and Examination
	Keisuke Miyaji	Specialist for Nuclear Emergency Preparedness
	Hiroshi Okamura	Assistant Director
Cabinet Office	Tetsuya Yamamoto	Director-General for Nuclear Regulation Policy of Nuclear Emergency Preparedness
Japan Atomic Energy Agency (JAEA)	Kazuo Yoshida	Principal Researcher of Safety Research Center, Severe Accident Evaluation Research Group (Attended the 8th meeting)
	Akiko Okamoto	Vice Principal Technical Officer, Emergency Response Division, Nuclear Emergency Assistance and Training Center, Sector of Nuclear Safety Research and Emergency Preparedness, and Planning and Co-ordination Office (Attended the 7th meeting)
Japan Nuclear Safety Institute	Hiroyuki Ito	Operating Officer, General Manager of Technical Support Department
	Mutsuo Takai	Group Leader of Disaster Prevention and Emergency Response Group, Technical Support Department

(2) NRA Policy Review Meeting

Overview

It is a requirement to conduct hearing opinions from external experts on the policy assessment (ex-post evaluation) conducted by the NRA. The NRA Policy Review meeting was held twice in FY2017.

Members of the NRA Policy Review Meeting

External experts	Yoshinori Iizuka	Professor emeritus, the University of Tokyo President, Japan Accreditation Board
	Hideaki Shiroyama	Professor, Graduate School of Public Policy, the University of Tokyo Professor, Graduate Schools for Law and Politics, the University of Tokyo
	Motoyuki Suzuki	Professor emeritus, the University of Tokyo
	Kenjiro Tao	Previous Member of National Public Safety Commission Former Chief Justice of Hiroshima High Court
	Asei Machi	Freelance journalist

(3) Expert Meeting on NRA's Administrative Review -FY2017-

Overview

In the administrative project review, all ministries and government offices are required to clarify the status of implementation of all their projects, taking into account external opinions. Furthermore, as part of the review, an expert meeting shall be held for some of the projects for hearing external experts' opinions on problems and improvement. The expert meeting was held 3 times in FY2017.

Members of the Expert Meeting on NRA's Administrative Review -FY2017-

External experts	Hirokuni Iijima	Professor, Faculty of Economics, Chuo University
	Naoshi Ogasawara	President, Avantia GP
	Yukiko Tabuchi	Administration and Management Consultant

(4) Meeting on Actions to Revised Emergency Activity Level

Overview

Three meetings were held in FY2017 in order to exchange opinions with nuclear licensees, who actually operate nuclear facilities, regarding revision of EAL at commercial power reactors and policies and concepts of establishing EAL for nuclear fuel related facilities.

Members of the Meeting on Actions to Revised Emergency Activity Level

The Nuclear Regulation Authority	Toyoshi Fuketa	NRA Commissioner
	Satoru Tanaka	NRA Commissioner
Secretariat of the NRA	Tetsuo Ohmura	Director General for Emergency Response
	Masahiro Aoki	Director-General (Attended from the 2nd meeting)
	Hiroshi Yamagata	Director-General
	Yuji Ono	Director for Nuclear Regulation (for BWR)
	Tomoya Ichimura	Director for Nuclear Regulation (for PWR) (Attended until the 2nd meeting)
	Hiroshi Kataoka	Director for Nuclear Regulation (Nuclear Fuel (Fabrication and Reprocessing) Facilities and Use of Nuclear Material)
	Shinzo Kuromura	Director for Nuclear Regulation (Advanced Reactor, Research Reactor, Decommissioning) (Attended on the 1st meeting)
	Mitsuhiro Kajimoto	Director, Division of Research for Severe Accident (Attended until the 2nd meeting)
	Kiyomitu Hasegawa	Director for Safety Regulation (Reprocessing)
	Shinichi Murata	Counsellor for Disaster Prevention and Drill of Licensee of Nuclear Energy Related Activity
	Hideaki Utsuno	Officer for Technical Research and Examination
	Takanori Nishizaki	Assistant to the Director for Nuclear Regulation (PWR) (Attended from the 3rd meeting)
	Hirofumi Tanaka	Assistant Director (Attended the 1st meeting)
	Minoru Saito	Senior Technical Consultant, Emergency preparedness/Response and Nuclear Security Division
	Kazumi Miyaki	Senior Technical Consultant for Director, Division of Research for Severe Accident
Cabinet Office	Tetsuya Yamamoto	Director-General for Nuclear Regulation Policy of Nuclear Emergency Preparedness
	Hiroki Mizoguchi	Director for Economic, Fiscal, and Social Structure

(5) Meeting on Hearing Opinions of Licensees Concerning New Regulatory Requirements

Overview

This meeting is held when the need arises to publicly hear licensees' opinions on new regulatory requirements. In FY2017, the meeting was held twice to hear licensees' opinions on regulatory requirements relating to high-energy arcing faults.

Members of the Meeting on Hearing Opinions of Licensees Concerning New Regulatory Requirements

Secretariat of the NRA	Tomoho Yamada	Director-General, Nuclear Regulation Department
	Tetsuo Ohmura	Director General for Emergency Response
	Takaaki Kurasaki	Director, Regulatory Standard and Research Division
	Shinichi Araki	Director, Nuclear Regulation Policy Planning Division
	Youichi Ishii	Director for Institutional, Nuclear Regulation Policy Planning Division
	Haruko Sasaki	Specialist on Nuclear Regulation, Regulatory Standard and Research Division
	Yutaka Kadoya	Assistant Director, Nuclear Regulation Policy Planning Division
	Masaaki Ikeda	Senior Researcher for Director, Division of Research for Reactor System Safety
	Hiroshi Ono	Chief Researcher, Division of Research for Reactor System Safety
	Hajime Kabashima	Chief Researcher, Division of Research for Reactor System Safety
	Haruo Fujimoto	Senior Technical Consultant for Director, Division of Research for Severe Accident

(6) Research Promotion Committee, Research Evaluation Committee, Debriefing Session of Research Results

Overview

For the Radiation Safety Research Strategic Promotion Project, which was launched in FY2017, the NRA publicly seeks research projects based on the priority reseaech areas set by the NRA every fiscal year. The Research Promotion Committee held 10 meetings in order to select tasks for the project, manage their progress, and set the priority reseaech areas for the next fiscal year.

In addition, the Research Evaluation Committee held a meeting twice in order to evaluate research plans and achievements of the tasks, and a Debriefing Session of Research Results was held once by those who adopted the project.

Members of the Research Promotion Committee and the Research Evaluation Committee

The Research Promotion Committee

NRA Commissioner	Nobuhiko Ban	NRA Commissioner
External experts	Testuo Ishikawa	Professor, School of Medicine, Fukushima Medial University
	Tomoyuki Takahashi	Associate Professor, Kyoto University Research Reactor Institute
	Yoshihide Nakamura	Senior Advisor, Japan Radioisotope Association
	Sadaaki Furuta	Director, PESCO, Co., Ltd Chubu Office
Secretariat of the NRA	Gyo Sato	Director, Radiation Protection Policy Planning Division
	Shouji Takeyama	Director, Radiation Monitoring Division
	Ryouzou Nishida	Director, Division of Regulation for Radiation
	Sakura Tanaka	Director for Policy Planning and Coordination, Radiation Protection Policy Planning Division
	Toshiyasu Teratani	Senior Deputy Director for Planning and Examination, Radiation Protection Policy Planning Division
	Yasushi Omachi	Deputy Director, Radiation Protection Policy Planning Division
	Naomi Sato	Deputy Director, Radiation Protection Policy Planning Division
	Toshimitsu Honma	Radiation Protection Technology Researcher, Radiation Protection Policy Planning Division
	Takashi Nakamura	Senior Technical Consultant, Division of Regulation for Radiation

The Research Evaluation Committee

External experts	Itsumasa Urabe	Professor, Department of Computer Science, Faculty of Engineering, Fukuyama University
	Keiji Oda	Executive Vice President, Kobe University
	Shoji Futatsugawa	Executive Director, Japan Radioisotope Association
	Hiroko Yoshida	Associate Professor, Radioisotope Research and Education Center, Graduate School of Pharmacy, Tohoku University

(7) Meeting for the Forward Planning of the Decommissioning Policy

Overview

The revised law obliges licensees to prepare policies for implementation of decommissioning measures (hereinafter referred to as "the Forward Planning of the Decommissioning Policy") at an early stage before implementing such measures. On the basis that necessary items concerning the Forward Planning of the Decommissioning Policy would be specified in the NRA Ordinance, the Meeting for the Forward Planning of the Decommissioning Policy was held three times, and members examined items such as items to be specified in the Forward Planning of the Decommissioning Policy, a method of publication, and the timing of the revision while hearing opinions of licensees.

Members of the Meeting for the Forward Planning the Decommissioning Policy

Secretariat of the NRA	Tomoho Yamada	Director-General, Nuclear Regulation Department
	Tomoya Ichimura	Director, Nuclear Regulation Policy Planning Division
	Hirofumi Nunota	Deputy Director, Nuclear Regulation Policy Planning Division
	Kazuhiro Nakajima	Deputy Director, Nuclear Regulation Policy Planning Division
	Nozomi Sakurai	Specialist, Nuclear Regulation Policy Planning Division
	Kazushige Aoki	Officer, Nuclear Regulation Policy Planning Division
	Hideaki Maruyama	Director for Safety Regulation, Division of Licensing for Nuclear Power Plants
	Masanobu Goto	Deputy Director, Division of Licensing for Nuclear Power Plants
	Akiko Usui	Decommissioning Measure Specialist, Division of Licensing for Nuclear Power Plants
	Yoshitomi Sen	Assistant Director, Division of Licensing for Research Reactors
	Naomi Shiokawa	Director, Division of Licensing for Research Reactors, Use of Nuclear Material and Specified Nuclear Facilities
	Takahiro Yano	Officer, Division of Licensing for Research Reactors
	Toshiyuki Yoshida	Chief Oversight Instructor, Division of Supervision of Nuclear Fuel Related Facilities Division of Licensing for Nuclear Fuel Facilities
	Norio Suzuki	Assistant Director, Division of Licensing for Nuclear Fuel Facilities
	Yoshinori Furuta	Director, Division of Licensing for Nuclear Fuel Facilities
	Takahiro Sakuma	Assistant Director, Division of Licensing for Nuclear Fuel Facilities
	Jiro Katayama	Senior officer for Technical Research and Examination, Department of Research for Nuclear Fuel Cycle and Radioactive Waste
	Hiroaki Takahashi	Chief Officer for Technical Research and Examination, Division of Research for Nuclear Fuel Cycle and Radioactive Waste
	Hiroki Hayashi	Officer for Technical Research and Examination,

		Division of Research for Nuclear Fuel Cycle and Radioactive Waste